



Redpoint Interaction v6.6

Reference Guide Part Two

Export Template Designer to Operations



Contents

1	Export Template Designer	1
1.1	Invoking the Export Template Designer	2
1.2	Closing the Export Template Designer	2
1.3	Export Template Designer Basics	2
1.4	Start Page	4
1.5	Toolbar	5
1.6	Toolbox	7
1.7	Configuring an Export Template's Name	7
1.8	Export Template Validation	7
1.9	Options Tab	9
1.10	Attributes Tab	16
1.10.1	Attributes Toolbar	16
1.10.2	Attributes Grid	17
1.11	Attribute Sort Options Tab	19
1.12	The Export Template Designer and NoSQL Databases	20
2	Subscription Group Designer	22
2.1	Invoking the Subscription Group Designer	23
2.2	Closing the Subscription Group Designer	24
2.3	Subscription Group Designer Basics	24
2.4	Start Page	25
2.5	Toolbar	27
2.6	Toolbox	28
2.7	Configuring a Subscription Group's Name	29
2.8	Subscription Group Validation	30
2.9	LiveRamp RampID Subscription Group	31
2.10	SurveyMonkey Subscription Group	33
2.11	Alchemer Subscription Group	34
2.12	Twilio Inbound SMS Subscription Group	35
2.13	The Subscription Group Designer and NoSQL Databases	37
3	Interaction Designer	38

3.1	Invoking the Interaction Designer.....	39
3.2	Interaction Designer Basics	40
3.3	Start Page.....	41
3.4	Toolbar.....	42
3.4.1	Create New Interaction.....	43
3.4.2	Open an Existing Interaction	43
3.4.3	Save the current Interaction.....	43
3.4.4	Save the current Interaction As.....	44
3.4.5	Save the current Interaction as a Template.....	44
3.4.6	Remove the selected activities/connections.....	44
3.4.7	Undo.....	45
3.4.8	Redo	45
3.4.9	Organization	45
3.4.10	Results.....	47
3.4.11	Realtime Results.....	47
3.4.12	Activate in Test/Production.....	47
3.4.13	Activate all Triggers	47
3.4.14	Deactivate All Triggers.....	47
3.4.15	Copy Image to Clipboard	47
3.4.16	Refresh	47
3.4.17	Approval Panel.....	47
3.4.18	File Version, Follow/Unfollow File, File Options, Manage Metadata and Linked File Options	48
3.5	Name	49
3.6	Interaction Validation	50
3.7	Toolbox.....	51
3.7.1	Components.....	51
3.7.2	Folder Search	52
3.8	Workspace.....	53
3.8.1	Workspace Contents	53
3.8.2	Copy and Paste.....	54
3.9	Interaction Templates	55

3.10	Workflows	56
3.10.1	Adding Workflows to the Workspace.....	56
3.11	Activities.....	57
3.11.1	Adding Activities to the Workspace	58
3.11.2	Activity Icons	60
3.11.3	Selecting Activities	60
3.11.4	Moving Activities	61
3.11.5	Removing Activities.....	61
3.11.6	Connecting Activities in the Workspace (New Activities)	62
3.11.7	Connecting Activities in the Workspace (Existing Activities)	63
3.11.8	Invalid Activity Connections	64
3.11.9	Downstream Post-Fulfillment Activities	64
3.11.10	Data Process Activity Considerations	66
3.11.11	Connecting Activities to Queue Listeners.....	67
3.11.12	Activity Input Indicators	67
3.11.13	Activity Information Bubbles	69
3.11.14	Activity Summary.....	72
3.11.15	Activity Context Menus	73
3.11.16	Mini Toolbars.....	74
3.11.17	Activity Configuration Panel	74
3.11.18	Configuration Panel – Inputs Tab (Standard).....	76
3.11.19	Configuration Panel – Inputs Tab (Downstream Post-Fulfillment Activity).....	77
3.11.20	Configuration Panel – Filters Tab	87
3.11.21	Configuration Panel – Metadata Tab	87
3.11.22	Configuration Panel – Seeds Tab	89
3.11.23	Configuration Panel – Advanced Tab.....	92
3.12	Triggers	93
3.12.1	Manual Trigger.....	93
3.12.2	Scheduled Trigger	96
3.12.3	Recurring Trigger	99
3.12.4	Activity State Trigger.....	108
3.12.5	Input Workflow.....	114

3.12.6	Constraints.....	116
3.13	Builder	119
3.14	Note.....	120
3.15	Queue Listener.....	122
3.15.1	Queue Listener – Mini Toolbar	122
3.15.2	Queue Listener – Configuration Panel.....	123
3.16	Queue Activity.....	127
3.16.1	Queue Activity – Mini Toolbar	127
3.16.2	Queue Activity – Configuration Panel.....	128
3.17	Batch Audience.....	131
3.17.1	Batch Audience – Mini Toolbar	132
3.17.2	Batch Audience – Configuration Panel.....	132
3.18	Interactive Activity.....	137
3.18.1	Interactive Activity – Mini Toolbar	137
3.18.2	Interactive Activity – Configuration Panel.....	137
3.19	Subscription Group Activity	144
3.19.1	Subscription Group – Mini Toolbar.....	144
3.19.2	Subscription Group – Configuration Panel.....	144
3.20	Data Process Activity	145
3.20.1	Data Process – Mini Toolbar.....	145
3.20.2	Data Process – Configuration Panel.....	146
3.21	Data Transfer Activity	148
3.21.1	Data Transfer – Mini Toolbar	148
3.21.2	Data Transfer – Configuration Panel.....	149
3.22	Delay.....	150
3.22.1	Delay – Mini Toolbar	150
3.22.2	Delay – Configuration Panel.....	151
3.23	Wait for Event	152
3.23.1	Wait for Event – Mini Toolbar.....	152
3.23.2	Wait for Event – Configuration Panel	153
3.24	Broadcast.....	155
3.24.1	Broadcast – Mini Toolbar	155

3.24.2	Broadcast – Configuration Panel.....	156
3.25	Control.....	158
3.25.1	Control – Mini Toolbar.....	158
3.25.2	Control – Configuration Panel.....	159
3.26	Export.....	160
3.26.1	Export – Mini Toolbar.....	160
3.26.2	Export – Configuration Panel.....	161
3.26.3	Design Export Path/Filename Format Dialog.....	167
3.27	Offer.....	170
3.27.1	Offer – Mini Toolbar.....	170
3.27.2	Offer – Configuration Panel.....	171
3.27.3	Offer Activity Channel Configuration.....	173
3.28	Decision Offer.....	178
3.28.1	Decision Offer – Mini Toolbar.....	179
3.28.2	Decision Offer – Configuration Panel.....	180
3.29	Interaction Execution.....	182
3.29.1	Executing a Workflow.....	182
3.29.2	Workflow Execution Modes.....	183
3.29.3	Workflow Instances.....	184
3.29.4	Workflow Statuses.....	184
3.29.5	Workflow Rollback.....	185
3.29.6	Information Bubbles.....	187
3.29.7	Activating a Manual Trigger.....	187
3.29.8	Activating a Scheduled or Recurring Trigger.....	187
3.29.9	Trigger Constraint Execution.....	189
3.29.10	Manual Trigger Constraints.....	189
3.29.11	Scheduled Trigger Constraints.....	189
3.29.12	Recurring Trigger Constraints.....	190
3.29.13	Activity State Trigger Constraints.....	190
3.29.14	Playing a Paused Workflow Instance.....	190
3.29.15	Pausing a Playing Workflow Instance.....	191
3.29.16	Stopping a Playing or Paused Workflow Instance.....	191

3.29.17	Reactivating a Stopped Production Workflow	191
3.29.18	Batch Audience Execution	192
3.29.19	Interactive Activity Execution	193
3.29.20	Metadata Overrides at Fulfillment Activity Execution.....	195
3.29.21	Playing and Pausing an Audience	195
3.29.22	Stopping and Rewinding a Batch Audience.....	196
3.29.23	Data Process Activity Execution	196
3.29.24	Data Transfer Activity Execution	196
3.29.25	Backfill Files.....	196
3.29.26	Delay Execution	197
3.29.27	Wait For Event Execution	197
3.29.28	Offer History Details	198
3.29.29	'Chunking' Inserts	199
3.29.30	Control Execution	199
3.29.31	Export Activity Execution	200
3.29.32	Offer Activity Execution.....	202
3.29.33	Offer Activity Execution – Data Extract	204
3.29.34	Offer Activity Execution – Outbound Delivery	205
3.29.35	Offer Activity Execution – Email.....	206
3.29.36	Offer Activity Execution – Email – ESP Considerations.....	211
3.29.37	Offer Activity Execution – Email – Forward to a Friend Button	220
3.29.38	Offer Activity Execution – Email – Facebook Like Button.....	220
3.29.39	Offer Activity Execution – Email – Facebook Page Button.....	220
3.29.40	Offer Activity Execution – Email – LINE Button	220
3.29.41	Offer Activity Execution – Email – Reddit Button	221
3.29.42	Offer Activity Execution – Email – Quora Button.....	221
3.29.43	Offer Activity Execution – Email – SurveyMonkey Page Button.....	221
3.29.44	Offer Activity Execution – Email – Alchemer Page Button	221
3.29.45	Offer Activity Execution – Email – Twitter Follow Page Button	221
3.29.46	Offer Activity Execution – Email – Twitter Tweet Button.....	221
3.29.47	Offer Activity Execution – Email – Facebook Share Button.....	222
3.29.48	Offer Activity Execution – Email – Twitter Share Button	222

3.29.49	Offer Activity Execution – Salesforce Marketing Cloud Data Transfer	224
3.29.50	Offer Activity Execution – SMS – Realtime in Outbound	225
3.29.51	Offer Activity Execution – Salesforce Marketing Cloud MobileConnect SMS....	225
3.29.52	Offer Activity Execution – Messente SMS.....	226
3.29.53	Offer Activity Execution –Vibes SMS.....	227
3.29.54	Offer Activity Execution –Amazon Pinpoint SMS	227
3.29.55	Offer Activity Execution – Twitter Direct	227
3.29.56	Offer Activity Execution – Salesforce.com.....	228
3.29.57	Offer Activity Execution – Salesforce.com – Accounts	229
3.29.58	Offer Activity Execution – Microsoft Dynamics CRM	230
3.29.59	Offer Activity Execution – Twilio SMS	231
3.29.60	Offer Activity Execution – LiveRamp	232
3.29.61	Offer Activity Execution – Twitter Tailored Audience.....	233
3.29.62	Offer Activity Execution – Realtime Cache.....	233
3.29.63	Offer Activity Execution – Facebook Audience.....	234
3.29.64	Offer Activity Execution – Azure Direct Push Notification	235
3.29.65	Offer Activity Execution – Twilio Notify Direct.....	235
3.29.66	Offer Activity Execution – Airship Push Notification	235
3.29.67	Offer Activity Execution – Google Firebase Direct.....	236
3.29.68	Offer Activity Execution – Amazon Pinpoint.....	236
3.29.69	Offer Activity Execution – Google Ads Customer Match	237
3.29.70	Offer Activity Execution – Control.....	238
3.29.71	Decision Offer Activity Execution	238
3.29.72	Seeds Execution	238
3.29.73	Subscription Group Activity Execution.....	239
3.29.74	Subscription Group Activity Execution – SurveyMonkey	239
3.29.75	Subscription Group Activity Execution – Alchemer	240
3.29.76	Subscription Group Activity Execution – Twilio Inbound SMS	242
3.29.77	Subscription Group Activity Execution – LiveRamp RampID	242
3.29.78	Broadcast Activity Execution - Twitter.....	243
3.29.79	Broadcast Activity Execution – Facebook.....	244
3.29.80	Broadcast Activity Execution – Facebook Marketing.....	246

3.29.81	Broadcast Activity Execution – Facebook Lookalike Audience.....	247
3.29.82	Broadcast Activity Execution – LinkedIn.....	247
3.29.83	Broadcast Activity Execution – YouTube.....	249
3.29.84	Broadcast Activity Execution – RSS.....	249
3.29.85	Broadcast Activity Execution – Azure Notification.....	249
3.29.86	Broadcast Activity Execution – Twilio Notify.....	250
3.29.87	Broadcast Activity Execution – Google Firebase.....	250
3.29.88	Broadcast Activity Execution – Above The Line.....	250
3.29.89	Downstream Post-Fulfillment Activity Execution.....	250
3.29.90	Queue Listener and Activity Execution.....	250
3.29.91	Audit Files.....	253
3.30	The Interaction Designer and NoSQL Databases.....	254
4	Data Connectors.....	257
4.1	Invoking the Data Connectors Interface.....	259
4.2	Closing the Data Connectors Interface.....	260
4.3	Toolbar.....	261
4.4	Add New Data Connector Overlay.....	263
4.4.1	Data Source Tab.....	266
4.4.2	Schedule Tab.....	267
4.4.3	Channel Configuration Tab.....	268
4.5	Data Connectors List.....	270
4.6	Data Connector in List – Details Hidden.....	271
4.7	Data Connector in List – Details Shown.....	272
4.8	Manage Data Connector Overlay.....	273
4.9	Data Connector Execution.....	276
4.10	Toolbox.....	276
5	Interactions Report.....	277
5.1	Invoking the Interactions Report.....	278
5.2	Closing the Interactions Report.....	278
5.3	Interactions Report Basics.....	278
5.4	Header.....	279
5.5	Interactions List.....	281

6	Interaction Triggers Report.....	284
6.1	Invoking the Interaction Triggers Report.....	285
6.2	Closing the Interaction Triggers Report.....	285
6.3	Interaction Triggers Report Basics.....	285
6.4	Header.....	286
6.5	Triggers List.....	288
7	Results Window.....	291
7.1	Invoking the Results Window.....	292
7.2	Closing the Results Window.....	293
7.3	Results Window Basics.....	293
7.4	Header.....	294
7.5	Activities List.....	296
7.6	Activity Details.....	297
7.6.1	Toolbar.....	297
7.6.2	Results Tab.....	297
7.6.3	Files Tab.....	297
7.6.4	Log Tab.....	300
7.6.5	Trace Tab.....	301
7.6.6	Batch Audience.....	302
7.6.7	Interactive Activity.....	304
7.6.8	Offer Activity.....	306
7.6.9	Decision Offer Activity.....	323
7.6.10	Export.....	324
7.6.11	Queue Activity.....	325
7.6.12	Broadcast.....	325
7.6.13	Control.....	329
7.6.14	Subscription Group.....	330
7.6.15	Data Process Activity.....	331
7.6.16	Data Transfer Activity.....	332
7.7	Audience Waterfall Report.....	333
7.8	Dynamic Content Results Dialog.....	335
7.9	Invocation from Workflow Instance Viewer Toolbar.....	337

7.10	Invocation from Audience Instance Viewer Toolbar	338
7.11	Invocation from a Specific Activity	339
7.12	Invocation from Data Connectors Interface.....	340
8	Workflow Instance Viewer	341
8.1	Invoking the Workflow Instance Viewer	342
8.2	Workflow Instance Viewer Basics	342
8.3	Toolbar.....	342
8.4	Workspace.....	343
9	Audience Instance Viewer	344
9.1	Invoking the Audience Instance Viewer	344
9.2	Audience Instance Viewer Basics	344
9.3	Toolbar.....	345
9.4	Block Properties.....	347
9.5	Viewing Results and Log Details	348
9.6	Viewing a Block's Configuration	348
9.7	Viewing a Related Selection Rule	348
9.8	Audience Instance Status Panel.....	348
9.9	Play, Pause and Stop and Rewind Buttons	349
10	Training Aids.....	350
10.1	Types Of Training Aid.....	350
10.2	Common Training Aid Features	351
10.3	Build An Email.....	353
10.3.1	Welcome to the Email Builder	353
10.3.2	Configure your Email Offer	353
10.3.3	Choose your Email's Layout	354
10.3.4	Configure your Offer.....	354
10.3.5	Email Created.....	355
10.4	Send Emails	356
10.4.1	Ready to send some emails?.....	356
10.4.2	Choose an existing Audience	357
10.4.3	Choose an existing Email.....	358
10.4.4	Configure your Interaction	359

10.4.5	Running your Interaction.....	360
10.4.6	Interaction Created.....	361
10.5	Send Emails – Contextual Invocation.....	364
10.5.1	Invocation at Selection Rule	364
10.5.2	Invocation at Audience	364
10.5.3	Invocation at Email Offer	365
10.6	Glossary	366
10.7	Disabling Training Aids	367
11	Landing Page Designer	368
11.1	Invoking the Landing Page Designer	369
11.2	Closing the Landing Page Designer	370
11.3	Start Page	371
11.4	Toolbar	372
11.5	Landing Page Properties	374
11.6	Landing Page Goals	378
11.7	Publish Landing Page	382
11.8	Landing Page Publish History	385
11.8.1	Latest Published Instance	385
11.8.2	Previous Published Instances	386
11.9	Toolbox	388
11.10	Configuring a Landing Page’s Name	389
11.11	Landing Page Validation	390
11.12	Content Editor Toolbar.....	391
11.13	Page Layout Section	391
11.13.1	Page Layout – Toolbar.....	392
11.13.2	Choose Page Layout Dialog.....	393
11.13.3	Page Layout – Grid.....	396
11.13.4	Page Layout – HTML Template	399
11.13.5	Page Layout – Tabset.....	400
11.13.6	Page Layout – Page Tab.....	401
11.13.7	Page Layout – Cell Tab.....	401
11.14	Content Editor Section	404

11.14.1	Content Editor – Asset Assigned Directly To Cell.....	405
11.15	Page Preview	406
11.16	Smart Assets in Landing Pages	408
11.16.1	Attribute and Audience Segment Smart Assets in Landing Pages	408
12	Realtime Layouts	409
12.1	Invoking the Realtime Layouts Interface	410
12.2	Closing the Realtime Layouts Interface.....	410
12.3	Toolbar	411
12.4	Realtime Layouts List.....	412
12.5	Toolbox	413
12.6	Manage Realtime Layout Overlay.....	414
12.7	Manage...Overlay: Toolbar	415
12.8	Manage...Overlay: Layout Guide Tab.....	417
12.9	Manage...Overlay: Layout Hierarchy Tab	422
12.10	Manage...Overlay: Selected Layout/Area Details Tab.....	425
12.11	Manage...Overlay: Selected Layout/Area Smart Assets Tab.....	429
12.12	Manage...Overlay: Footer	432
12.13	Add New Realtime Layout Overlay.....	433
12.14	Using Layouts and Areas with the RPI Realtime API	434
13	Realtime Report	435
13.1	Invoking the Realtime Report	436
13.2	Closing the Realtime Report	436
13.3	Realtime Report Basics.....	437
13.4	Header	438
13.5	Tracked Items.....	442
13.6	Overview.....	444
13.7	Detailed Results.....	447
13.8	Detailed Results – By Item.....	448
13.9	Detailed Results – By Metric	449
13.10	Collating Realtime Report Results	451
13.10.1	External Web Pages in the Realtime Report.....	451
13.10.2	Interactions in the Realtime Report.....	451

14	Published Content Report.....	453
14.1	Invoking the Published Content Report	454
14.2	Closing the Published Content Report.....	454
14.3	Published Content Report Basics.....	454
14.4	Header.....	455
14.5	Published Content List.....	457
15	Realtime Details.....	460
15.1	Invoking Realtime Details	461
15.2	Closing Realtime Details.....	461
15.3	Realtime Details Basics	462
15.4	Display When No Results Exist.....	462
15.5	Header.....	463
15.6	Key Metrics	464
15.7	Treeview.....	464
15.8	Treeview – Landing Page	465
15.9	Treeview – Smart Asset.....	467
15.10	Treeview – Interaction	469
15.11	Charts.....	471
15.12	Overview.....	471
15.13	Key Metrics/Goals.....	472
15.14	Goal Conversion Rate Over Time	472
15.15	Content Impressions By Asset.....	473
15.16	Content Impressions By Asset Over Time.....	473
15.17	Content Impressions Over Time.....	474
15.18	Content Impressions.....	474
15.19	Selected Content Preview.....	475
15.20	Link Clicks Over Time.....	476
15.21	Total Version Link Clicks	476
15.22	Selected Link Details.....	477
15.23	Form Submissions Over Time	477
15.24	Total Version Form Submissions.....	478
15.25	Selected Web Form Details	479

15.26	Referrals.....	480
15.27	Total Version Referrals	481
15.28	Selected Referral Details.....	481
15.29	Activity Overview	482
15.30	Landing Page - Default Content	482
15.31	Utilization Over Time.....	483
15.32	Utilization	483
15.33	Goal Smart Asset Result.....	483
15.34	Message Impressions By Variant	485
15.35	Message Impressions By Variant Over Time	485
15.36	Message Impressions Over Time	485
15.37	Message Impressions.....	485
15.38	Selected Variant Preview	485
16	Single Customer View	485
16.1	Invoking the Single Customer View	487
16.2	Closing the Single Customer View.....	487
16.3	Single Customer View Basics.....	487
16.4	Search Overlay.....	488
16.4.1	Toolbar	489
16.4.2	Search Criteria	489
16.4.3	Search Results.....	491
16.5	Toolbar	491
16.6	Attribute Groups	492
16.7	Events Timeline	494
16.8	Selected Event Details	496
17	File Approval	498
17.1	Approve File Functional Permission	499
17.2	File Type Approval Configuration Interface.....	500
17.3	Approval Panel.....	501
17.3.1	Approval Status	501
17.3.2	Current Version.....	501
17.3.3	Open Latest Approved Version.....	502

17.3.4	Open Latest Version	502
17.3.5	Request Approval	502
17.3.6	Revoke Approval.....	504
17.3.7	Resend Request.....	506
17.3.8	Approve	507
17.3.9	Deny.....	508
17.3.10	One Click Approval	510
17.3.11	Dependent Files Changed Warning Indicator	510
17.3.12	View/Manage the Approval of this File.....	511
17.3.13	Implicit Approval Cancellation.....	512
17.3.14	Auto-Refresh	512
17.4	Manage File Approval Dialog.....	513
17.4.1	Refresh Approval Status	513
17.4.2	File Details.....	514
17.4.3	Approval Panel.....	514
17.4.4	Approval Details	514
17.4.5	Approval requirements.....	514
17.4.6	Approvers.....	515
17.4.7	Auto-Refresh	515
17.5	Interaction Designer – File Approval Ramifications	515
17.5.1	Offer Approval and the Interaction Designer.....	515
17.5.2	Offer Approval and Interactive Activity Execution	516
17.5.3	Offer Activity Configuration Panel – Approval Status Icon.....	516
17.6	File Approval Widget	516
17.7	Operations-Approval Summary Tab.....	518
17.8	Approval-Auditing.....	518
18	Data Project Designer	519
18.1	Invoking the Data Project Designer.....	520
18.2	Closing the Data Project Designer	520
18.3	Data Project Designer Basics	521
18.4	Start Page	522
18.5	Toolbar	523

18.6	Configuring a Data Project's Name.....	525
18.7	Data Project Validation	526
18.8	Refresh	527
18.9	Tabset	528
18.10	Definition and Execution Overview.....	529
18.10.1	Defining a Data project.....	529
18.10.2	Manually Executing Subsequent Files within a Data project	529
18.11	Definition Tab	531
18.11.1	Definition Tab – Acquisition Panel.....	533
18.11.2	Definition Tab – File Analysis Panel	538
18.11.3	Definition Tab – Field Analysis Panel	547
18.12	Execution Tab.....	555
18.12.1	Execution Tab – Acquisition Panel	557
18.12.2	Execution Tab – Validation Panel	560
18.12.3	Execution Tab – Load Panel.....	561
18.13	History Tab.....	564
18.13.1	Data Project History List	564
18.13.2	Selected History Details Panel	565
18.14	Preview Dialog.....	566
18.14.1	Delimited File	566
18.14.2	Fixed-width File.....	567
18.15	Data Project Processing	568
18.15.1	File Analysis.....	568
18.15.2	Schema Analysis	569
18.15.3	Validation	572
18.15.4	Load.....	572
18.16	Audit	573
19	Dashboards.....	574
19.1	Dashboards.....	574
19.2	Dashboard Designer.....	575
19.3	Invoking the Dashboard Designer	576
19.4	Closing the Dashboard Designer.....	577

19.5	Start Page	578
19.6	Toolbar	579
19.7	Configuring a Dashboard's Name	580
19.8	Dashboard Validation.....	581
19.9	Toolbox	581
19.10	Widgets	582
19.11	Adding Widgets	584
19.12	Configuration Overlay	588
19.13	Configuration Overlay Header	589
19.14	Configuration Overlay – Channel Overview Widget.....	591
19.15	Configuration Overlay – Chart Widget.....	594
19.16	Configuration Overlay – Count Results Widget.....	598
19.17	Configuration Overlay – File Approval Widget	602
19.18	Configuration Overlay – File Type Widget.....	602
19.19	Configuration Overlay – News Reader Widget.....	607
19.20	Configuration Overlay – Pulses.....	608
19.21	Configuration Overlay – Tasks Widget.....	609
19.22	Configuration Overlay – Time and Weather Widget	612
19.23	Configuration Overlay – Twitter Feed Widget.....	614
19.24	Header.....	615
19.25	Dashboard Viewer	616
19.26	Display Mode	617
19.27	Display Mode – Channel Overview Widget.....	618
19.28	Display Mode – Chart Widget.....	620
19.29	Display Mode – Count Results Widget	624
19.30	Display Mode – File Approval Widget.....	627
19.31	Display Mode – File Type Widget.....	629
19.32	Display Mode – News Reader Widget	630
19.33	Display Mode – Pulses Widget.....	631
19.34	Display Mode – Tasks Widget.....	636
19.35	Display Mode – Time and Weather Widget.....	638
19.36	Display Mode – Twitter Feed Widget.....	640

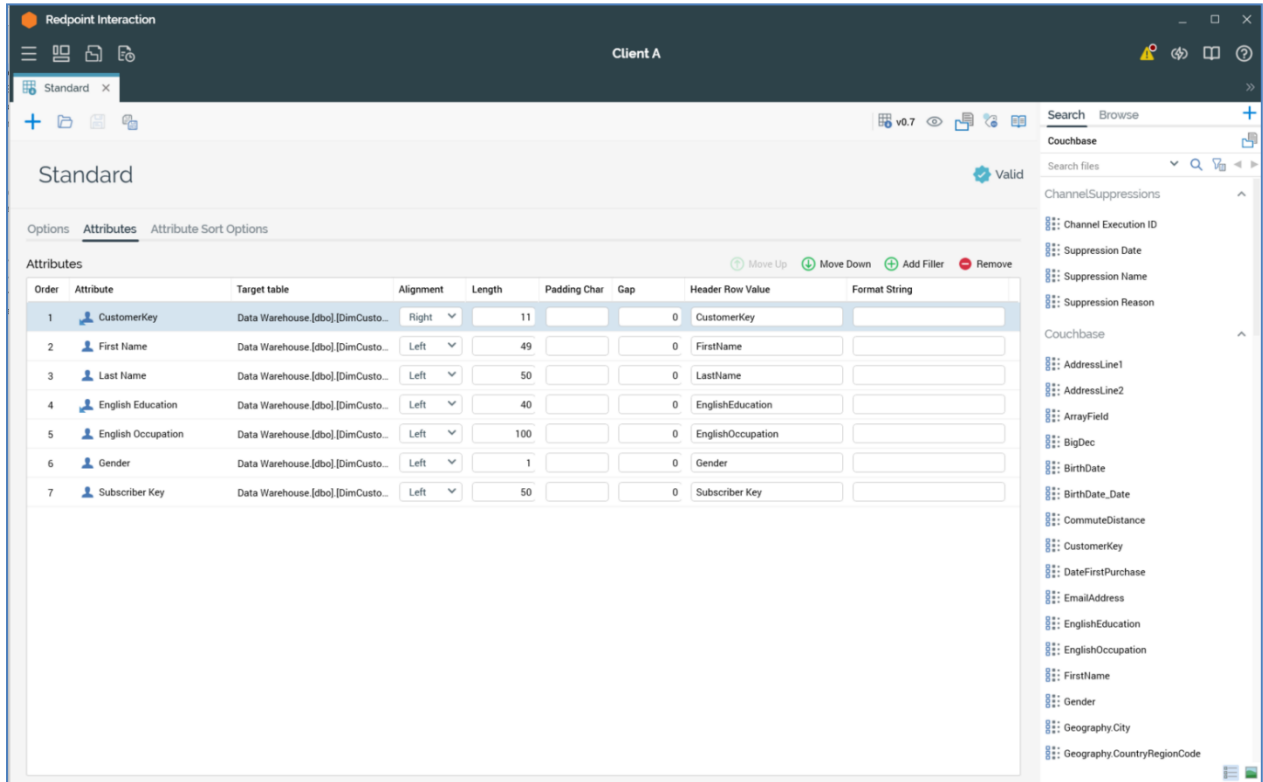
19.37	Sharing Widget Content as a Pulse:.....	641
20	Reporting Hub.....	643
20.1	Invoking the Reporting Hub.....	644
20.2	Reporting Hub Basics.....	645
20.2.1	Top Section.....	645
20.2.2	Native Reports.....	647
20.2.3	Recent Reports.....	648
20.2.4	Recent Dashboards.....	648
20.2.5	Folder Search.....	648
20.2.6	Report Viewer.....	649
21	Wiki.....	651
21.1	Invoking the Wiki.....	651
21.2	Wiki Browser.....	653
21.2.1	Toolbar.....	653
21.2.2	Toolbox.....	654
21.2.3	Navigation Toolbar.....	654
21.2.4	Content Panel.....	654
21.2.5	Linked Files.....	655
21.3	Wiki Page Designer.....	657
21.3.1	Toolbar.....	658
21.3.2	Start Page.....	658
21.3.3	Toolbox.....	660
21.3.4	Name.....	660
21.3.5	Validation Status Indicator.....	660
21.3.6	Content Editor Toolbar.....	661
21.3.7	Content Editor Section.....	661
21.4	Linked Page Browser.....	662
22	Operations Interface.....	664
22.1	Invoking the Operations Interface.....	666
22.2	Header.....	667
22.3	Tabset.....	668
22.4	System Health Tab.....	669

22.4.1	System Health Overview	669
22.4.2	System Health Performance Monitors	672
22.5	System Tasks Tab.....	674
22.5.1	Toolbar	675
22.5.2	System Tasks List	675
22.6	Audience Snapshots Tab.....	682
22.6.1	Toolbar	683
22.6.2	Audience Snapshots List	684
22.6.3	Audience Snapshot Execution.....	687
22.7	Execution Services Tab.....	688
22.7.1	Execution Services Grid	688
22.7.2	Execution Services Work Items Grid	691
22.8	Server & Client Log Tab.....	694
22.8.1	Toolbar	694
22.8.2	Server & Client Log Grid	695
22.8.3	Selected Log Entry Details	696
22.9	Workflow Summaries Tab	697
22.9.1	Toolbar	698
22.9.2	Treeview	699
22.9.3	Selected Item Details	701
22.10	Workflow Instances Tab	706
22.10.1	Toolbar	706
22.10.2	Workflow Instances Grid.....	707
22.10.3	Selected Workflow Instance Details	708
22.11	Audience Instances Tab	709
22.11.1	Toolbar	710
22.11.2	Audience Instances Grid	711
22.11.3	Selected Audience Instance Details.....	712
22.12	Query Trace Log Tab.....	713
22.12.1	Toolbar	714
22.12.2	Query Trace Log Grid	715
22.12.3	Selected Query Trace Log Details	716

22.13	Housekeeping Tab	718
22.13.1	Toolbar	718
22.13.2	Housekeeping Log Grid.....	719
22.13.3	Cluster Housekeepers.....	720
22.13.4	Selected Housekeeper Details.....	721
22.14	Approval Summary.....	722
22.14.1	Toolbar	722
22.14.2	File Approval Summary Grid	724
22.15	Audit Log Tab	726
22.15.1	Toolbar	727
22.15.2	Audit Log Grid	731
22.15.3	Selected Audit Log Details.....	731
22.16	The Operations Interface and NoSQL Databases	732

1 Export Template Designer

The RPI Export Template Designer allows you to create and manage export templates.

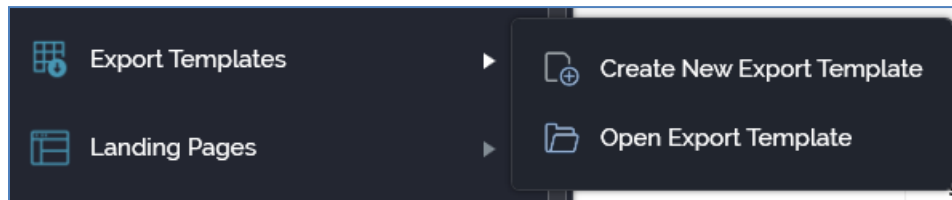


Export templates allow you to define the structure of data exported from RPI. This might occur during execution of an interaction workflow, or in the Rule Designer. The Export Template Designer gives you considerable flexibility in the manner in which export files are structured.

1.1 Invoking the Export Template Designer

You can invoke the Export Template Designer in the following ways:

- From the quick access menu's Export Templates menu. The menu exposes the following options:



- From a Tasks or File Type widget. Typically, these might be displayed at your Home Page. For more information on widgets, please see the Dashboard Designer documentation.
- By double-clicking an export template file in the File System Dialog, or by highlighting an export template and clicking OK in the same context.
- By viewing the latest version of an export template contextually – for example, from an export activity's configuration panel in the Interaction Designer.

Note that access to the Export Template Designer is controlled via the Export Template – Design functional permission. If none of the user groups of which you are a member are associated with this permission, you will not be able to access the Export Template Designer.

1.2 Closing the Export Template Designer

You can close the Export Template Designer by closing the tab within which it is displayed, or by shutting down RPI itself. If you do so when an export template to which changes has been made is shown in the Export Template Designer, a dialog is displayed, within which you can:

- Save the changes and proceed with closing the Export Template Designer
- Abandon the changes and proceed with closing the Export Template Designer
- Cancel closing the Export Template Designer or RPI.

1.3 Export Template Designer Basics

The Export Template Designer is displayed in a separate tab in the RPI framework.

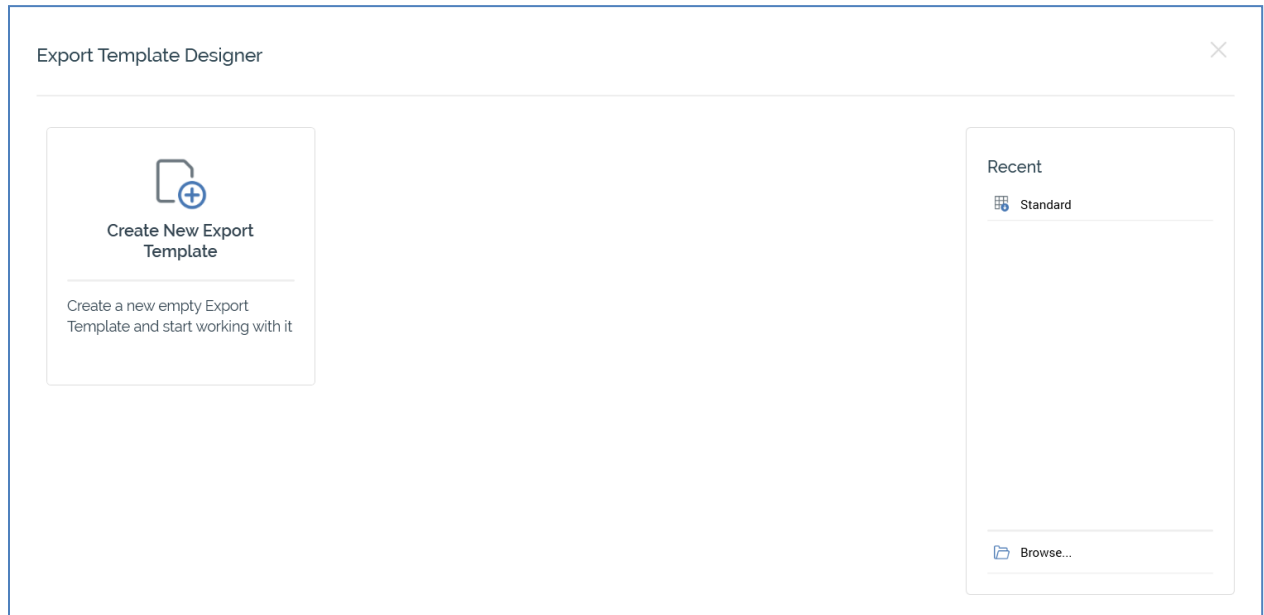
It is composed of the following elements:

- Toolbar
- Toolbox

- Properties
- Options tab
- Attributes tab
- Attribute Sort Options tab

1.4 Start Page

The Export template Designer Start Page is shown upon invocation of Export templates at the quick access menu, and also on clicking Create new Export template at the Export template Designer toolbar. It contains the following:



- Create New Export template button. Clicking the button displays a new, unconfigured Export template in the Export template Designer.
- Recent: lists recently-accessed export templates, facilitating the opening of the same.
- Browse: displays the Open Export Template File System Dialog, allowing you to select an export template to open.

A Cancel button is shown at the top of the Start Page. Clicking it removes the Start Page from display, and redisplay the Export Template Designer. The Cancel button is only shown on invocation of the Start Page by clicking Create new Export Template at the Export template Designer toolbar.

1.5 Toolbar

The Export Template Designer toolbar exposes the following options:



- Create new Export Template: clicking this button displays the Export template Designer Start Page. A close button is shown to its top right; clicking it removes the overlay from display. If an export template containing unsaved changes is displayed at invocation of Create New, an 'Are You Sure?' dialog is shown, from which you can:
 - Save the changes
 - Abandon the changes
 - Abandon creation of the new Export template

The new export template's name is 'New Export Template'. Its other properties are set to their default values.

- Open an existing Export Template: displays the File System Dialog, allowing you to navigate those folders within the RPI file system to which you have access in order to locate an export template to open. Only export template files are displayed in the File System Dialog. You can invoke OK to open the export template. You can also cancel opening an export template.
- Save the current export template: saves the selected export template to an existing filename. This option is only enabled if an export template to which changes have been made is displayed. If the export template has been saved previously, it is saved to its existing file, and its version number is incremented.

If the export template is yet to be saved, Save behaves like Save as...: the File System Dialog is displayed, allowing you to navigate accessible folders within the RPI file system to locate a folder to which to save the export template. Having done so, you can invoke OK to perform the save, which creates a new, independent export template file. You can also cancel saving an export template.

- Save the current export template as...: invoking Save as... displays the File System Dialog, allowing you to navigate accessible folders within the RPI file system to locate a folder to which to save the export template. Having done so, you can invoke OK to perform the save. Export Templates are persisted as 'Export Template' files. Note that you can also cancel saving an export template.
- Version number
- Follow/Unfollow File: please see the RPI Framework documentation
- File options: please see the RPI Framework documentation

- File Metadata: please see the RPI Framework documentation
- Linked Page options: please see the RPI Framework documentation

1.6 Toolbox

The Export Template Designer toolbox contains the standard Folder Search component. Only attribute folders are displayed. For more information, please see the Dashboard Designer documentation.

1.7 Configuring an Export Template's Name

An Export template's name is configured in the large property shown at the top of the Export Template Designer, below the toolbar:



Provision of a name is mandatory, and the value provided may be a maximum of 100 characters. The export template's name is the same as the filename under which it is saved within the RPI file system. As such, it must be unique amongst the export templates in the folder within which saved.

You can edit an export template's name by clicking the property. Complete the edit by clicking off the property, or by hitting return.

1.8 Export Template Validation

Before an Export template can be used, it must be valid.

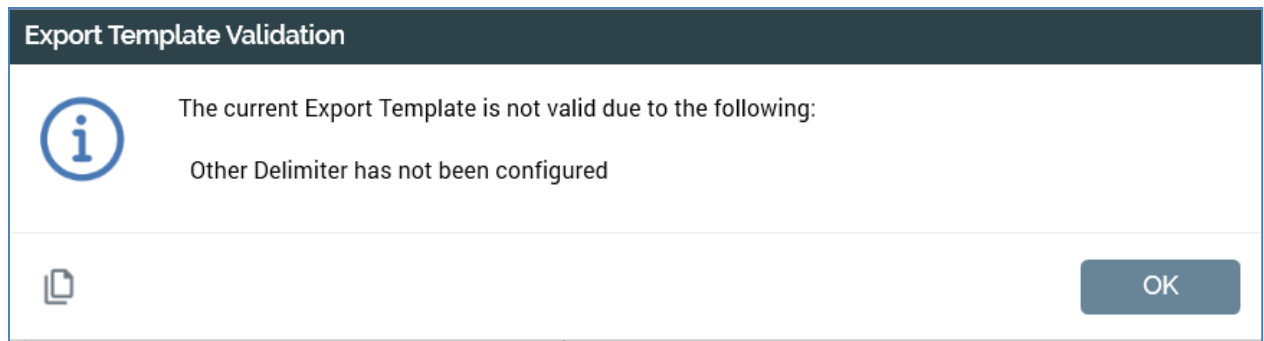
A validation status indicator is displayed to the right of the export template's name. When the export template is valid and contains no validation errors, the validation status indicator is shown as follows:



Specific validation errors are outlined in the export template documentation. When one or more validation errors is present, a validation error indicator is shown:



Clicking the indicator lists the validation errors in a dialog:



You can use the button at the bottom left of the dialog to copy the validation error details to the clipboard. You can close the dialog using the OK button.

1.9 Options Tab

The Export Template Designer's Options tab contains a series of properties that define the format of an exported file based upon the export template.

Options Attributes Attribute Sort Options

Usage ⓘ Resolution Level ⓘ

SQL databases ▼ Customer ▼

Export Format ⓘ Delimiter

Delimited ▼ Comma ▼

Field Wrapping ⓘ

None ▼

Header Row ⓘ Unique ID ⓘ

Include header row ▼ Don't include unique ID ▼

Deduplication ⓘ

Don't deduplicate ▼

Sample Export ⓘ Sample Export Size ⓘ

Output initial rows ▼ 20 row(s)

Date Format ⓘ Example Output Format

Short date ▼ 09/12/2021

Text Encoding ⓘ

UTF8 ▼

Non-Printable Characters ⓘ

Don't remove them ▼

Custom Header ⓘ

Don't include ▼

The following properties can be configured:

- Usage: see The Export Template Designer and NoSQL Databases.
- Resolution Level: selected using a dropdown, which displays all existing resolution levels. Resolution level is mandatory and is accompanied by the text: 'Defines table from and key level at which data retrieved when exporting data'.

Note that, if the current RPI client has been configured with one or more auxiliary databases, you can choose an auxiliary database resolution level. The export template can then be used when exporting selection rules with auxiliary resolution levels. You cannot use an auxiliary export template in an interaction.

If system configuration setting EnableOrgNodeConfigUserControl is set to true, and there exist any resolution levels to which you do not have access, a View restricted items button is shown at the bottom of the dropdown.

Note that restricting access to specific resolution levels is carried out in the Resolution Levels configuration interface, in which you can link a resolution level to one or more organization nodes.

If your user account is linked to an organization node user group that matches a resolution level's linked organization node, you will have access to that resolution level. If a resolution level is associated with more than one organization node, a user need be associated with only one of the nodes to access the resolution level. If a resolution level is associated with a descendent node from an organization hierarchy, a user associated with an ancestor node may access the resolution level.

For more information, please see the Configuration Workbench documentation.

When you click the button, it is selected, and its text set to Hide restricted items. A list of restricted resolution levels is displayed at the bottom of the chooser.

You can select a restricted resolution level; however, on its display at the export template, it is accompanied by a warning indicator. A tooltip is shown when you hover over the warning icon.

Restricted Items are hidden again on redisplay of the chooser. If no restricted resolution levels exist, the Restricted Items button is not shown.

If system configuration setting EnableOrgNodeConfigUserControl is set to false, Restricted Items are not shown, and access to all resolution levels is freely available, irrespective of any linked organization nodes.

- Export Format: this property allows you to define the template's basic export format. It is set using the following fields:

- Export Format: a drop-down list, which exposes the following values:
 - Delimited (the default)
 - Fixed width
 - JSON
- Delimiter: displayed when Delimited is selected. A dropdown field, it exposes the following values:
 - Comma
 - Pipe
 - Space
 - Tab
 - Custom
- Custom Delimiter: displayed when Delimiter is set to 'Custom'. A text field, it is limited to a single character only. Its default is blank.
- JSON Format: displayed when Delimiter is set to 'JSON'. A dropdown field, it allows you to define the type of JSON to be written at export execution. It exposes the following values:
 - Object List: the default value. When selected, output files will contain a series of JSON objects, one per line. Note that objects are not separated by newline characters when appending records to an existing file.
 - Array: when selected, output files will contain a JSON array.

When Export Format is set to 'JSON':

- Field Wrapping is disabled and set to 'None'.
- Wrap All Fields and Header Row are not shown.
- Field Wrapping: this dropdown allows you to define whether and how to wrap values in the export file in quotes. It exposes the values None (the default), Single quote and Double quote. This property is not available for fixed-width export templates.
- Wrap All Fields In Quotes: this checkbox, disabled if Field wrapping is set to None, allows you to control whether all, or just string, fields are to be wrapped in the selected quote type. This property is not available for fixed-width export templates.
- Header Row: a drop-down list, constrained to values 'Include header row' and 'Don't include header row'. Default is Include header row. Header row is accompanied by the text: 'Defines whether to include header row in output'.

- Unique ID: a drop-down list, constrained to values 'Include unique ID' and 'Don't include unique ID'. Default is Don't include unique ID. If a unique ID is required, an additional column (RowCounter) is added to the output and populated with an incrementing integer value (preceded by zeroes, to a maximum of 9 characters in length). Unique ID is accompanied by the text: 'Defines whether to include unique ID column in output'.
- Deduplication: note that this field is only of relevance when the export template is being used during selection rule export. It is used when a selection rule's output contains multiple rows per resolution level deduplication key and describes how duplicate rows are to be eliminated in such a situation. It is populated using a drop-down list, which is constrained to the values 'Don't deduplicate', 'Use random sampling', 'Sample ascending using' and 'Sample descending using'.

If Sample ascending using or Sample descending using is selected, you may specify an attribute by which to deduplicate. You can browse for an attribute or select a recently-used one. You can also drag an attribute from the toolbox and drop it directly onto Deduplication. Exists in table and parameter attributes are not supported in this context.

Deduplication's default value is Don't deduplicate. The field is accompanied by the text: 'Defines how duplicate records are to be handled'.

- Sample Export: another drop-down list, constrained to values 'Output initial rows' and 'Output evenly-distributed rows'. Default is Output initial rows. Sample export is accompanied by the text: 'Defines basis upon which sample export generated'.
- Sample Export size: this mandatory property specifies the number of rows to be output in an export sample file when using the current export template. It defaults to 20 and supports a minimum value of 1. It controls the maximum number of rows to be output in a sample file when executing an export activity based on the export template, or a data extract offer using a channel configured with the export template.
- Date Format: allows you to specify the format of any date attributes output within a file based on the export template. Date format is set using a drop-down field that exposes the following values:
 - Custom format
 - Long date
 - Long date and long time
 - Long date and short time
 - Long time
 - Month day
 - Short date (default)
 - Short date and long time

- Short date and short time
- Short time
- Sortable
- Year month

If Use custom format is selected, it is mandatory to supply a custom format. The maximum custom format length is 100 characters.

- Example Output Format: provided to illustrate the selected date format value. The example output format uses the local culture selected on your client application machine to determine the precise format to use – for example, if your client application’s culture is set to US English, an example of the US version of Long date will be displayed ('Monday, July 05, 2010').

When a custom format is specified, the example is displayed dynamically as the format is entered.

Date format is accompanied by the explanatory text: 'Defines how dates will be formatted in the output'.

The field is read only and set to Sortable if using a JSON Export format.

- Text Encoding: a dropdown allows you to specify the type of text encoding to be used by the export template. The following options are available:
 - UTF8 (the default)
 - Unicode
 - UTF7
 - UTF32
 - ASCII
 - Big Endian Unicode
 - Custom encoding

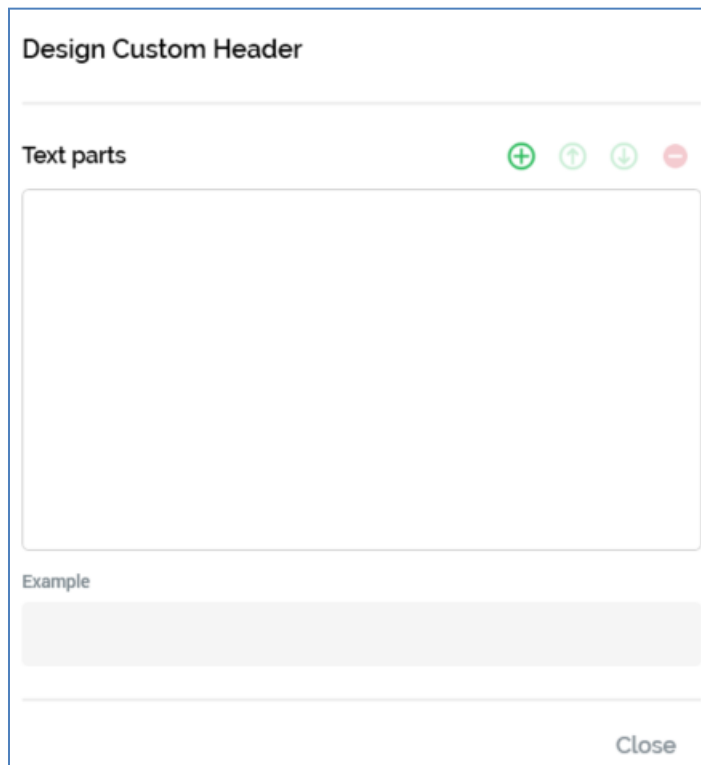
If Custom encoding is selected, you must specify a custom text encoding string in the field supplied.

- Non-Printable Characters: this setting allows you to define whether any non-printable control characters are to be removed from the output. A dropdown field, it exposes values 'Don't remove them' and 'Remove them'. If set to the latter, any non-printable characters are removed at export file generation.

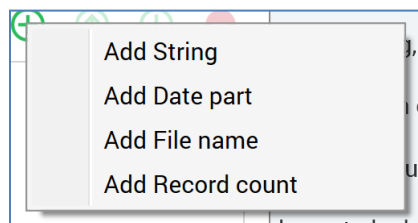
Note that control characters are formatting and other non-printing characters, such as ACK, BEL, CR, FF, LF, and VT. The Unicode standard assigns code points from \U0000 to \U001F, \U007F, and from \U0080 to \U009F to control characters.

- Custom Header: this dropdown allows you to define whether an extra custom header row will be included at the top of any files generated using the export template. If set to 'Include', a property to the right allows you to design the custom format using the Design Custom Header dialog. Having specified a custom header, it is displayed as the button text.

The Design Custom Header dialog contains the following:



- Toolbar: exposing the following options:
 - Add a new Text Part: invocation of this option displays a context menu, which exposes the following:

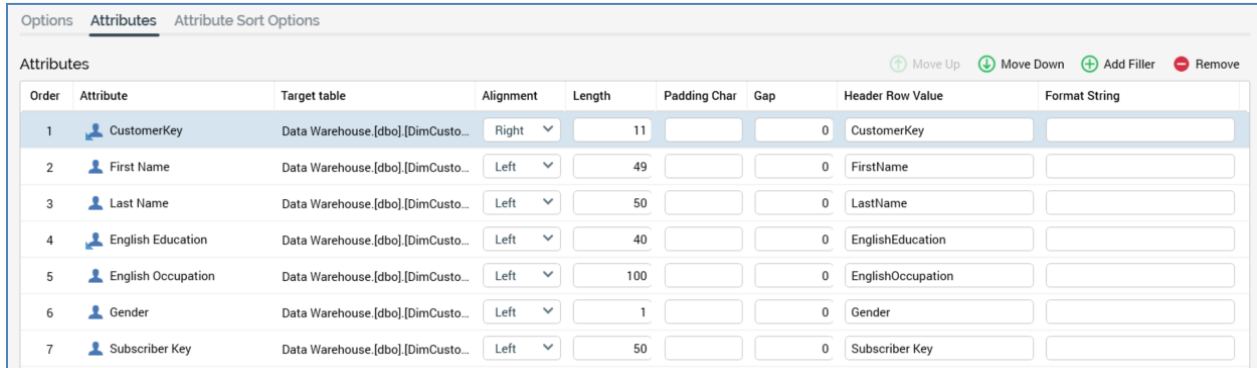


Selection of a context menu option adds a text part of the selected type to the Text Parts list.

- Move the selected Text Part up: this option is available at text parts other than the first in the list. Clicking it moves the selected text part up one position in the list.
- Move the selected Text Part down: this option is available at text parts other than the last in the list. Clicking it moves the selected text part down one position in the list.
- Remove the selected Text Part: invocation of this option removes the selected text part without display of an 'Are You Sure?' dialog.
- Text Parts list: any text parts added to the list are shown. For each, the following are displayed:
 - Ordinal number: read-only
 - Text part type: read-only
 - If a String: a text field is displayed, and provision of a value therein is mandatory. The maximum permissible length of a provided value is 100 characters.
 - If Date part: a dropdown facilitates selection of a specific date part to show.
 - If File name: [File name]
 - If Record count: [Record count]
- Example: this section displays a read-only representation of the specified text parts, which are shown as follows:
 - String: displayed as entered.
 - Date part: the current date/time is displayed in accordance with the selected date part type.
 - If File name: [File name]
 - If Record count: [Record count]
- Close: clicking this button removes the dialog from display. Any changes made therein are persisted automatically. Note that clicking off the dialog has the same effect.

1.10 Attributes Tab

The Attributes tab contains a grid that is used to define the columns to be output when using the export template.

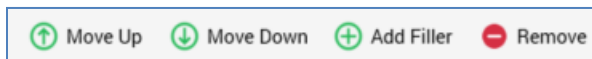


The screenshot shows the 'Attributes' tab in a software interface. At the top, there are tabs for 'Options', 'Attributes', and 'Attribute Sort Options'. Below the tabs is a toolbar with four icons: 'Move Up' (up arrow), 'Move Down' (down arrow), 'Add Filler' (plus sign), and 'Remove' (minus sign). The main area is a grid with the following columns: Order, Attribute, Target table, Alignment, Length, Padding Char, Gap, Header Row Value, and Format String. The grid contains seven rows of attributes:

Order	Attribute	Target table	Alignment	Length	Padding Char	Gap	Header Row Value	Format String
1	CustomerKey	Data Warehouse [dbo].[DimCusto...	Right	11		0	CustomerKey	
2	First Name	Data Warehouse [dbo].[DimCusto...	Left	49		0	FirstName	
3	Last Name	Data Warehouse [dbo].[DimCusto...	Left	50		0	LastName	
4	English Education	Data Warehouse [dbo].[DimCusto...	Left	40		0	EnglishEducation	
5	English Occupation	Data Warehouse [dbo].[DimCusto...	Left	100		0	EnglishOccupation	
6	Gender	Data Warehouse [dbo].[DimCusto...	Left	1		0	Gender	
7	Subscriber Key	Data Warehouse [dbo].[DimCusto...	Left	50		0	Subscriber Key	

1.10.1 Attributes Toolbar

A toolbar is displayed above the Attributes grid:



The toolbar exposes the following options:

- Move Up: this option is only available when an attribute other than the first in the grid is selected. Invocation moves the attribute up one position.
- Move Down: this option is only available when an attribute other than the last in the grid is selected. Invocation moves the attribute down one position.
- Add Filler: clicking this button adds a filler attribute. If no attributes are present in the Attributes grid, the filler attribute is shown at the top of the grid. If attributes are present, the filler is added at the current cursor position. A filler attribute's properties exhibit the following characteristics:
 - Attribute: set to 'Filler'. This property is read-only, is shown in italicized text, and is not incremented on the addition of further filler attributes.
 - Target Table: disabled
 - Alignment: disabled.
 - Length: enabled; must be greater than 0.
 - Padding Char: enabled.
 - Gap: disabled.

- Header Row Value: set to 'Filler_[n]' (where [n] is an integer value that can be incremented to ensure uniqueness).

When one or more filler fields are included in an export file's output, they are automatically displayed in accordance with their Length and Padding character settings

- Remove: invocation of this option removes the selected attribute from the grid. An 'Are You Sure?' dialog is not displayed.

1.10.2 Attributes Grid

When empty, a message is displayed in the attributes grid:

'No attributes have been added to this export template. Add attributes here by dragging and dropping them from the toolbox.'

Provision of one or more attributes at an export template is optional (an export template with no attributes can be used to define the structure of backfill files – for more information, please see the Audience Definition section in the Configuration documentation).

Any existing attributes are displayed within the grid. You can add one or more attributes to an export template by dragging them from the toolbox and dropping them onto the attributes grid. Attributes added in this way are displayed above the ordinal position at which they were dropped. When the grid contains more attributes than may be displayed at once, it is scrolled automatically on the addition of a new attribute dropped at the bottom position.

You can also drag and drop existing attributes up and down within the grid.

An export template must contain at least one attribute. You cannot add an Exists in table attribute to an export template. Parameter attributes are supported. The link between an export template and an attribute is static – that is, the link is created between the template and the state of the attribute at the point of its being saved.

You can view the following columns within the attributes grid:

- Order: a read-only, system-generated ordinal integer indicating the position of the attribute relative to its peers. Order is incremented or decremented accordingly as attributes are re-ordered within the grid.
- Attribute: the read-only name of the attribute as sourced from the toolbox. When you hover over an attribute, a button is displayed next to its name, which you can click to view details of the attribute in the File Information dialog.
- Target Table: the table upon which the attribute is based.
- Alignment: an indication of how the attribute's data will be output within the export file; set using a drop-down list, constrained to values 'Left' and 'Right'. Text alignment defaults according to an attribute's data type (string, date: Left; integer, decimal: Right).

- Length: must be a positive integer value. Length defaults in accordance with an attribute's underlying length in the database. Note that, when added to an export template, a Cassandra attribute's length defaults to zero, and will need to be updated manually to a positive integer value.
- Padding Char: mandatory. May be a single character only. Defaults to space. Used to pad white space in string fields in a fixed-width export template.
- Gap: must be a positive integer value. Gap defaults to '0'. It is used to define the space to be provided between attributes in a fixed-width export template.
- Header Row Value: this value defaults to the value of an attribute's underlying database column. Its provision is optional, and it can be a maximum of 100 characters in length.
- Format String: this optional property can be a maximum of 100 characters in length. It supports provision of standard Microsoft .NET format strings. For examples please see the following:
 - Standard Numeric format strings: [https://msdn.microsoft.com/en-us/library/dwhawy9k\(v=vs.110\).aspx](https://msdn.microsoft.com/en-us/library/dwhawy9k(v=vs.110).aspx)
 - Custom Numeric format strings: [https://msdn.microsoft.com/en-us/library/0c899ak8\(v=vs.110\).aspx](https://msdn.microsoft.com/en-us/library/0c899ak8(v=vs.110).aspx)
 - Standard Date and Time format strings: [https://msdn.microsoft.com/en-us/library/az4se3k1\(v=vs.110\).aspx](https://msdn.microsoft.com/en-us/library/az4se3k1(v=vs.110).aspx)
 - Custom Date and Time format strings: [https://msdn.microsoft.com/en-us/library/8kb3ddd4\(v=vs.110\).aspx](https://msdn.microsoft.com/en-us/library/8kb3ddd4(v=vs.110).aspx)

When a file is generated using the export template, the supplied format string is applied to numeric and date-based values. An attempt to apply a format string to a string attribute results in an error.

Fields Text alignment, Length, Padding char and Gap are only relevant to fixed-width export templates, but are displayed whether the template is fixed-width or delimited.

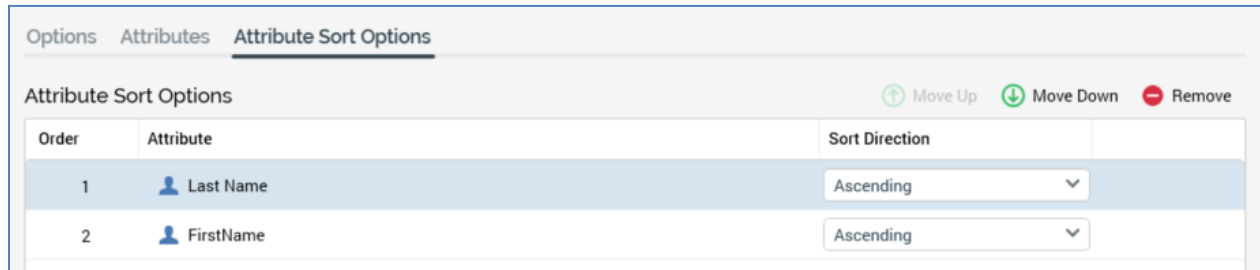
If required; it is possible to include the same attribute more than once in an export template.

To include metadata attributes within an export file you will need to set up the appropriate attributes from the offer history meta table.

You can only use anonymous auxiliary database attributes in an export template resolving to an anonymous auxiliary database. Only a single attribute can be included in this context.

1.11 Attribute Sort Options Tab

The Attribute Sort Options tab allows you to specify one or more attributes by which to sort data output by the export template.



Data is sorted, in the specified Sort Direction, by each attribute in turn in the order in which they are presented in a grid.

A toolbar is shown at the top of the grid, exposing the following options:

- Move Up: this option is enabled when a row other than the first is selected. Invocation moves the row up one position in the grid.
- Move Down: this option is enabled when a row other than the last is selected. Invocation moves the row down one position in the grid.
- Remove: invocation removes the selected row from the grid and is not protected by an 'Are You Sure?' dialog.

The grid itself displays a message when empty ('No sort options have been defined. Drag attributes from the toolbox and drop them onto the grid to add them'). Following these instructions allows you to specify the template's Attribute Sort Options.

The following columns are shown:

- Order Number
- Attribute - an RPI attribute. Once populated, you can view information about the attribute in the File Information dialog. A validation error is raised if the same attribute is used more than once in the template. You cannot use an exists in table or parameter attribute in this context.
- Sort Direction: a dropdown, exposing values Ascending (the default) and Descending.

You can use anonymous auxiliary database attributes as Attribute Sort Options in an export template resolving to an anonymous auxiliary database. Only database column attributes are supported in this context.

1.12 The Export Template Designer and NoSQL Databases

The following section documents ramifications for the Export Template Designer when working in a NoSQL environment.

- NoSQL Databases Only Mode: when running in a NoSQL-only environment, the following apply at the Export Template Designer:

- Options tab:

- The following properties are not shown:
 - Resolution level

Deduplication

- The following property is shown:

- NoSQL DB collection definition: this property defines the NoSQL database collection from which the export template's attributes are to be sourced, and from which data is to be extracted. The default NoSQL database collection definition is selected automatically.

- The Export format property is set by default to JSON using Object list.

- Attributes tab:

- You can include parameter attributes in the export template from the following contexts:

- The currently-selected NoSQL collection definition

- Any nested documents from the same
- Ditto channel Suppressions

- Offer history Attributes

- Except any attributes copied from the original collection definition, as defined at the NoSQL offer history definition's Attributes property.

- States

- Note that the Target Table property is not shown in the grid

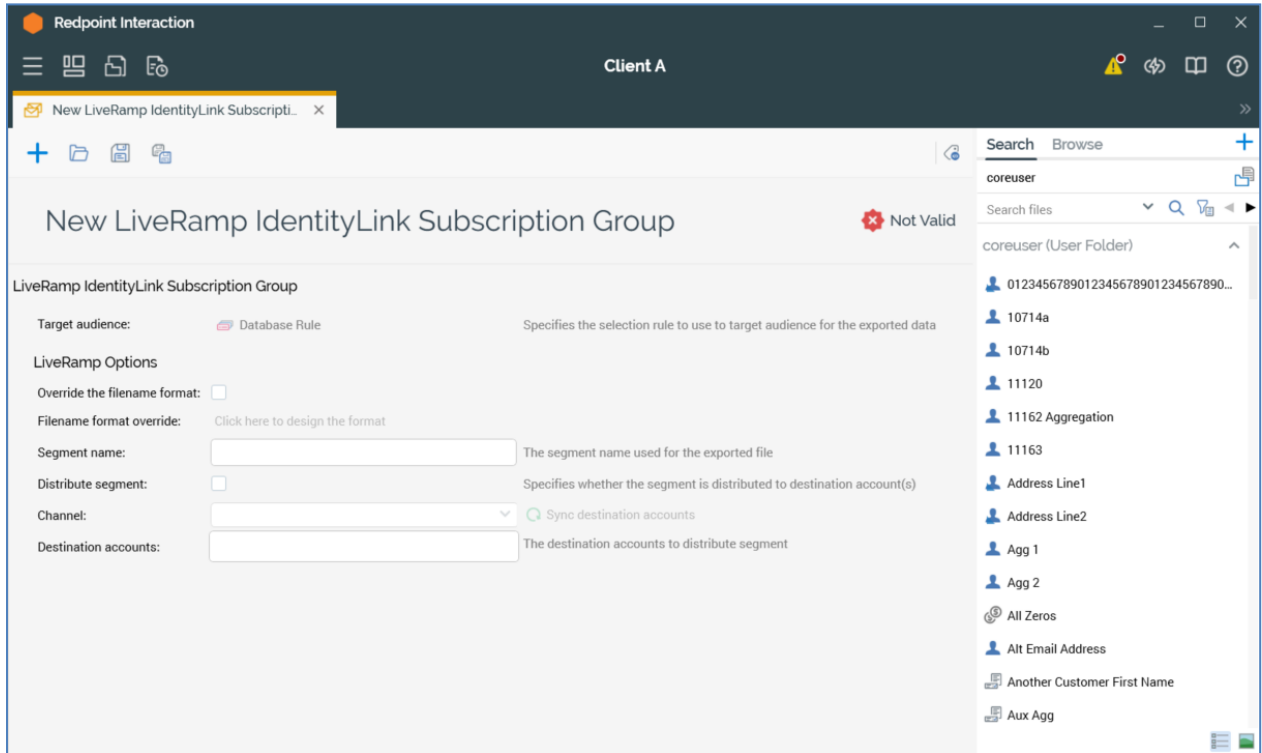
- Attribute Sort Options tab:

- You can use top-level parameter attributes from the current NoSQL database collection definition only.

- NoSQL Data Warehouse with SQL Auxiliary Databases Mode: when running against a NoSQL data warehouse with one or more SQL auxiliary databases, the following property is shown at the Export Template Designer:
 - Usage: this dropdown property defines whether the export template is to be used for SQL or NoSQL Databases. If set to NoSQL, the NoSQL DB collection definition property is displayed. If set to SQL, the Resolution level and Deduplication properties are shown instead.

2 Subscription Group Designer

The RPI Subscription Group Designer allows you to create and manage subscription groups.



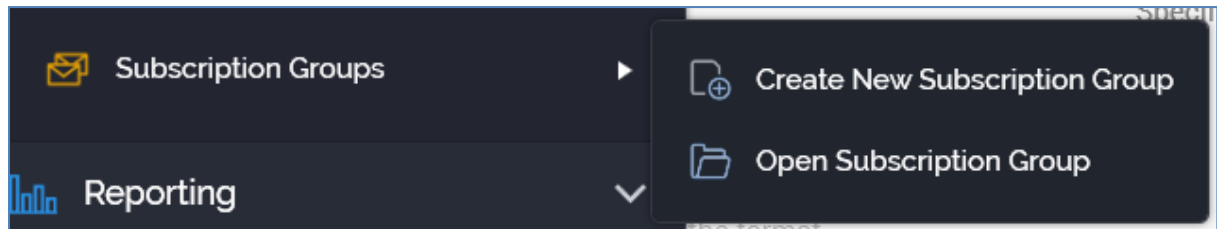
Subscription groups allow subscribers to join a group. Currently, the subscription group types supported by RPI are as follows:

- LiveRamp RampID: facilitates anonymous onboarding using the LiveRamp Data Management Platform.
- SurveyMonkey: allowing you to track the number of responses to an existing SurveyMonkey survey, and optionally transfer survey and respondent detail back into the data warehouse.
- Alchemer: as per SurveyMonkey, in respect of the Alchemer survey provider.
- Twilio Inbound SMS: allows you to track metrics in respect of a Twilio inbound SMS number.

2.1 Invoking the Subscription Group Designer

You can invoke the Subscription Group Designer in the following ways:

- From the quick access menu's Subscription Groups menu. The menu exposes the following options:



- From a Tasks or File Type widget. Typically, these might be displayed at your Home Page. For more information on widgets, please see the Dashboard Designer documentation.
- By double-clicking a subscription group file in the File System Dialog, or by highlighting a subscription group and clicking OK in the same context.
- By viewing the latest version of a subscription group contextually – for example, from a subscription group activity's configuration panel in the Interaction Designer.

Note that access to the Subscription Group Designer is controlled via the Subscription Groups - Design functional permission. If none of the user groups of which you are a member are associated with this permission, you will not be able to access the Subscription Group Designer.

2.2 Closing the Subscription Group Designer

You can close the Subscription Group Designer by closing the tab within which it is displayed, or by shutting down RPI itself. If you do so when a subscription group to which changes has been made is shown in the Subscription Group Designer, a dialog is displayed, within which you can:

- Save the changes and proceed with closing the Subscription Group Designer
- Abandon the changes and proceed with closing the Subscription Group Designer
- Cancel closing the Subscription Group Designer or RPI.

2.3 Subscription Group Designer Basics

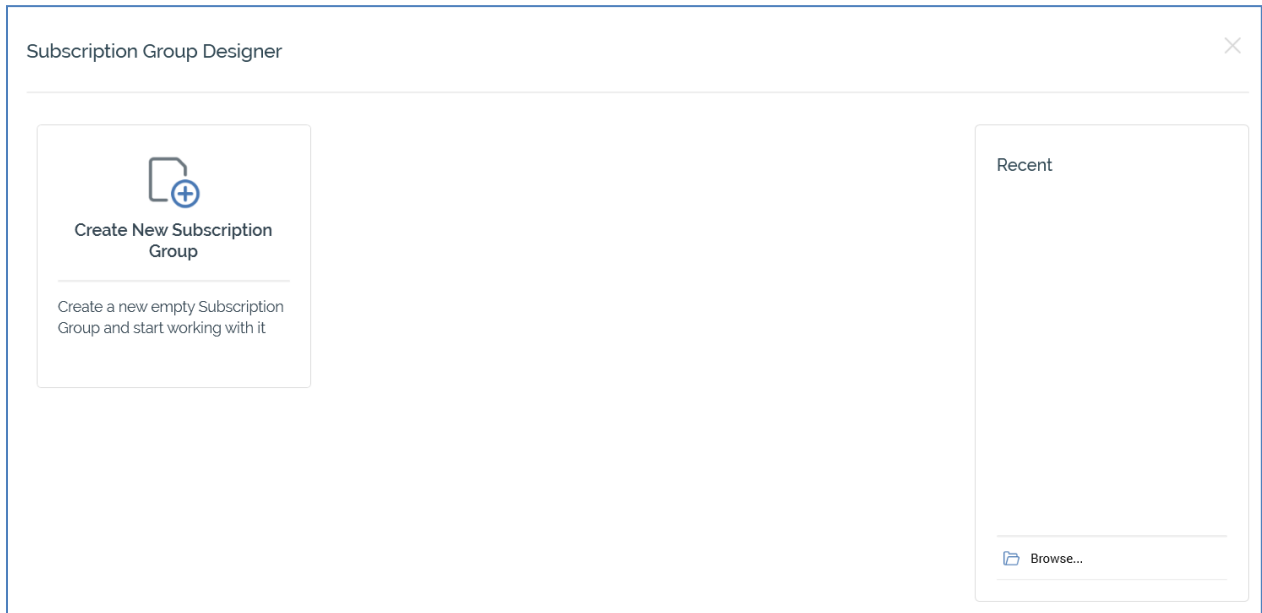
The Subscription Group Designer is displayed in a separate tab in the RPI framework.

It is composed of the following elements:

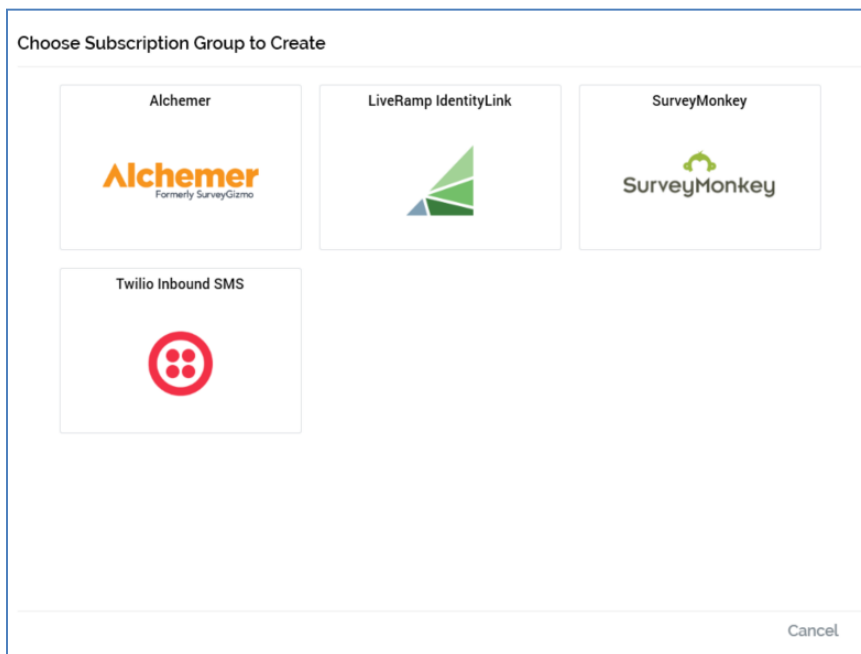
- Toolbar
- Toolbox
- Name
- Subscription Group section

2.4 Start Page

The Subscription Group Designer Start Page is shown upon invocation of Subscription Groups at the quick access menu, and also on clicking Create new Subscription Group at the Subscription Group Designer toolbar. It contains the following:



- Create New Subscription Group button. Clicking the button displays the Choose Subscription Group to Create overlay, which allows you to specify the type of subscription group that you wish to create:

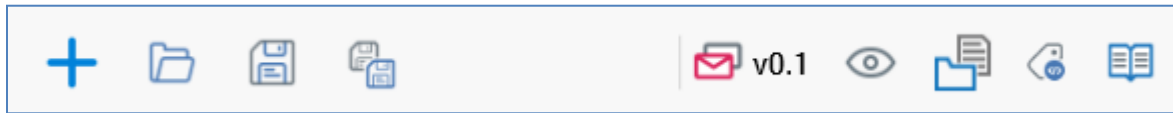


- Recent: lists recently-accessed subscription groups, facilitating the opening of the same.
- Browse: displays the Open Subscription Group File System Dialog, allowing you to select a subscription group to open.

A Cancel button is shown at the top of the Start Page. Clicking it removes the Start Page from display, and redisplay the Subscription Group Designer. The Cancel button is only shown on invocation of the Start Page by clicking Create new Subscription Group at the Subscription Group Designer toolbar.

2.5 Toolbar

The Subscription Group Designer toolbar exposes the following options:



- Create new Subscription Group: clicking this button displays the Subscription Group Designer Start Page. A close button is shown to its top right; clicking it removes the overlay from display. If a subscription group containing unsaved changes is displayed at invocation of Create New, an 'Are You Sure?' dialog is shown, from which you can:
 - Save the changes
 - Abandon the changes
 - Abandon creation of the new Subscription Group
- Open an existing Subscription Group: displays the File System Dialog, allowing you to navigate those folders within the RPI file system to which you have access in order to locate a subscription group to open. Only subscription group files are displayed in the File System Dialog. You can invoke OK to open the subscription group. You can also cancel opening a subscription group.
- Save the current Subscription Group: saves the selected subscription group to an existing filename. This option is only enabled if a subscription group to which changes have been made is displayed. If the subscription group has been saved previously, it is saved to its existing file, and its version number is incremented.

If the subscription group is yet to be saved, Save behaves like Save as...: the File System Dialog is displayed, allowing you to navigate accessible folders within the RPI file system to locate a folder to which to save the subscription group. Having done so, you can invoke OK to perform the save, which creates a new, independent subscription group file. You can also cancel saving a subscription group.

- Save the current Subscription Group as...: invoking Save as... displays the File System Dialog, allowing you to navigate accessible folders within the RPI file system to locate a folder to which to save the subscription group. Having done so, you can invoke OK to perform the save. Subscription Groups are persisted as 'Subscription Group' files. Note that you can also cancel saving a subscription group.
- Version Number: please see the RPI Framework documentation.
- Follow/Unfollow File: please see the RPI Framework documentation.
- File Options: please see the RPI Framework documentation.
- Linked Page Options: please see the RPI Framework documentation.

2.6 Toolbox

The Subscription Group Designer toolbox contains a Folder Search component. For more information, please see the Framework documentation.

Attribute and selection rule files are available in the Subscription Group toolbox.

2.7 Configuring a Subscription Group's Name

A subscription group's name is configured in the large property shown at the top of the Subscription Group Designer, below the toolbar:



LiveRamp RampID Subscription Group

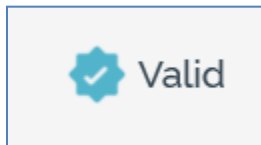
Provision of a name is mandatory, and the value provided may be a maximum of 100 characters. The subscription group's name is the same as the filename under which it is saved within the RPI file system. As such, it must be unique amongst the subscription groups in the folder within which saved.

You can edit a subscription group's name by clicking the property. Complete the edit by clicking off the property, or by hitting return.

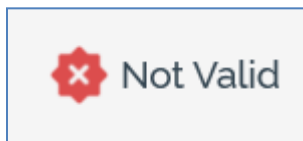
2.8 Subscription Group Validation

Before a subscription group can be used, it must be valid.

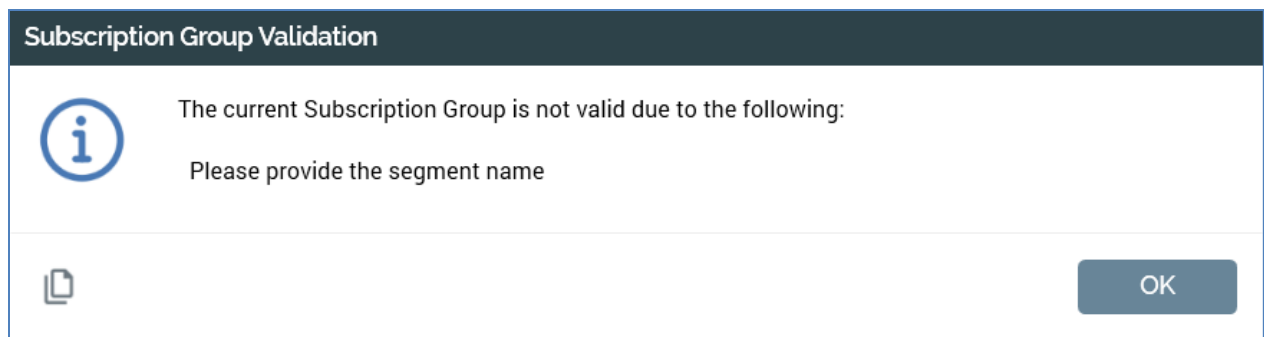
A validation status indicator is displayed to the right of the subscription group's name. When the subscription group is valid and contains no validation errors, the validation status indicator is shown as follows:



Specific validation errors are outlined in the subscription group documentation. When one or more validation errors is present, a validation error indicator is shown:



Clicking the indicator lists the validation errors in a dialog:





You can use the button at the bottom left of the dialog to copy the validation error details to the clipboard. You can close the dialog using the OK button.

2.9 LiveRamp RampID Subscription Group

This section contains the properties that are specific to subscription groups that support the LiveRamp RampID channel provider.

LiveRamp RampID Subscription Group

Target audience:  Database Rule  Specifies the selection rule to use to target audience for the exported data


LiveRamp Options

Override the filename format:

Filename format override: [Click here to design the format](#)

Segment name: The segment name used for the exported file

Distribute segment: Specifies whether the segment is distributed to destination account(s)

Channel:  Sync destination accounts

Destination accounts: The destination accounts to distribute segment

- Target audience: you can choose a selection rule to define the subscription group's target audience. You can select a rule by browsing, or by using drag and drop. Having selected a rule, you can view its latest version in the Rule Designer. You can also clear your selection.

LiveRamp Options section, containing:

- Override the filename format: this checkbox is unchecked by default. When checked, the Filename format override property is enabled, and is used to define the format of the file generated by the subscription group.
- Filename format override: this property is enabled when Override the filename format is checked. You can click it to set the filename format using the Design Filename Format dialog (covered elsewhere in the RPI documentation).
- Segment name: this mandatory text field can be a maximum of 250 characters in length. It defines the segment name used for the exported file.
- Distribute segment: this checkbox is unchecked by default. When checked, the Channel and Destination account properties are enabled. The property allows you to specify whether the segment is to be distributed to destination account(s).
- Channel: this dropdown property exposes a list of all LiveRamp RampID channels configured at the current client.
- Sync destination accounts: this button is displayed to the right of the Channel property. Clicking it populates the list of Destination accounts.
- Destination accounts: this property lists the destination accounts associated with the selected channel. For each, the following are shown:
- Checkbox: when checked, the segment will be distributed to the selected destination account.


- Destination account name: read-only.

2.10 SurveyMonkey Subscription Group

This section contains details of properties that are specific to subscription groups that support the SurveyMonkey channel provider.

SurveyMonkey Subscription Group

Use existing SurveyMonkey Survey

SurveyMonkey Survey: 

The SurveyMonkey Subscription Group Designer contains a single property:

- **SurveyMonkey survey:** a SurveyMonkey subscription group's purpose is to allow you to track the number of respondents to an existing SurveyMonkey survey. It also optionally facilitates the collection of survey and respondent data, and their persistence in the data warehouse.

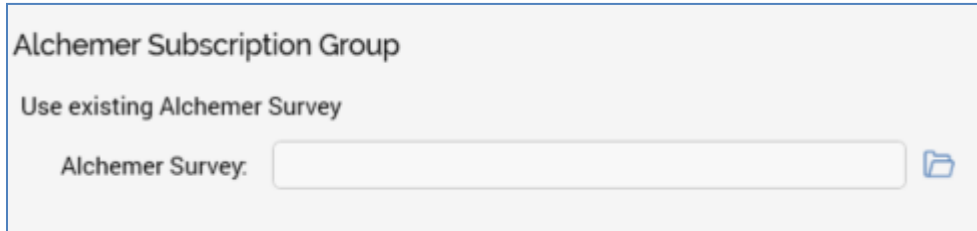
You must browse for a SurveyMonkey survey with which to configure the subscription group. When you click the Choose SurveyMonkey survey... button, the Choose SurveyMonkey Survey dialog is displayed. The dialog contains the following:

- **Load from channel:** you must select an existing SurveyMonkey channel to load the list of associated SurveyMonkey surveys.
- **Choose SurveyMonkey survey:** a list of SurveyMonkey surveys associated with the selected channel is displayed upon selection of a channel. For each, the following are shown:
 - Name
 - SurveyMonkey survey ID
 - Created (date)
- **Refresh:** clicking this button reloads the list of SurveyMonkey surveys.

Clicking a SurveyMonkey survey removes the dialog from display and sets the property.


2.11 Alchemer Subscription Group

This section contains details of properties that are specific to subscription groups that support the Alchemer channel provider.



Alchemer Subscription Group

Use existing Alchemer Survey

Alchemer Survey: 

The Alchemer Subscription Group Designer contains a single property:

- Alchemer survey: an Alchemer subscription group's purpose is to allow you to track the number of respondents to an existing Alchemer survey. It also optionally facilitates the collection of survey and respondent data, and their persistence in the data warehouse.

You must browse for an Alchemer survey with which to configure the subscription group. When you click the Choose Alchemer survey... button, the Choose Alchemer Survey dialog is displayed. The dialog contains the following:

- Load from channel: you must select an existing Alchemer channel to load the list of associated Alchemer surveys.
- Choose Alchemer survey: a list of Alchemer surveys associated with the selected channel is displayed upon selection of a channel. For each, the following are shown:
 - Name
 - Alchemer survey ID
 - Created (date)
- Refresh: clicking this button reloads the list of Alchemer surveys.


Clicking an Alchemer survey removes the dialog from display and sets the property.

2.12 Twilio Inbound SMS Subscription Group


This section contains details of properties that are specific to subscription groups that support the Twilio Inbound SMS channel provider.


Twilio Inbound SMS Subscription Group

Use existing Twilio Inbound SMS

Twilio Inbound SMS: 

Subscription date filter

From: 

To: 

The Twilio Inbound SMS Subscription Group Designer contains the following properties:

- **Twilio Inbound SMS:** a Twilio Inbound SMS subscription group's purpose is to track metrics in respect of a Twilio inbound SMS number.

You must browse for a Twilio Inbound SMS number with which to configure the subscription group. When you click the Choose Twilio Inbound SMS ... button, the Choose Twilio Inbound SMS dialog is displayed. The dialog contains the following:

- **Load from channel:** you must select an existing Twilio Inbound SMS channel to load the list of associated Twilio Inbound SMS numbers.
- **Choose Twilio Inbound SMS:** a list of Twilio Inbound SMS numbers associated with the selected channel is displayed upon selection thereof. For each, the following are shown:
 - Icon
 - Name
 - Twilio Inbound SMS ID
 - Created (date)
- **Refresh:** clicking this button reloads the list of Twilio Inbound SMS numbers.

Clicking a Twilio Inbound SMS number removes the dialog from display and sets the property.

- **Subscription date filter:** this property consists of two optional dates (From and To), which are used to limit the date range across which subscription group results are displayed in the Interaction Designer. The provided To date must be later than or equal to the From date.

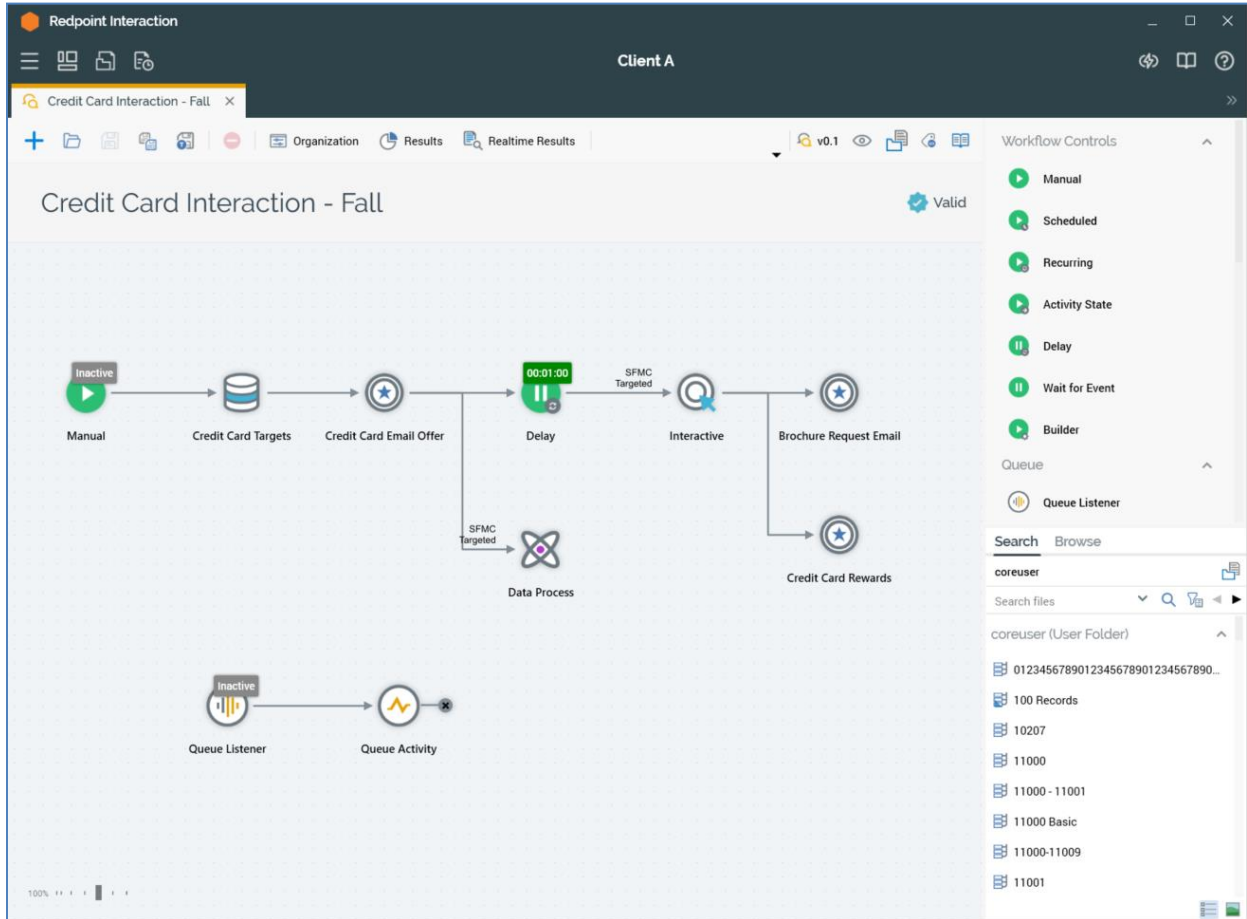
If only a From date is set, only inbound SMS results from that date to the current date are included in the subscription group's bubble count. If only a To date is set, only inbound SMS results from the account's inception to the selected date are included in the bubble count. If both the From and To date are set, inbound SMS results from the From date to the To date are included in the bubble count.

2.13 The Subscription Group Designer and NoSQL Databases

When working in a NoSQL environment, the Alchemer and LiveRamp RampID subscription groups are supported.

3 Interaction Designer

The RPI Designer allows you to create, maintain, execute and observe results relating to interactions and the workflows they contain.

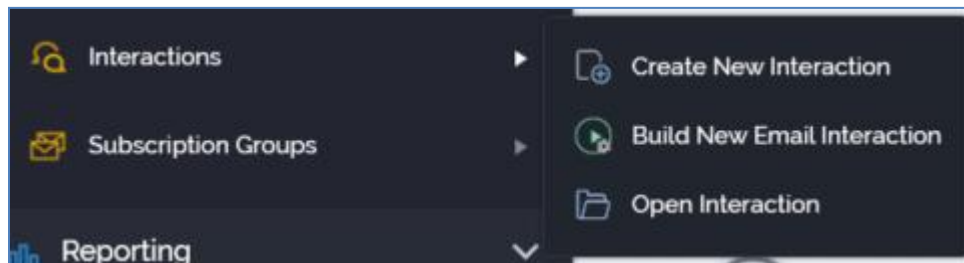


An interaction allows you to deliver targeted messages to an audience selected from the records within your data warehouse and maintain an ongoing dialogue with that audience through time and across multiple channels. It also allows you to broadcast messages through social media channels and supports mobile-originated messaging and location-based marketing through the use of subscription groups. In addition, it allows you to respond instantly to the posting of data to a dedicated 'listener queue', facilitating the delivery of e.g. operational emails.

3.1 Invoking the Interaction Designer

You can invoke the Interaction Designer in the following ways:

- From the quick access menu's Interactions menu. The menu exposes the following options:



- From a Tasks or File Type widget. Typically, these might be displayed at your Home Page. For more information on widgets, please see the Dashboard Designer documentation.

By double-clicking an Interaction file in the File System Dialog, or by highlighting an Interaction and clicking OK in the same context.

- By viewing the latest version of an interaction contextually.

Note that access to the Interaction Designer is controlled via the Interaction – Design functional permission. If none of the user groups of which you are a member are associated with this permission, you will not be able to access the Interaction Designer.

If you access the Interaction Designer with only the Interaction – Design functional permission, the toolbox therein appears empty (other than providing access to the Note), and functionality is locked down.

To build interactions, you will also require the Interaction – Build functional permission. In addition, the following functional permissions provide additional, granular control within the Interaction Designer:

- Interaction – Execute Test: allows you to execute workflows in Test mode.
- Interaction – Execute Production: allows you to execute workflows in Production mode.
- Interaction – Rollback: allows you to roll back Production workflows.
- Interaction – Workflow Builder: allows you to use the Builder to create an email interaction.

3.2 Interaction Designer Basics

The Interaction Designer is displayed within a separate tab in the RPI framework. The name of the interaction is displayed within the tab header (note that an asterisk is appended to the name if unsaved changes exist within the interaction).

The Interaction Designer contains the following.

- Toolbar
- Properties
- Toolbox
- Workspace

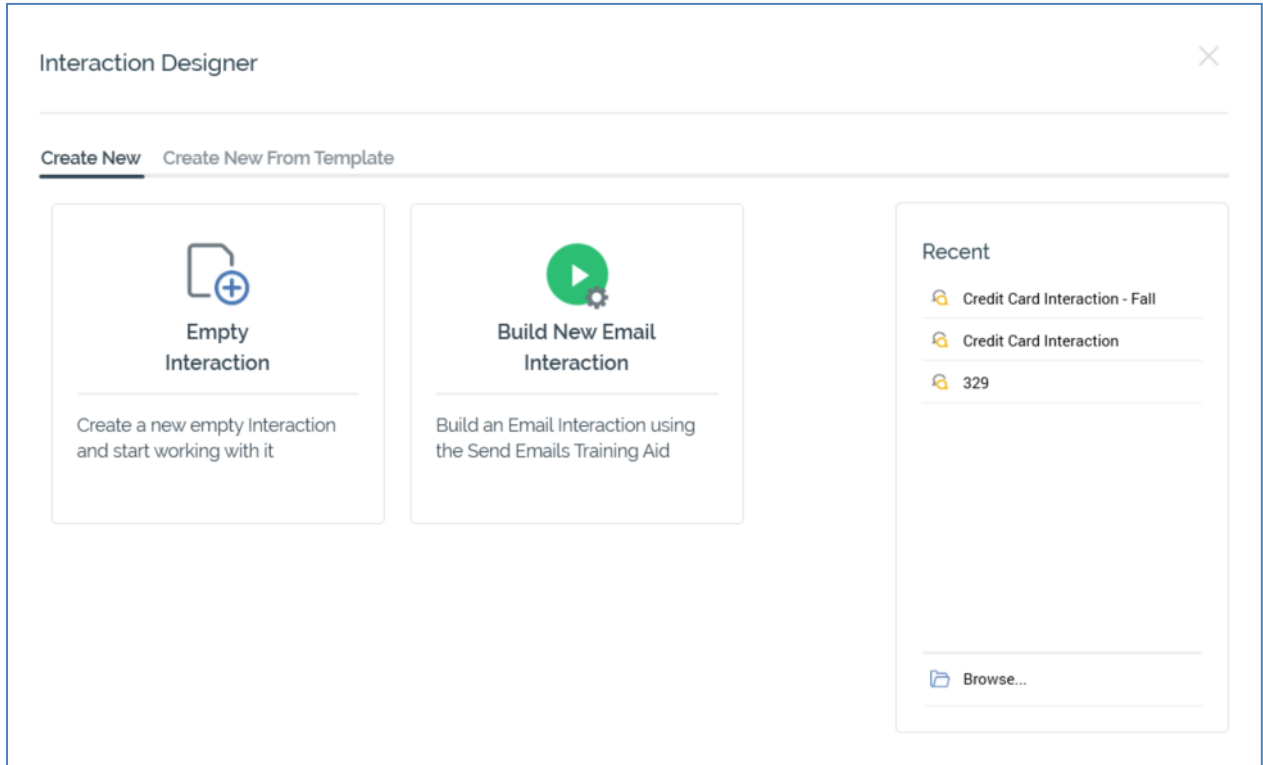
Each of these is discussed in detail elsewhere.

If you close a tab containing the Interaction Designer and displaying an interaction to which changes have been made, or you close RPI itself under the same circumstances, a dialog is displayed. You may:

- Save the changes and proceed with closing the tab or RPI.
- Abandon changes and proceed with closing the tab or RPI.
- Cancel closing the tab or RPI.

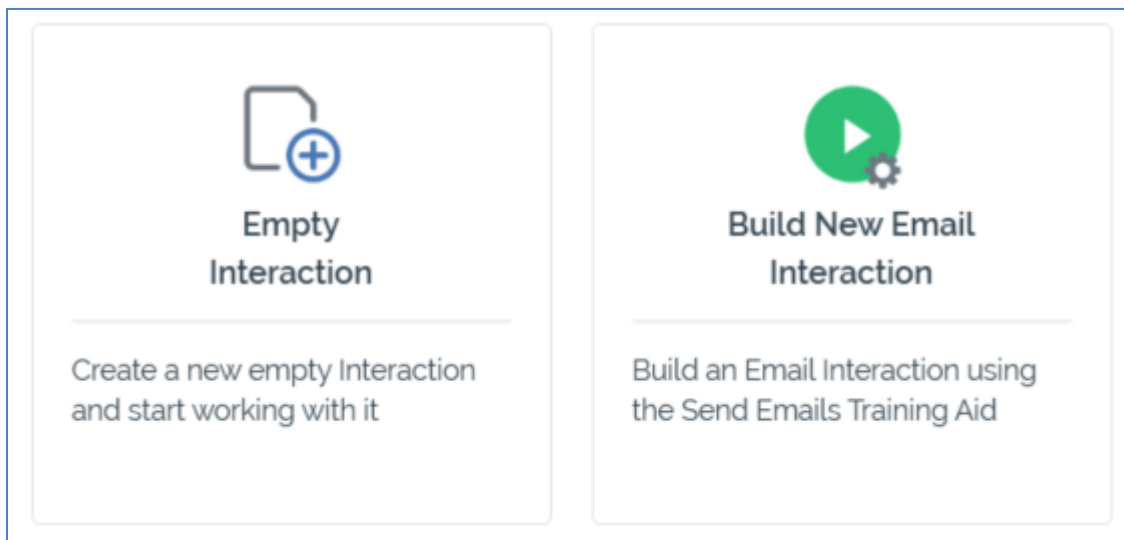
3.3 Start Page

The Interaction Designer Start Page is shown upon invocation of Interactions at the quick access menu, and also on clicking Create new Interaction at the Interaction Designer toolbar.



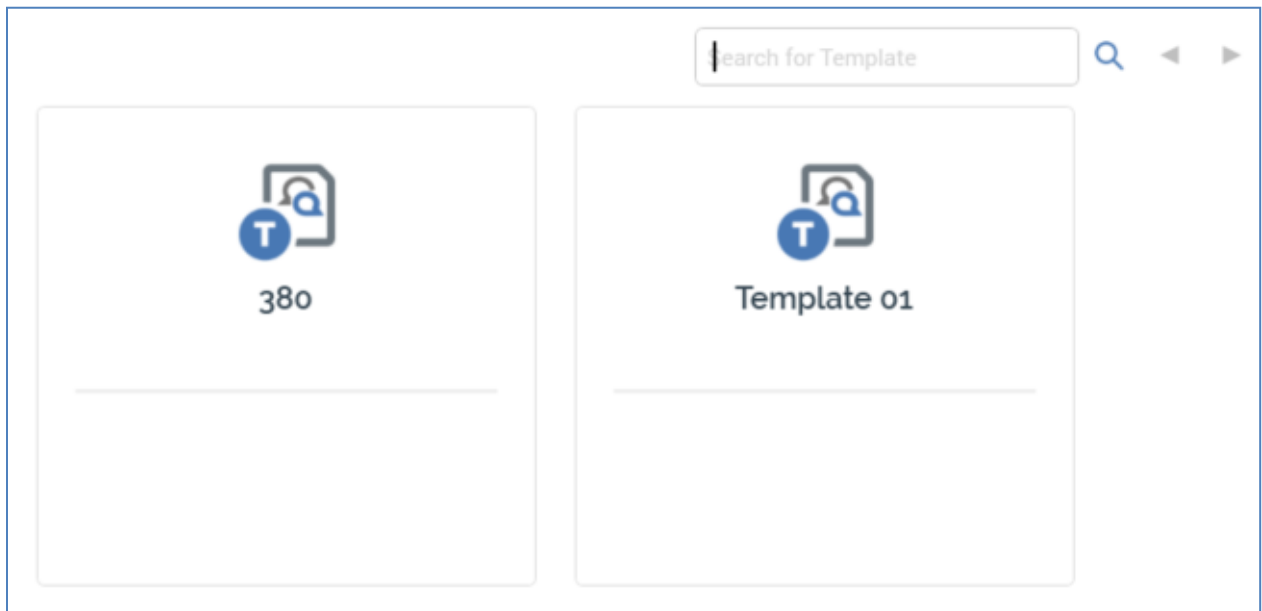
It contains a tabset, which exposes Create New and Create New From Template tabs.

The Create New tab exposes the following:



- Buttons facilitating the following:
 - Empty Interaction: creates a new, unconfigured interaction and displays it in the Interaction Designer.
 - Build New Email Interaction: launches the Send Emails training aid (please see the Training Aids documentation for more information).

The Create New From Template tab lists any interaction templates configured at the current RPI client:



More information on interaction templates is provided elsewhere in this documentation.

You can search for a template using the field and button provided. If multiple search results are displayed, they can be accessed using the Previous and Next buttons.

In addition, the Start Page also exposes the following:

- Recent: lists recently-accessed audiences, facilitating the opening of the same.
- Browse: displays the Open Interaction File System Dialog, allowing you to select an audience to open.

A Cancel button is shown at the top of the Start Page. Clicking it removes the Start Page from display, and redisplay the Interaction Designer. The Cancel button is only shown on invocation of the Start Page by clicking Create new Interaction at the Interaction Designer toolbar.

3.4 Toolbar

The Interaction Designer toolbar exposes the following options:



3.4.1 Create New Interaction

Create new Interaction: clicking this button displays the Interaction Designer Start Page. A close button is shown to its top right; clicking it removes the overlay from display. If an interaction containing unsaved changes is displayed at invocation of Create New, an 'Are You Sure?' dialog is shown, from which you can:

- Save the changes
- Abandon the changes
- Abandon creation of the new Interaction

3.4.2 Open an Existing Interaction

Invoking this option displays the Open Interaction File System Dialog, within which only files of type interaction are displayed. You may navigate through accessible folders within the RPI file system in order to locate an interaction to open. Having located an interaction to open, clicking OK or double-clicking the interaction displays it in the Interaction Designer.

If, when opening an interaction, an existing interaction to which changes have been made is displayed within the Interaction Designer, a dialog is displayed. You may:

- Save changes and open the interaction.
- Abandon changes and open the interaction.
- Abandon opening the interaction.

When an interaction is opened, if one of its workflows has been played, its statuses and results bubbles reflect its most recent instance's execution. If a workflow has not yet been played, it is displayed in 'design mode' – with no results being shown.

3.4.3 Save the current Interaction

This option is available whenever unsaved changes exist within the current interaction.

If the interaction has been saved previously, it is saved to the existing file and its version number incremented accordingly.

If the interaction has yet to be saved, Save behaves exactly like Save As....

You can save an interaction irrespective of the validation status of the workflows that it contains. When you save an interaction, any triggers' active statuses are updated to 'Inactive'.

3.4.4 Save the current Interaction As...

You may save an interaction and specify its filename and location within the RPI file system by invoking Save as.... Doing so displays the Save Interaction As... File System Dialog. You can navigate accessible folders within the RPI file system to locate a folder to which to save the interaction. Having done so, clicking OK saves the interaction; clicking Cancel cancels saving the interaction and removes the File System Dialog from display.

You can save an interaction irrespective of the validation status of the workflows that it contains.

A useful feature of Save as... is the fact that, when the new interaction is saved, all workflows' statuses are reset to allow them to be executed in the new interaction. This applies even to workflows that have Completed in their original context.

3.4.5 Save the current Interaction as a Template

This button is only shown when a non-template interaction is displayed in the Interaction Designer. Clicking it displays the Save Interaction as Template File System Dialog. You can specify a name for the new template file and click Save. When you do so, the file is saved with a modified icon that indicates that it is a template. For more information on interaction templates, please see Interaction Templates.

3.4.6 Remove the selected activities/connections

This option is only available when one or more activities and/or connectors are selected in the Interaction Designer workspace. Invoking this option removes the selected items.

3.4.7 Undo

This button is available when one or more actions that can be undone have occurred. A tooltip advises of the next action to be undone. Undoing an action may automatically trigger a refresh of the Interaction Designer (if appropriate). The button is disabled when an activity's configuration panel is shown. The history of the undoable actions undertaken within the current Interaction Designer instance is cleared when Save or Save As is invoked. The history is also lost when the Interaction Designer is closed. You can click Ctrl-Z to undo the most recent action. File metadata changes are not added to the history. You cannot make changes using Undo to an executing workflow (an advisory message is shown when you attempt to do so).

3.4.8 Redo

This button accompanies Undo (please see that button's documentation for further information). You can click Ctrl-Y to redo the most recent action.

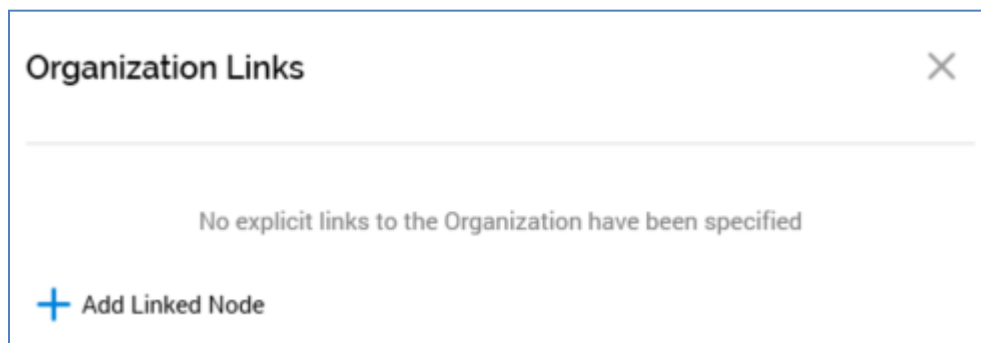
3.4.9 Organization

Clicking this button allows you to specify whether the interaction has any explicit links to organization hierarchy nodes in the multi-line field displayed to the right of Name and Description. Organization hierarchy links are used to restrict access to interactions to users through the use of organization node user groups. For more information, please see the Configuration documentation.

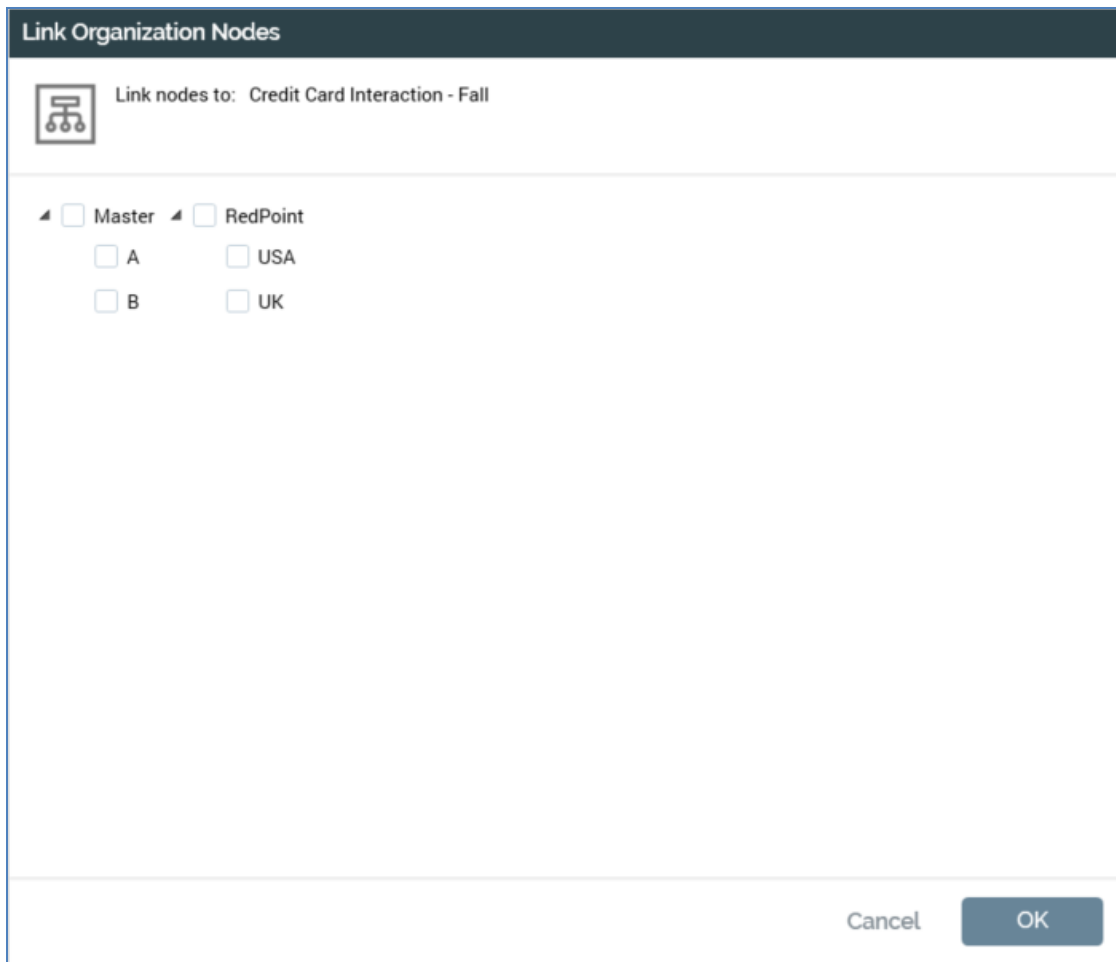
If your user account is linked to any organization user groups, the associated organization hierarchy nodes are automatically linked to any new interactions you create.

If your user account is not linked to any organization user groups, an interaction is linked implicitly to the top node of each hierarchy in the organization. If you add a link to any hierarchy node below the top level, links to all other nodes within that hierarchy to which the interaction is to be linked must be defined explicitly.

Clicking the Organization button displays the Organization Links overlay:

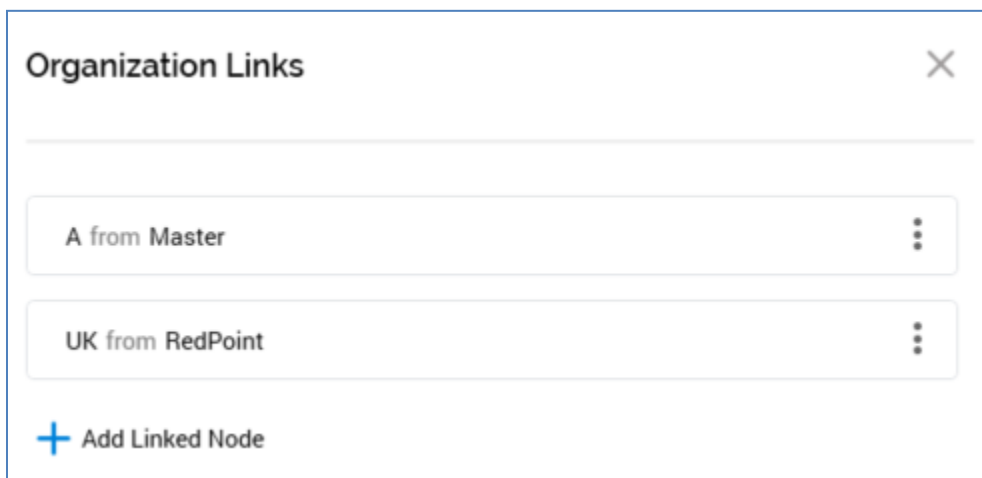


You can click the Add Linked Node button to add an organization node to the interaction. When you do so, the Link Organization Nodes dialog is displayed:



Organization hierarchies are listed in side-by-side treeviews. If your user account is linked to any organization user groups, treeviews are limited to display only the related organization hierarchy nodes, and any linked nodes.

You can select a nodes, then click OK to link the interaction to them. When you do so, linked nodes are displayed like this:



An inline Options menu at each node gives access to a Remove option.

3.4.10 Results

Invocation of this button displays the Results Window, providing access to the interaction's results. The Results Window is discussed separately in the RPI documentation.

3.4.11 Realtime Results

Invocation of this button displays the interaction's details in the Realtime Results interface. For more information, please see that interface's own documentation.

3.4.12 Activate in Test/Production

This dropdown allows you to control in which mode – Test or Production – workflows will commence Playing when activated.

3.4.13 Activate all Triggers

Clicking this button activates all workflows within the interaction that are valid and can be activated. If in Production mode, an 'Are You Sure?' dialog is shown. When an interaction contains no valid workflows, a message advising that no workflows are able to be activated is displayed.

3.4.14 Deactivate All Triggers

This button allows you to deactivate all triggers in the current interaction that are in a position to be deactivated. It is enabled when one or more triggers can be deactivated and applies at all triggers except a manual trigger which has no trigger constraints. Clicking the button deactivates all Active triggers. Note that an 'Are You Sure?' dialog is not shown if invoked in Production mode.

3.4.15 Copy Image to Clipboard

This option is available when at least one trigger or activity is present in the workspace. Clicking it copies the contents of the workspace to the clipboard (even if its full contents are not currently visible).

3.4.16 Refresh

Invocation of this option causes the currently-displayed interaction to be refreshed with its most recently-saved data (thereby picking up any changes made by other users), and its latest status information. You can refresh the display of an interaction in the Interaction Designer manually at any time.

3.4.17 Approval Panel

If interaction file approval is enabled in the current RPI installation, the approval panel is shown to the right of the Interaction Designer toolbar. Full details of the approval panel can be found in the File Approval documentation.

3.4.18 File Version, Follow/Unfollow File, File Options, Manage Metadata and Linked File Options

These options appear to the right of the toolbar. They are documented in detail in the RPI Framework documentation.

3.5 Name

An Interaction's name is configured in the large property shown at the top of the Interaction Designer, below the toolbar:



Provision of a name is mandatory, and the value provided may be a maximum of 100 characters. The Interaction's name is the same as the filename under which it is saved within the RPI file system. As such, it must be unique amongst the Interactions in the folder within which saved.

You can edit an Interaction's name by clicking the property. Complete the edit by clicking off the property, or by hitting return

3.6 Interaction Validation

Before an interaction can be used, it must be valid.

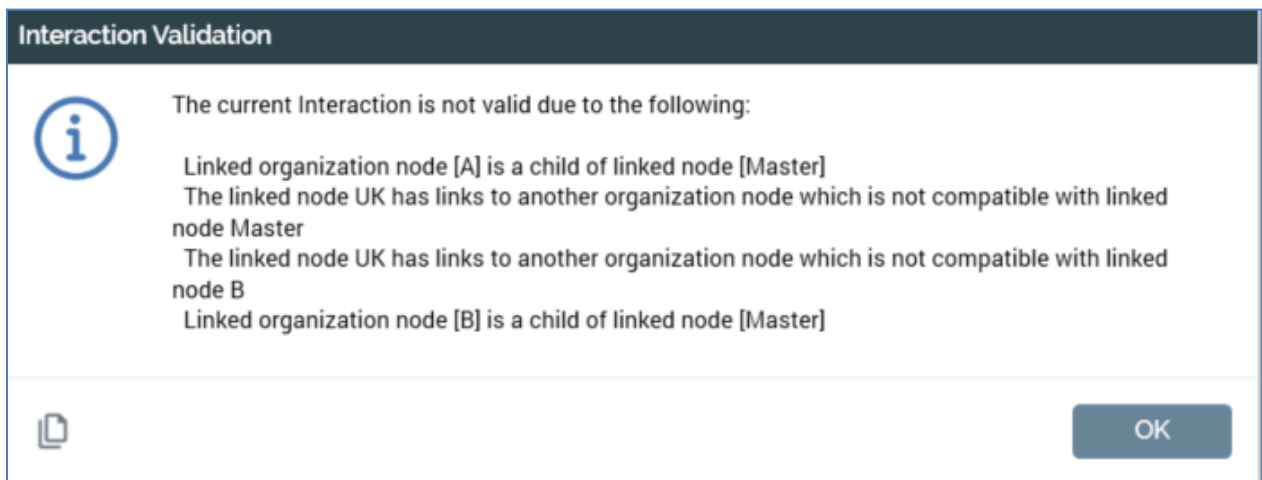
A validation status indicator is displayed to the right of the interaction's name. When the interaction is valid and contains no validation errors, the validation status indicator is shown as follows:



Specific validation errors are outlined in the interaction documentation. When one or more validation errors is present, a validation error indicator is shown:



Clicking the indicator lists the validation errors in a dialog:



You can use the button at the bottom left of the dialog to copy the validation error details to the clipboard. You can close the dialog using the OK button.

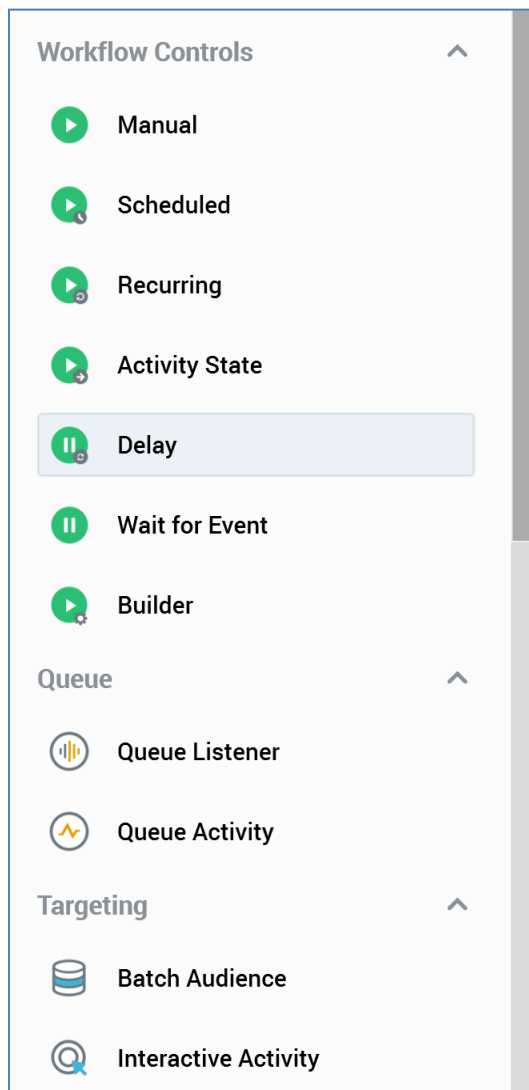
If the determination of an interaction's validation status takes longer than three seconds, dynamic validation is switched off automatically. A button is displayed, and advises of this fact. Clicking the button re-enables dynamic validation.

3.7 Toolbox

The Interaction Designer contains the following:

3.7.1 Components

The components toolbox section exposes a series of triggers and activities, grouped appropriately within separate sections.



These are used to build interaction workflows. The following groups are displayed:

- Workflow controls
 - Manual
 - Scheduled
 - Recurring

- Activity State
- Delay
- Wait for Event
- Builder
- Queue
 - Queue Listener
 - Queue Activity
- Targeting
 - Batch Audience
 - Interactive Activity
 - Subscription Group
- Data Processing
 - Data Process
 - Data Transfer
- Fulfillment
 - Broadcast
 - Control
 - Export
 - Offer
 - Decision Offer
- Data Process Projects: any configured data process projects with their Show in toolbox properties checked are listed in this section. If configured with a custom icon, that icon is used to represent them here.
- Note

You can drag an activity from the toolbox activities section in order to drop it onto the Interaction Designer workspace. When you drag a queue listener activity onto the workspace, a queue activity is automatically added immediately downstream from the new queue listener

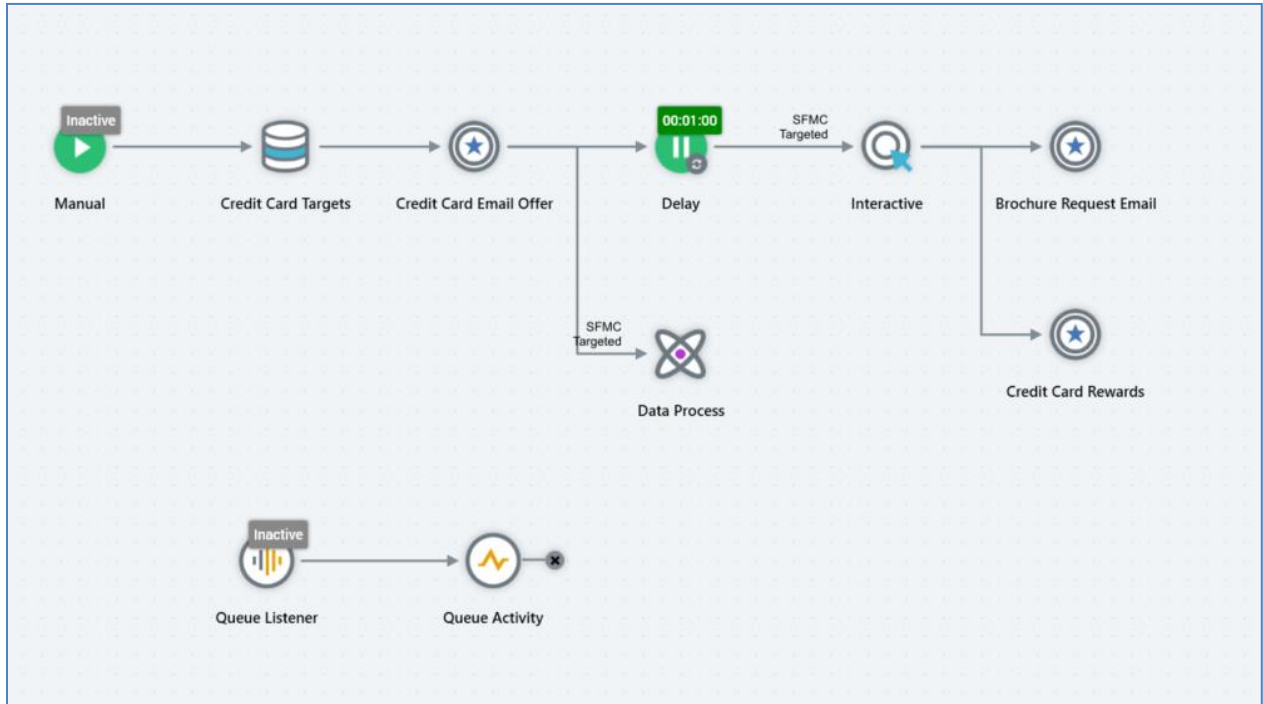
3.7.2 Folder Search

The lower section of the Interaction Designer toolbox contains a Folder Search component. For more information, please see the Framework documentation.

The folder search is used to locate the files you need when building an interaction. You can drag files from the tabs onto the workspace for a number of reasons, each discussed separately elsewhere.

3.8 Workspace

The Interaction Designer workspace is the canvas within which you can create, maintain and execute your interactions.



3.8.1 Workspace Contents

The workspace is displayed below the Interaction Designer toolbar and properties panel, and to the right of the toolbox. It contains:

- Triggers, activities and connections: covered elsewhere in this documentation.
- Zoom: the zoom control is shown to the bottom left of the workspace.

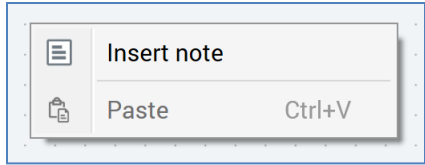


You can zoom the workspace from 25% to 150% magnification.

The workspace is used to host the interaction's activities, which collectively make up its workflows.

Activities within the workplace are snapped to an invisible grid to ensure they maintain a neat and tidy appearance.

The following context menu is displayed when you right-click the workspace:



- **Insert note:** invocation of this option adds a new note at the cursor position, presenting it in edit mode.
- **Paste:** this option is only available if one or more activities has been copied to the clipboard. See the next section for more details on Paste.

3.8.2 Copy and Paste

Having selected one or more activities in the workspace, you can right-click and select Copy Selected Activities from the context menu. Clicking Ctrl-C has the same effect. Selected activities are copied to the clipboard (note that any selected triggers are not copied). Following a copy, an informational message is displayed.

You can paste the activities copied to the clipboard using the Paste context menu that is displayed when you right-click the workspace. Clicking Ctrl-V has the same effect. Paste is only available when activities have been copied to the clipboard. Pasted activities are named in accordance with copied activities, but with an integer appended to ensure name uniqueness. Any configuration from the copied activity is pasted too.

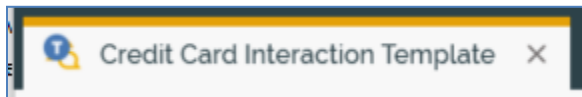
If you copy linked activities, their connection and any associated configuration are also copied.

You can paste activities within the interaction from which they were originally copied, or into another interaction. If you copy activities that are executing or have executed, no status information is pasted.

3.9 Interaction Templates

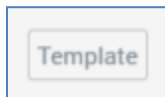
An interaction template is a special type of interaction file that cannot be executed in production mode. Interaction templates allow you to create a base interaction, save it as a template file, and then create interactions based on the template.

When an interaction template file is shown in the Interaction Designer, the icon shown at the tab identifies it as a template.



The following differences are manifest at an interaction template when it is displayed in the Interaction Designer:

- The Save Interaction button is replaced by a Save Interaction Template button, allowing you to save any changes you make to the current interaction template file.
- The Save Interaction As button is replaced by a Save Interaction Template As button, allowing you to save the interaction template to a different filename.
- The Save Interaction as Template button is not shown.
- A 'Template' indicator is shown to the right of the interaction's name:

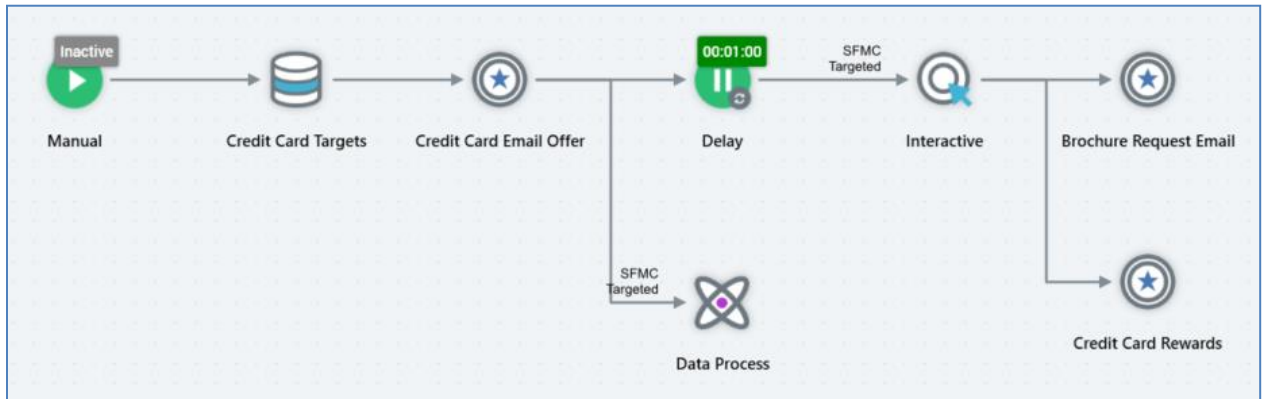


The following considerations apply in respect of interaction templates:

- Interaction template files are not shown at designer toolboxes.
- Execution in Production mode is not supported; the Activate in Production option at the Activate in dropdown is not shown. However, Test execution is supported.
- You cannot use an interaction template at a web form's Queue listener interaction property.
- You cannot use an interaction template at a Channel Overview widget's Filter on interaction property.
- Approval of interaction templates is supported.

3.10 Workflows

A workflow is a sequence of linked activities within an interaction.



An interaction can contain many workflows, each of which is independent of, and can execute in parallel with, its peers.

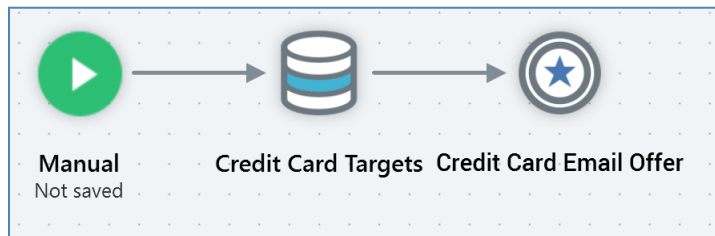
The number of workflows that can exist within an interaction is determined by system configuration setting MaxTriggersPerInteraction.

3.10.1 Adding Workflows to the Workspace

Each workflow within an interaction starts with a trigger. The act of dragging a trigger from the toolbox and dropping it onto the workspace creates a new workflow.

3.11 Activities

Workflows consist of connected activities.



A number of types of activity are provided, each of which is documented separately elsewhere. These include:

- Triggers: non-queue listener workflows start with a trigger.
- Batch audience: facilitates the retrieval of a set of data from the data warehouse representing recipients to whom messages are to be sent.
- Interactive activity: undertakes actions on a repeating basis in accordance with its defined frequency settings. These may include:
 - Retrieving data from the data warehouse, thereby building a dataset cumulatively. This is useful if you wish to respond dynamically to the receipt of transactional data.
 - Undertaking further downstream activity having established contact with an audience (e.g. sending a welcome email having originally targeted a prospect with an offer).
- Workflow control activities: the Delay and Wait for Event activities.
- Subscription Group: either provides a vehicle to capture details of inbound subscribers (e.g. those who send an SMS message to a short code) or facilitates the monitoring of an external entity such as a survey.
- Fulfillment activities: including the Broadcast, Control, Export, Offer and Decision Offer activities.
- Data process activity: allows you to invoke the execution of a Redpoint Data Management project from the context of an interaction workflow.
- Queue listeners and queue activities: a queue listener allows for the processing of records placed on a listener queue, either by an external system or through submission of a web form. Upon receipt of such data, downstream queue activities, wrapping outbound offers, can be triggered. This mechanism can be used to send e.g. a purchase confirmation email.

Activities are displayed as icons in the Interaction Designer workspace, with the name of the activity shown below the icon. You can edit an activity's name inline by double-clicking it. Hitting Enter or clicking off the same completes the edit; hitting Esc abandons it.

3.11.1 Adding Activities to the Workspace

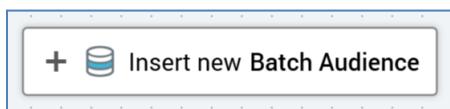
You can add an activity to the interaction by dragging it from the toolbox and dropping it onto the workspace.

When you drag an activity from the top (activities) section of the toolbox and drop it onto the workspace, a new, unconfigured activity of the appropriate type is created.

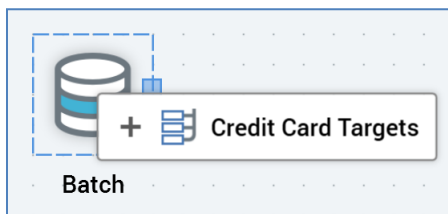
When you drag a file from the bottom (search/folders) section of the toolbox and drop it onto the workspace, a pre-configured activity of the relevant type is added (e.g. dropping an offer onto the workspace creates a new offer activity). You can also drag a file and drop it onto an activity of an appropriate type to configure the activity (e.g. dropping an audience onto a batch audience configures the batch audience with the template).

When dragging an activity across the workspace, a label is displayed alongside the cursor:

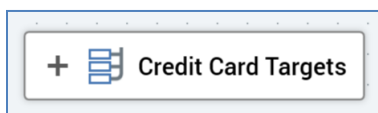
- When you are able to drop an activity dragged from the activities section to create a new, unconfigured activity, the label reads 'Insert new [name of activity]'.



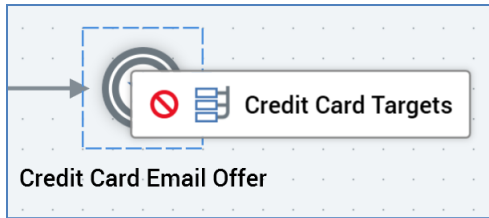
- When you are able to configure an existing activity by dropping a file dragged from the toolbox onto it, the label appears as follows:



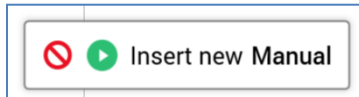
- When you are able to create a new activity by dropping a file dragged from the file system treeview, the label appears as follows:



- When you are unable to drop a file dragged from the file system treeview (for example, trying to drop an offer onto a batch audience), the label displays the filename, along with a 'no drop' icon.



- When you drag an activity or file over the RPI interface other than the Interaction Designer workspace, an icon indicates it is not possible to drop the item.

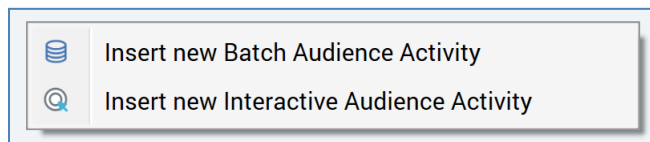


At the point of dragging an activity from the activities section over the workspace, all existing activity highlights are removed.

When you drop an activity from the activities section onto the workspace, an icon representation of the new activity, along with its default name, are displayed within the workspace.

A new activity is named in accordance with its activity type or file name (e.g. a new, unconfigured batch audience is named 'Batch'; an offer activity based on offer 'Credit Card Email Offer' is given an identical name). If an activity with the same name exists already in the workspace, an integer is appended to the activity name to ensure uniqueness; this number may be incremented if required.

If you drag an audience from the file system treeview and drop it onto the workspace, the system queries whether you wish to create a batch audience or interactive activity, preconfigured with the audience.



Your choice made, an activity of the appropriate type is added to the workspace and configured automatically with the selected audience. The name of the new audience activity is the same as the audience you dragged (if an identically-named activity exists already, an integer is appended to the name to ensure uniqueness (and can be incremented if required)).

When you drag an offer that supports at least one broadcast and one non-broadcast delivery method onto an interaction, a context menu is displayed:

- Insert new Offer Activity: upon creation of the offer activity, any default non-broadcast channels are added automatically.
- Insert new Broadcast Activity: upon creation of the broadcast activity, any default broadcast channels are added automatically.

When you drag an offer that supports exclusively non-broadcast or broadcast delivery methods onto an interaction, the context menu is not displayed. If the offer supports exclusively non-broadcast delivery methods, an offer activity is created. If the offer supports exclusively broadcast delivery methods, a broadcast activity is created.

Default broadcast channel(s) are not added automatically at the addition of an empty broadcast activity to an interaction. Channel(s) are only added after selection of an offer supporting broadcast delivery method(s).

You can drag a data process project from the toolbox and drop it onto the workspace to create a data process activity that is pre-configured with the selected data process project. If configured with a custom icon, that icon is used to represent the data process activity in the workspace.

If an activity exists within the workspace that is not part of an existing workflow, a validation error relating the existence of the orphaned activity is shown.

3.11.2 Activity Icons

When you add an offer or broadcast activity to the Interaction Designer workspace, the icon used to represent it will be determined by its channel's Activity icon style property.

If the offer supports a single delivery method, the icon used is accordant with the selected channel's Activity icon style setting:

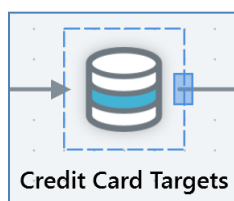
- Use default activity icon: the standard offer or broadcast icon is displayed.
- Use delivery method icon: the channel's delivery method's icon is displayed.
- Use channel icon (default icon): the channel's default icon is displayed.
- Use channel icon (custom icon): the selected custom icon is displayed.

If a multi-delivery method offer, the standard offer or broadcast icon is displayed. If a single delivery method offer, with multiple instances of the type of channel, the standard offer or broadcast icon is also displayed.

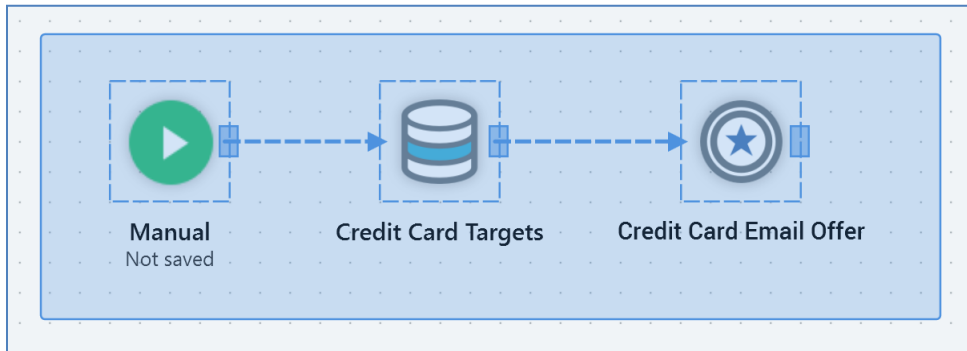
Note that the customization of icons is also applied at queue listener and subscription group activities.

3.11.3 Selecting Activities

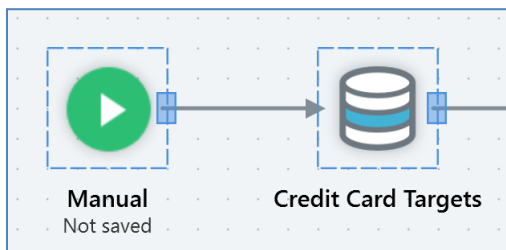
You can select an activity by clicking it. A selected activity is surrounded by a dashed line. A connection point (a blue rectangle) is shown to its right.



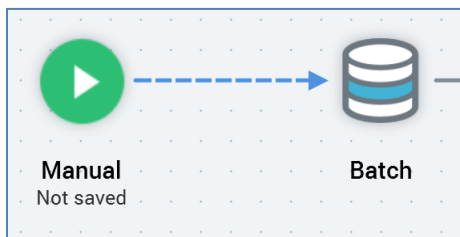
You can also drag a rubberband around one or more activities; doing so causes activities enclosed entirely within the rubberband to be selected.



In addition, you can hold down the Ctrl key to enable you to select multiple activities.



You can select one or more connections between activities. When a connection is selected, it is shown as a dashed line.



3.11.4 Moving Activities

You can move an activity within the workspace. Any connections to or from the activity are moved in accordance with the activity's movements (connections between activities within the workspace are always maintained as straight lines with right angles). It is possible to move more than one selected activity concurrently.

3.11.5 Removing Activities

You may remove one or more selected activities (and/or connections). This feature is only available if:

- The workflow within which the activity exists has yet to be activated in Production mode.

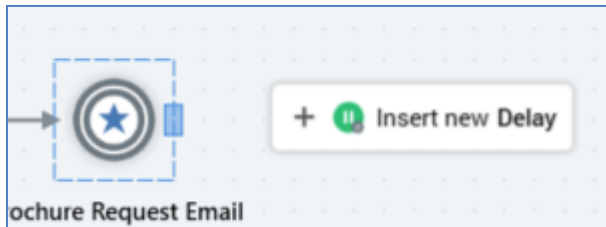
- No activities within the workflow are in a Playing or Completed state.

When you remove an activity it is removed from the workspace immediately, without the display of an 'Are you sure?' dialog. The removal of an activity also removes any connections to or from the activity.

3.11.6 Connecting Activities in the Workspace (New Activities)

It is possible to connect a new activity dragged from the toolbox to an existing activity already displayed within the workspace.

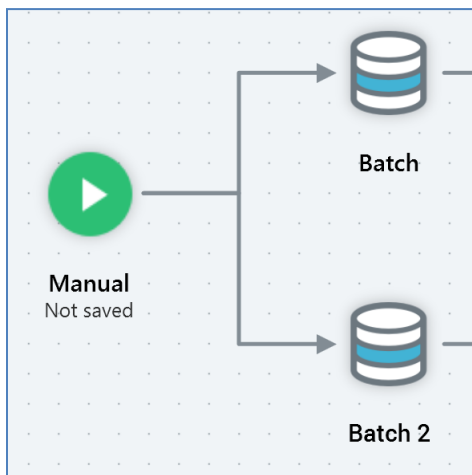
When you drag an activity from the toolbox over the workspace and near to an existing activity, the existing activity is selected. Note that a connection point (a blue rectangle) is displayed to the right of the selected activity:



When you drop an activity when an existing activity is selected, and it is possible to create a connection from the existing to the new activity, a connection is created between them.

Connections are always created from the right hand side of the existing to the left hand side of the new activity. Connections are also always displayed using straight lines and right angles.

If you connect a second new activity to an existing activity, a workflow branch is created.



Certain connections between activities are not permitted. If you attempt to create a connection that is not permitted, a warning message is displayed. Details of specific warning message are

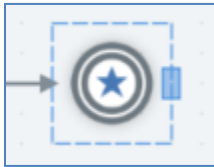
provided elsewhere. Note that the new activity is still added to the workspace, but the connection is not made.

Note also that you are unable to create a connection to a new from an existing activity contained within an active workflow.

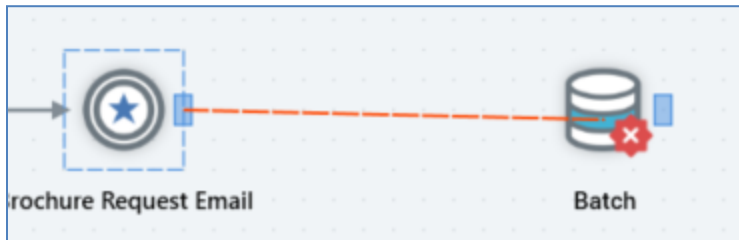
3.11.7 Connecting Activities in the Workspace (Existing Activities)

You can connect two independent activities that already exist within the workspace.

When you select an existing activity in the workspace, a connection point (a blue rectangle) is displayed to its right:

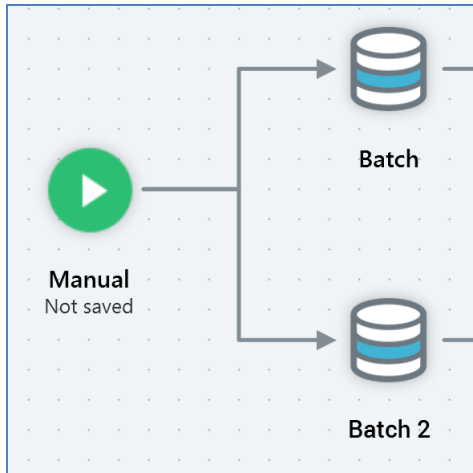


When you hover over the connection point, the cursor becomes a crosshair. You can drag the crosshair from the connection point; when you do so, a dashed red line indicates the availability of a candidate connection.



When you hover the crosshair over a second activity, you can then drop the crosshair to create a connection.

Creating a connection from an activity to a second or additional activity causes the creation of a workflow branch.



Note that you are not able to create a connection between the same two activities more than once.

Certain connections between activities are not permitted. If you attempt to create a connection that is not permitted, a warning message is displayed. Details of specific warning message are provided elsewhere.

3.11.8 Invalid Activity Connections

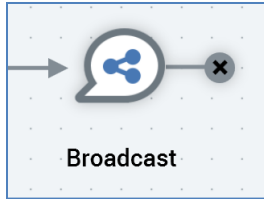
The following warning messages are displayed when attempting to make invalid connections in the Interaction Designer:

- An interactive audience activity cannot be used with a recurring trigger
- An activity cannot be added downstream of a broadcast activity
- Fulfillment activities can only be used downstream of audience or other fulfillment activities
- This activity cannot be connected downstream to an interactive activity
- The activity is already connected to a different workflow or activity

3.11.9 Downstream Post-Fulfillment Activities

Fulfillment activities (broadcasts, controls, exports, offers and decision offers) within an interaction workflow represent an effort by RPI to make contact with an audience (although, in the case of a control activity, contact is never actually made, being a pseudo-fulfillment activity for internal use only).

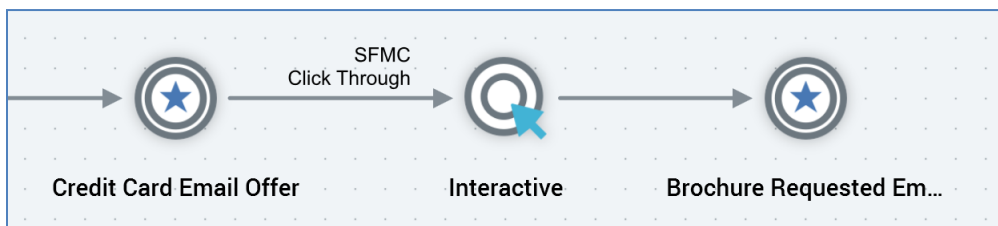
In the case of a broadcast, it is not possible to continue a dialogue with the targeted audience – a broadcast is published to the world at large (e.g. via a Twitter account). As such, it is not possible to add activities downstream of a broadcast activity, which is shown with a ‘dead end’ icon to its right:



In the case of the other fulfillment activity types, it is possible to add the following activity types directly downstream:

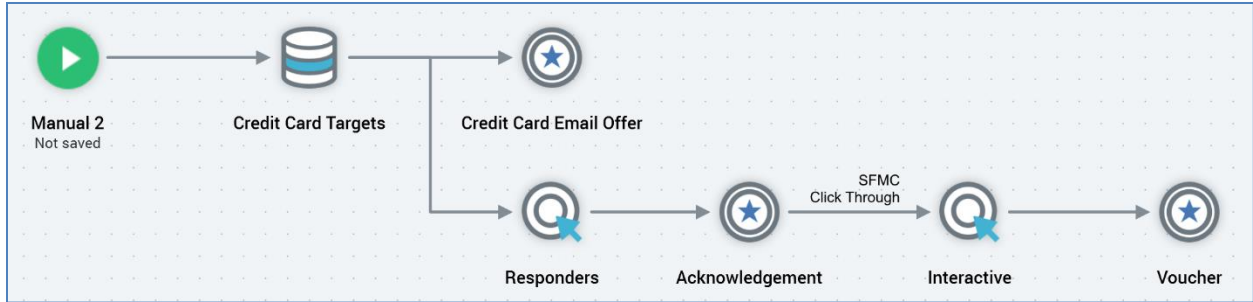
- Batch Audience
- Interactive Activity
- Delay
- Wait for Event
- Broadcast
- Control
- Export
- Offer
- Decision Offer
- Subscription Group
- Data Process
- Data Transfer

In this way, you can continue the 'conversation' started when you made initial contact with your target audience. For example, following an initial email drop, you might want to respond to those people who click through a specific URL within the email who then fail to make a purchase by sending them a discount voucher.

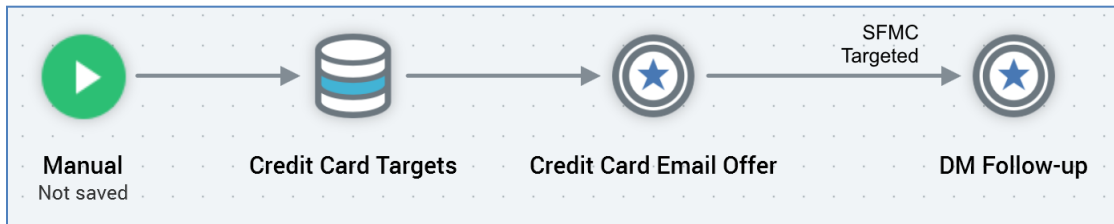


Using downstream, post-fulfillment activity activities you can map out your tactical marketing activities precisely in advance of their execution, as part of your overall customer interaction strategy.

If you wish to place a fulfillment activity downstream of a fulfillment activity operating in 'interactive mode' (i.e. after an interactive activity), you must also precede the downstream fulfillment activity with another interactive activity:



Note that you can follow a fulfillment activity directly with another fulfillment activity if the upstream activity is not operating in interactive mode.



When you add one of the following activity types...

- Interactive activity
- Batch audience
- Control
- Export
- Offer
- Decision Offer
- Data Process
- Data Transfer

...downstream of a fulfillment activity, the Inputs tab within the downstream activity's configuration panel is amended to allow the downstream activity to specify the fulfillment states to which it is to apply. Full details of the Inputs tab may be found elsewhere in the documentation. Full details of the actions undertaken when executing an activity downstream from another fulfillment activity can also be found elsewhere.

Note that a queue activity can only be placed immediately downstream from a queue listener. No activities can follow a queue activity.

3.11.10 Data Process Activity Considerations

If adding a data process activity to an interaction workflow, there is no requirement for it to be placed downstream from an audience (the activity can invoke a Redpoint Data Management project that operates entirely independently, if required). You can add a data process activity

downstream from a fulfillment activity. You can also chain together data process projects. Note that any activities downstream from a data process activity will take their inputs from the activity preceding the data process activity.

3.11.11 Connecting Activities to Queue Listeners

You can only connect queue activities to queue listeners. You cannot connect other types of interaction activity to a queue listener.

A queue activity cannot be attached to more than one queue listener. You cannot add a queue activity downstream from another queue activity. You also cannot add any other activities downstream from a queue activity.

3.11.12 Activity Input Indicators

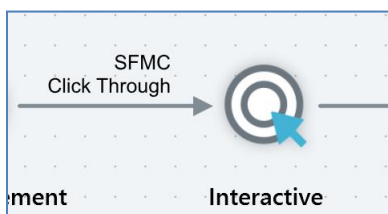
Activities may be linked to one another in the Interaction Designer workspace. By default, the entire output of a parent activity (typically a set of customer or prospect records) serves as the input to any child activities.

However, it is possible to configure a child activity such that it only targets a subset of the parent's output. In summary, the ways in which a child may be configured in this way are:

- Where the parent provides multiple segments (discrete blocks of data), by configuring a child activity to only apply to the data in a subset of the segments.
- By configuring the child to only apply to data with matching metadata attribute values.
- By specifying that the child will act only upon records that match specific fulfillment states – be these provided by a channel (such as 'Clicked Through' from an email channel), or custom fulfillment states (for example, 'Application Accepted').

Note that full details of how these configuration activities are carried out are provided elsewhere, as are details of the concepts themselves.

When explicit inputs are defined at an activity, an input indicator is displayed to the left hand side of and just above the incoming connector.



An input indicator is not displayed when no explicit inputs are defined.

The following activity input indicator text is displayed for each of the following scenarios:

- Child configured to act upon subset of parent's segments:

- Single parent segment selected:
 - '[ParentSegmentName]'
- Multiple parent segments selected:
 - '[ParentSegmentName] + [n]' (where [n] is the number of additional segments selected)
- Child configured to act upon only records with specific metadata attribute values:
 - When one or more values are specified for one metadata attribute:
 - '[MetaAttributeName]'
 - When one or more values are specified for more than one metadata attribute:
 - '[MetaAttributeName] + [n]' (where [n] is the number of additional metadata attributes for which values are specified)
- Child configured to act upon subset of parent segments, and only records with specific metadata attribute values:
 - Stipulations shown on two separate lines, with parent segments first
- Child configured to only act upon records with one or more fulfillment state(s):
 - If channel fulfillment state(s):
 - '[ChannelName]' displayed on top line
 - Fulfillment states selected for channel, shown on second line ('[StateName]'; '[StateName] + [n]' (where [n] is the number of additional states selected))

Hovering over an input indicator displays a tooltip, the text of which is dependent on the scenario in question:

- Parent segment(s) specified:

'Inputs:

[Segment1]

[Segment2]

['...']

- Metadata filter(s) specified:

'Metadata filters:

[MetadataAttribute1]

[MetadataAttribute2]

[...]

- Parent segments and metadata filters specified

Inputs followed by Metadata filters

- Fulfillment state(s) specified

'Fulfillment state inputs:

[Channel]

[State1]

[State2]

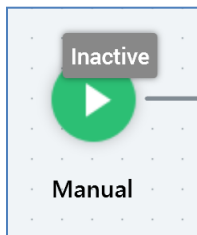
[...]

3.11.13 Activity Information Bubbles

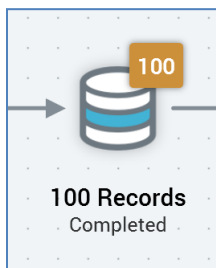
Depending on the type of activity, additional information may be displayed in a bubble alongside the activity's icon.

A bubble's color provides an indication of the mode in which executed:

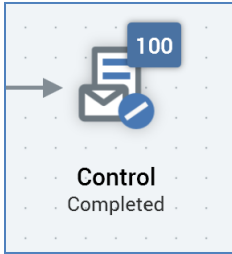
- If a workflow has yet to run, the bubble is shown with a gray background:



- If a workflow is running or has run in test mode, it is shown with an orange background:

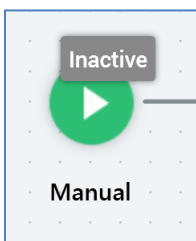


- If a workflow is running or has run in production mode, it is shown with a blue background:

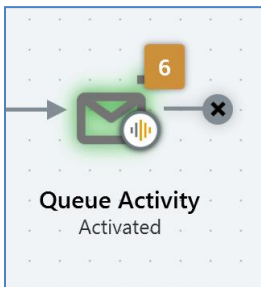


Specific activity types display bubbles as follows:

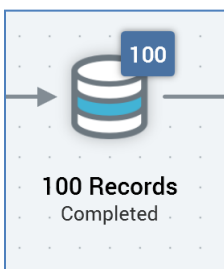
- **Trigger:** the active status indicator shows whether trigger is currently active. When executed in Test mode, the active status indicator advises accordingly. This applies also at a queue listener.



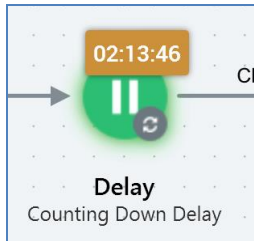
- **Queue activity:** the number of records processed by the queue activity are shown in its results bubble:



- **Audience:** the results bubble is shown if an audience has executed and results are available.

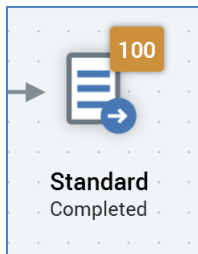


- **Delay:** if a delay has yet to start, the delay time displays the time with which the delay was configured. If the delay is playing, it shows the delay time remaining. If the delay has completed, 00:00:00 is displayed.

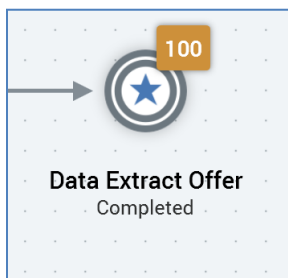


A newly-added delay's bubble count is shown in gray.

- Export: the results bubble is shown if an export has executed and results are available.



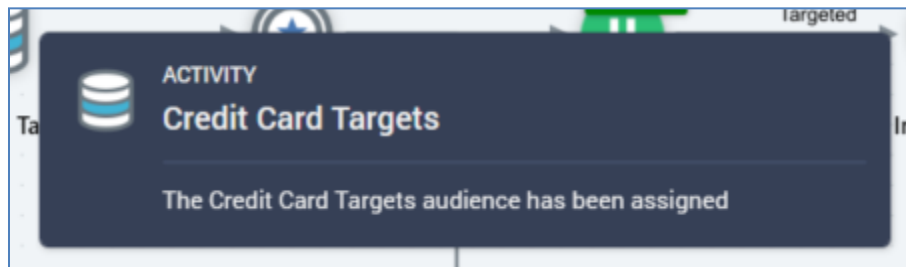
- Offer activity: the results bubble is shown if an offer activity has executed and results are available.



- Decision offer activity: the results bubble is shown if a decision offer activity has executed and results are available.

3.11.14 Activity Summary

When you hover over an activity displayed within the workspace, an activity summary is displayed.



The information shown within this tooltip-style information panel depends upon the type of trigger or activity that you are hovering over:

- Manual trigger: 'Starts immediately upon playing'.
- Scheduled trigger: 'Scheduled to start at ' + [scheduled date/time] + [time zone].
- Recurring trigger: 'Recurring trigger, starting at ' [scheduled date/time], [schedule details].

Following a recurring trigger's activation, up to 5 of its next planned trigger fire times are listed in its activity summary.

An additional message is shown when the interaction Designer is refreshed:

Status has refreshed. Hover over trigger again to retrieve latest fire times.

- Activity state trigger: 'Activity state trigger, starting in accordance with its specified activity configuration'.
- Queue listener: 'Monitors listener queue for the arrival of data'.
- Queue activity: 'Fulfills selected offer to audience sourced from queue' + offer/channel details.
- Batch audience: 'The [template name] template has been assigned' OR 'No audience has been chosen'.
- Interactive activity: 'The [template name] template has been assigned' OR 'No audience has been chosen'; 'Checking ' + [frequency]; 'Continues checking ' + (one of: 'For:' + [duration] OR 'Until: ' + [date/time]). If sited downstream from a delay, 'The extra time accounts for upstream delay activities'.
- Subscription Group: the [subscription group activity name] has been assigned. Initiates communication via the [channel name] channel.
- Data Process: 'Using the [data process project name] project'.
- Data Transfer: 'Fulfills selected offer to audience without writing offer history'.

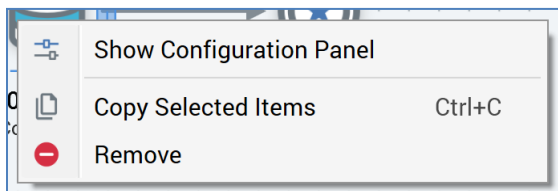
'Using the [offer name] offer'

'Fulfills via channel: [channel name]'.

- Delay: 'Waits for ' + [delay duration].
- Wait for Event: if a manual trigger, 'Needs to be fired manually'; if a scheduled trigger, 'Scheduled to fire at ' + [scheduled date/time] + [time zone].
- Broadcast: 'No offer chosen' OR 'Based on the ' + [offer name] + ' offer'; 'Fulfills via channels:' + [comma-delimited list of channel names].
- Control 'Using the " + [control channel name] " channel'.
- Export: 'Will export using the ' + [export template name] + 'template' OR 'No export template chosen'.
- Offer: 'No offer chosen' OR 'Based on the' + [offer name] + ' offer'; 'Fulfills via channels:' + [comma-delimited list of channel names].
- Decision Offer: 'No offers chosen' OR 'Configured with 1 offer' OR 'Decides between [n] offers'.

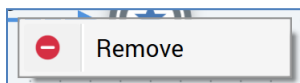
3.11.15 Activity Context Menus

Right-clicking an activity within the workspace results in the display of a context menu exposing the following options:



- Show Configuration Panel: always available. Display of the resultant configuration panel is read-only if the workflow has been activated.
- Copy Selected Activities: invocation of this option copies the currently-selected activity or activities to the clipboard. Full details of copying activities are provided elsewhere.
- Remove: only available if the activity may legitimately be removed.

Right-clicking a connection within the workspace results in the display of a context menu exposing the following option:



- Remove: only available if the workflow within which the connector exists has not been activated.

3.11.16 Mini Toolbars

Whenever you select and hover over an activity, a mini toolbar is displayed:



The toolbar can be used to initiate an action in respect of the activity; for example:

- Commencing workflow execution
- Viewing results for the workflow as a whole, or a specific activity
- Configuring the activity using its configuration panel

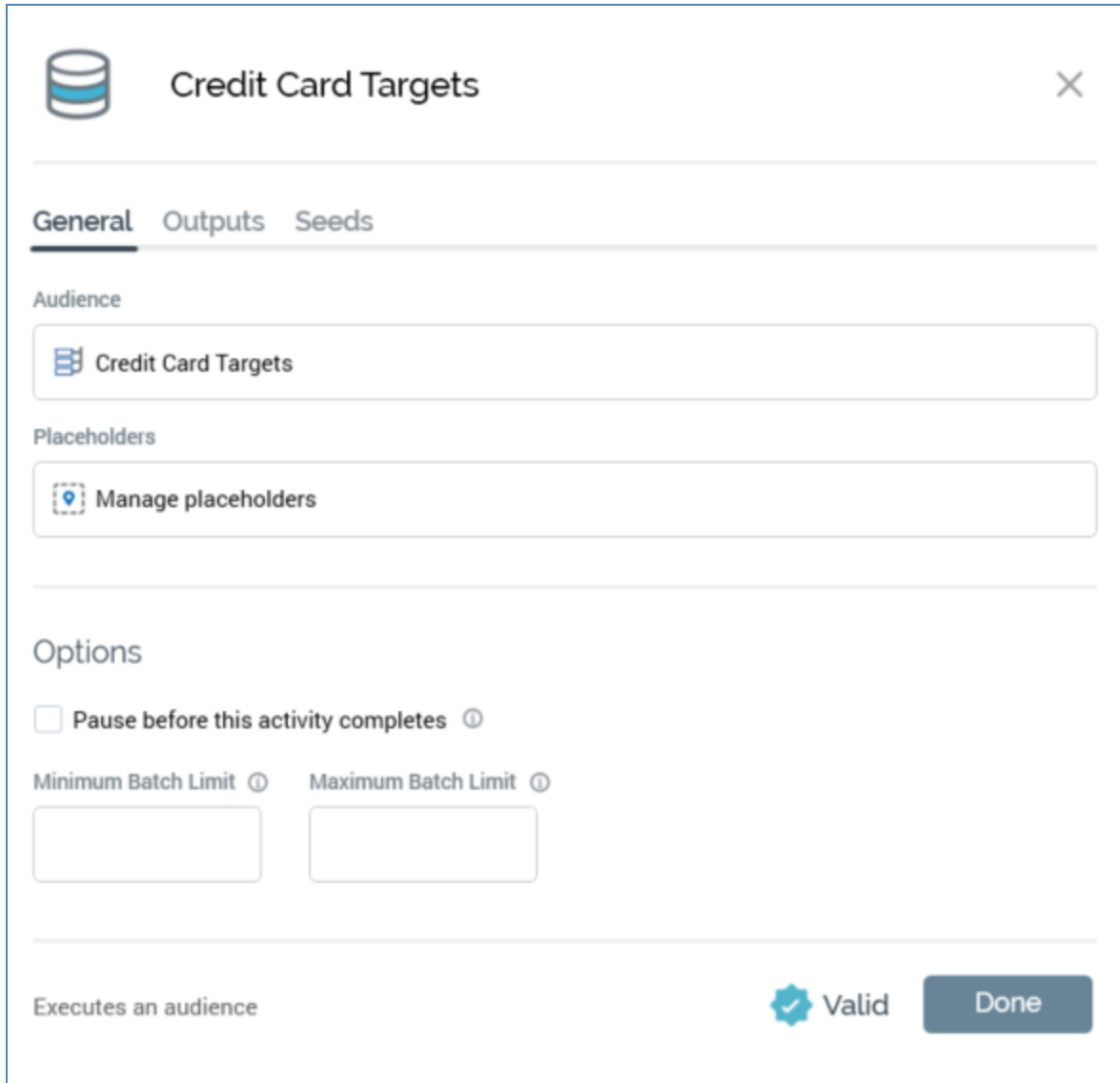
Each activity type's mini toolbar exposes its own unique set of available options and is discussed separately.

3.11.17 Activity Configuration Panel

You can initiate configuration of an activity by:

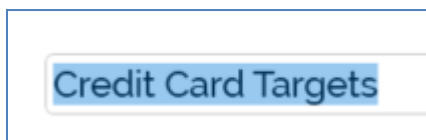
- Double-clicking
- Invoking Show Configuration Panel at its mini toolbar

When you do either of these, the activity's configuration panel is displayed:



The configuration panel is static and cannot be moved around the workspace. Once displayed, clicking anywhere other than upon the configuration panel causes it to close (you can also close it using its Close button, displayed to its top right).

You can rename an activity in the configuration panel's header by clicking its header. An updateable field is shown:



An activity's name can be a maximum of 100 characters. You can complete the activity's name update by hitting return or by clicking off the configuration panel.

Configuration panels contain a tabset, the contents of which differ between activity types and the activity's position in its workflow. The following tabs may be shown:

- General: this tab is always shown. Its contents depend on the type of activity and are documented separately for each.
- Inputs: this tab is shown only when the activity is preceded by another in the workflow. Its contents vary depending on whether an upstream fulfillment activity is present. Both variations (standard and downstream) are documented separately.
- Outputs: this tab is only shown for batch audiences and interactive activities that are configured with an audience. It is documented separately in those contexts
- Filters: this tab is only shown when configuring a downstream activity that is not preceded by an upstream fulfillment activity. It is documented separately.

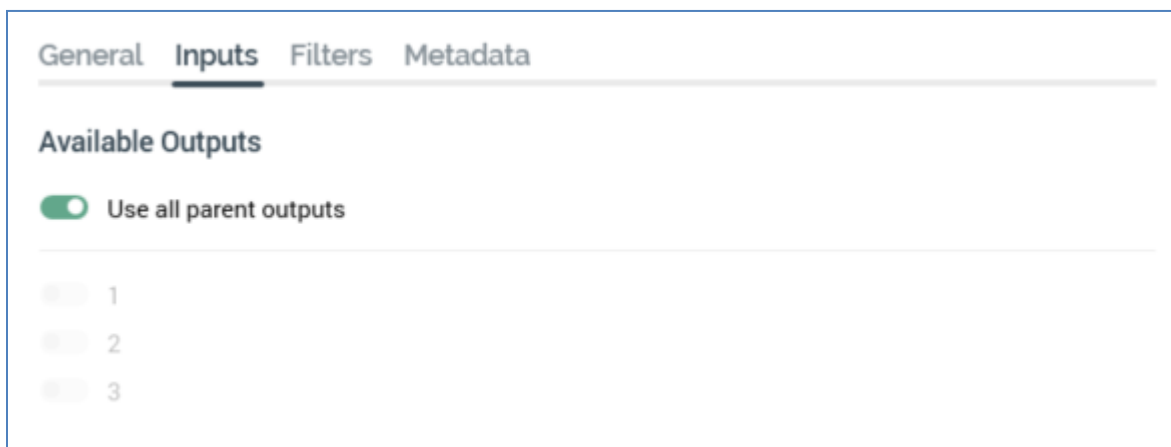
Within an active or completed workflow, configuration panels displayed for activities are shown as read-only.

A validation indicator, shown at the bottom of configuration panels, indicates whether an activity is valid or otherwise:



3.11.18 Configuration Panel – Inputs Tab (Standard)

When an activity is preceded by an upstream batch audience, or interactive activity configured with an audience, and is not preceded by an upstream fulfillment activity, the purpose of the Inputs tab is to facilitate stipulation of which of the parent activity's segments will serve as the current activity's inputs. This is particularly significant where the parent activity provides multiple segments; for example, a batch audience may output a series of discrete segments, which can then be selected in the Inputs tab.

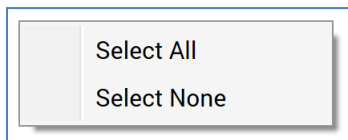


In these circumstances, the Inputs tab contains the following:

- Use all parent outputs: a slider control, selected by default. This property indicates that the audience's input will be all segments from the preceding audience.
- Inputs list: only enabled if Use all parent outputs is unchecked. You can specify which of the parent audience's segments are to serve as inputs for the current audience by selecting one or more entries in the list.

A horizontal scrollbar provides access to lengthy values displayed in the interaction activity configuration panel's Inputs list. A tooltip is also displayed when hovering over values therein.

When you right-click the list (when enabled), a context menu is shown:



This allows you to select all, or no, inputs as required.

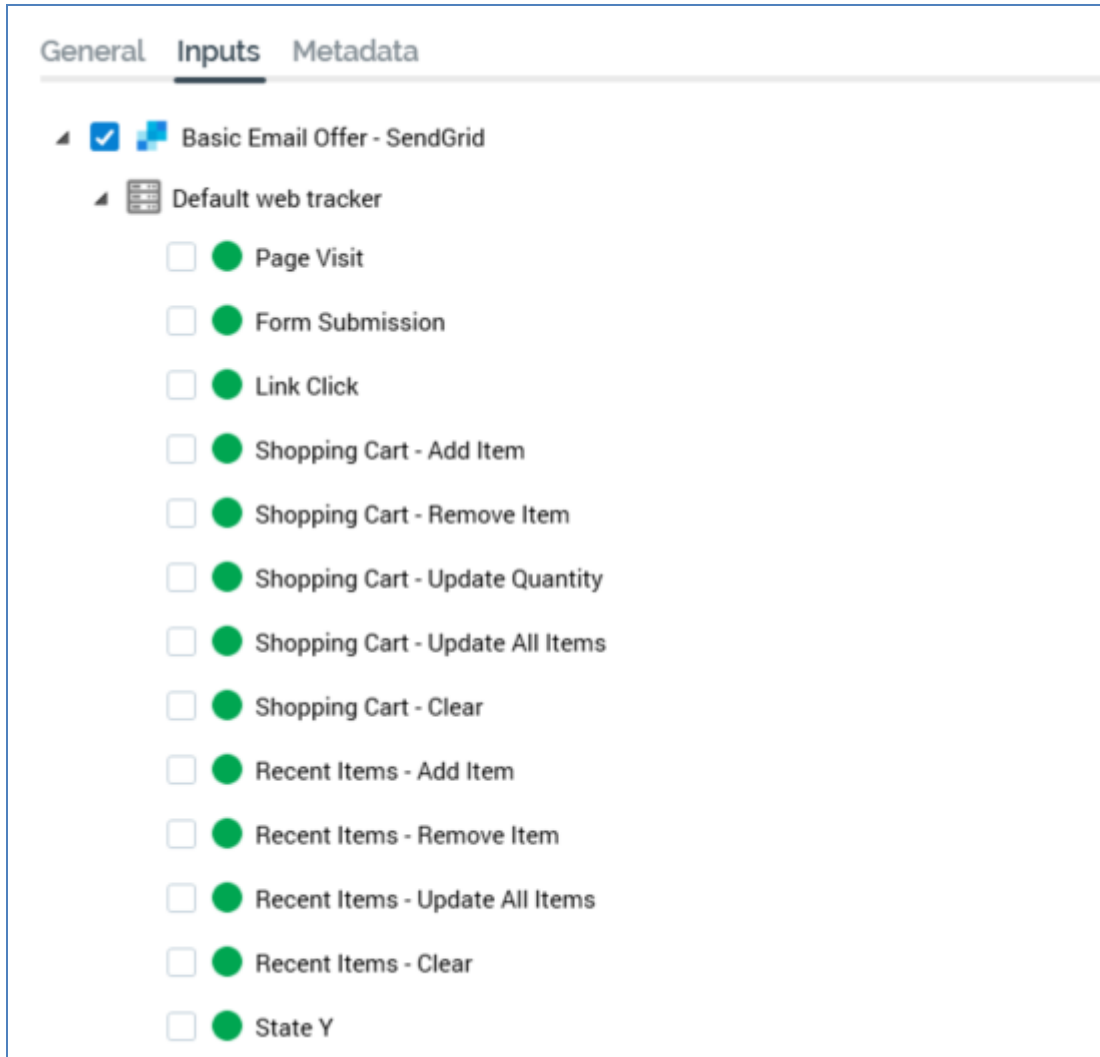
When the Inputs tab is displayed in this way, the Filters tab can also be used to further refine an activity's input data.

3.11.19 Configuration Panel – Inputs Tab (Downstream Post-Fulfillment Activity)

When displayed for one of the following activity types:

- Interactive activity
- Batch audience
- Control
- Export
- Offer
- Decision Offer
- Data Process
- Data Transfer

...when the activity in question is downstream from another fulfillment activity, the Inputs tab lists fulfillment states:



Note that where a channel provides both states and metrics (e.g. email), only states are available for selection in this context.

It is possible to select a subset of the records from the upstream fulfillment activity to be targeted by the downstream activity by choosing fulfillment states. Records from the upstream activity that are in any of the selected states at the time of workflow execution will be targeted by the downstream activity. Note that selection of any state(s) when executing a workflow in Test mode is equivalent to selecting the Targeted state.

Within the Inputs tab, fulfillment states are displayed using a treeview, which is expanded by default.

The first level of the treeview lists any channels of relevance to the upstream fulfillment activity. Each is accompanied by a checkbox. Checking a checkbox enables the selected channel's fulfillment states' checkboxes.

The second level of the treeview categorizes the states relevant to each channel.

The third level lists states within categories.

A channel's fulfillment states are enabled when the channel is selected. Each state is accompanied by a checkbox, and you can check multiple channels' fulfillment states concurrently. By checking checkboxes you indicate that records output by the upstream activity which are in one of the selected states at the time of workflow execution are to be targeted by the downstream activity. By default, the first channel shown in the tree and its Targeted state are checked. A validation error is raised if you do not check any fulfillment states.

A channel's states consist of:

- Targeted: this state is selected by default when a downstream activity is added. It represents all records output by the upstream activity.
- Salesforce Marketing Cloud Email channels only:
 - Opened
 - Unsubscribed
 - Click Through
 - Forward to Social
 - Opened, Not Clicked Through
 - Forwarded: not supported when RPI is configured to retrieve Salesforce Marketing Cloud email results data via Redpoint Data Management.
 - Hard Bounce
 - Soft Bounce
 - Other Bounce
 - Not Opened

Messages targeted to recipients in the upstream offer will cause the recipient's record to enter some of the states listed above – for example, 'Opened' upon the email being opened by the recipient, 'Click Through' upon the user clicking a hyperlink in the email, etc.

- SendGrid Email channels only:
 - Delivered
 - Opened
 - Opened, Not Clicked Through
 - Bounced
 - Deferred
 - Click Through
 - Processed
 - Dropped

- Not Opened
- Unsubscribed
- Reported as Spam
- CheetahMail channels only:
 - Delivered
 - Opened
 - Opened, Not Clicked Through
 - Not Opened
 - Hard Bounce
 - Soft Bounce
 - Click Through
 - Unsubscribed
- Acoustic channels only:
 - Opened
 - Opened, Not Clicked Through
 - Not Opened
 - Opted Out
 - Click Through
 - Hard Bounce
 - Soft Bounce
 - Reply Abuse
 - Reply Change Address
 - Reply Mail Block
 - Reply Mail Restriction
 - Reply Other
 - Suppressed
- SparkPost channels only:
 - Bounce
 - Delivered
 - Injection
 - Spam Complaints
 - Out of Band
 - Policy Rejection

- Delay
- Click Through
- Open
- Initial Open
- Amp Click
- Amp Open
- Amp Initial Open
- Generation Failure
- Generation Rejection
- List Unsubscribe
- Link Unsubscribe
- Instiller channels only:
 - Targeted
 - Hard Bounce
 - Soft Bounce
 - Opened
 - Click Through
 - Unsubscribed
 - Complaints
 - Not Opened
 - Opened, Not Clicked Through
- Responsys channels only:
 - Soft Bounced
 - Hard Bounced
 - Click Through
 - Complaints
 - Failed
 - Opened
 - Sent
 - Skipped
 - Unsubscribed
 - Targeted
 - Not Opened

- Opened, Not Clicked Through
- Dotdigital channels only:
 - Soft Bounced
 - Hard Bounced
 - Click Through
 - ISP Complaints
 - Mail Blocked
 - Opened
 - Sent
 - Delivered
 - Page Viewed (Need to attach Dotdigital script to a public website for tracking)
 - Unsubscribed
 - Targeted
 - Not Opened
 - Opened, Not Clicked Through
- Listrak channels only:
 - Bounce
 - Click Through
 - Opened
 - Sent
 - Delivered
 - Unsubscribed
 - Targeted
 - Not Opened
- Mailchimp channels only:
 - Click Through
 - Opened
 - Unsubscribed
 - Soft Bounced
 - Hard Bounced
- Cordial channels only:
 - Sent
 - Opened

- Click Through
- Page View
- Unsubscribed
- Bounced
- Complaint
- LuxSci channels only:
 - Sent
 - Click Through
 - Spam
 - Soft Bounce
 - Hard Fail
 - Delivered
 - Failed
 - Targeted
 - Not Opened
 - Opened, Not Clicked Through
- Paubox channels only
 - Delivered (message delivered when Secure message unchecked)
 - Delivered via Secure Portal (message delivered when Secure message checked)
 - Opened
 - Soft Bounced
 - Hard Bounced
 - Targeted
 - Not Opened
- Amazon Simple Email Service (SES) channels only:
 - Bounced
 - Complaint
 - Delivery
 - Send
 - Rejected
 - Opened
 - Click Through
 - Targeted

- Not Opened
- Opened, Not Clicked Through
- Amazon Pinpoint Email channels only:
 - Targeted
 - Sent
 - Delivered
 - Opened
 - Soft Bounced
 - Hard Bounced
 - Click Through
 - Complaint
 - Rejected
 - Rendering Failure
 - Unsubscribe
- Salesforce Marketing Cloud MobileConnect SMS channels only: the following additional fulfillment states are provided directly by the channel:
 - Targeted
 - Duplicates
 - Delivered
 - Failed
- Vibes SMS channels only: the following additional fulfillment states are provided directly by the channel:
 - Sent
 - Failed
 - Targeted
- Messente SMS channels only: the following fulfillment states are provided directly by the channel:
 - Targeted
 - Delivered
 - Failed
- Salesforce.com channels only: in addition to the standard Targeted state, a series of custom states, as defined within the channel's Salesforce.com account's configuration, are made available.
- Microsoft Dynamics CRM channels only: the following states are available:
 - Open (when a new lead is to be created, the default state category is Open)

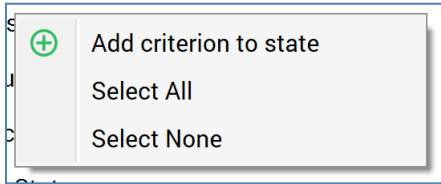
- Qualified (once the lead is created, it can be tagged as a Qualified lead)
- Disqualified (once the lead is created, it also can be tagged as a Disqualified lead)
- Processed (Targeted minus the number of actual rows processed by the Microsoft Dynamics CRM import job)
- Errors (Total number of rows failed)
- Successes (Processed minus Errors)

In addition to the Lead Status categories (Open, Qualified, and Disqualified), a series of custom sub-states, as defined within the channel's Microsoft Dynamics CRM account's configuration, are made available.

Note that Qualified and Disqualified Lead status categories are controlled at the Microsoft Dynamics CRM portal. All created leads are initially tagged as Open and they are not applicable for Contacts.

- Airship Push Notification channels only: the following fulfillment state is provided directly by the channel:
 - Targeted
- Amazon Pinpoint Push channels only: the following fulfillment state is provided directly by the channel:
 - Targeted
- Facebook Custom Audience channels only: the following fulfillment state is provided directly by the channel:
 - Targeted
- Facebook Offline Event channels only: the following fulfillment state is provided directly by the channel:
 - Targeted
 - Invalid Event
- Amazon Pinpoint SMS channels only:
 - Targeted
 - Unsubscribed
- Custom states
- Web events adapter states: these consist of:
 - Standard web events adapter states. When a channel is linked to a web events adapter, and offer content contains a hyperlink with a URL compatible with the web events adapter, the following states are available at downstream workflow activities:
 - Page Visit
 - Form Submission
 - Link Click (a page visitor clicked on a link in the web page).

You can right-click any of the above states to display an 'Add criterion to state' context menu:



This allows you to specify a specific page, form or link to which the downstream activity is to react. If you choose a page, this will typically be an RPI landing page to which the page linked to in the offer links in turn. State tracking information will then be passed through to subsequent pages.

On selecting the option, a sub-state is added below the standard web events state. The sub-state is presented in edit mode, with a default name of 'New state criterion'. Its checked status reflects that of its parent web event standard state.

Additional context menu options are available at the sub-state:

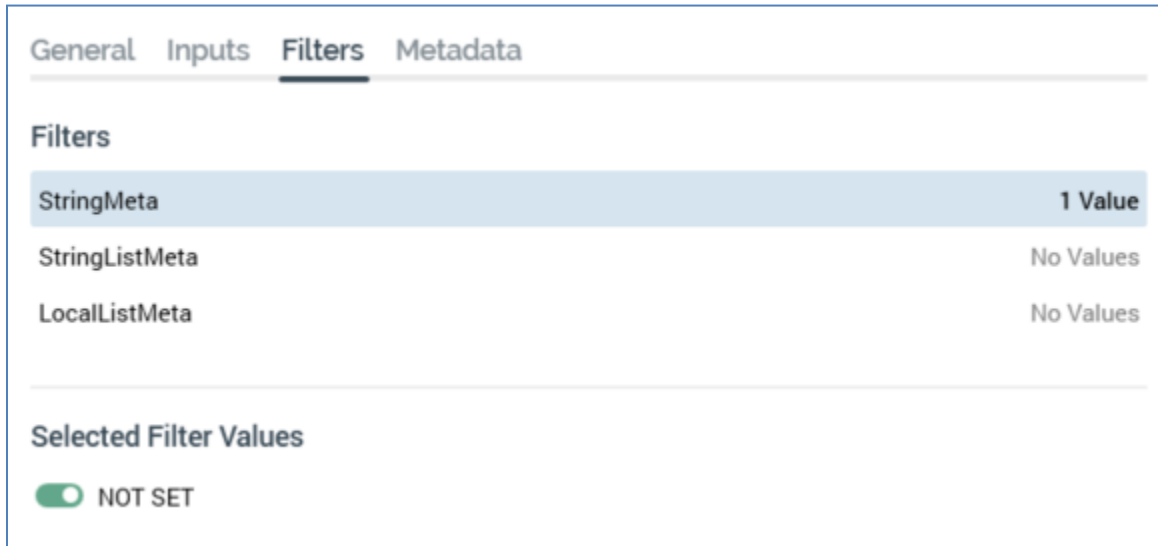
- Edit
- Remove
- Custom states as defined in any web events adapters associated with the upstream activity's channel. These are listed in line with the standard web events states described above.

The fourth level of the treeview is only relevant to the Salesforce Marketing Cloud Email Click Through state. It lists any URLs included within the Salesforce Marketing Cloud email offer content and is enabled when the Click Through state is checked. Each URL is accompanied by a checkbox. You can check one or more checkboxes to indicate that recipients clicking on the URL(s) in question within the received in email are to be targeted by the downstream fulfillment activity

Note that when the Inputs tab is shown as described, the Filters tab is not shown.

3.11.20 Configuration Panel – Filters Tab

When an activity is preceded by an upstream batch audience, or interactive activity configured with an audience, and is not preceded by an upstream fulfillment activity, the Filters tab is shown.



It is used to determine the subset of the parent activity's data that is to serve as the current activity's input data by specifying the metadata attribute values to which the current activity will apply. Metadata can be assigned at the parent audience's audience to append data to records during audience execution; you can specify which of the assigned metadata values the current activity will act upon in the Filters tab.

The tab contains the following:

- Filters grid: the grid lists all metadata attributes made available by the preceding activity. You can select a metadata attribute.
- The Selected Filter Values grid is populated with all distinct values for the selected metadata attribute. You can select the metadata values to which the current activity is to apply. The number of selected values is displayed to the right of the metadata attribute in the filters grid. When you select values, when the current activity executes, only those records with the selected metadata attribute values will be acted upon by the current activity.


When the Filters tab is displayed, it can be used in conjunction with the Inputs tab to select the current activity's input data.


3.11.21 Configuration Panel – Metadata Tab

This tab is available at offers, export activities and controls.

General Inputs Filters **Metadata**



Activity Metadata Overrides


StringMeta  DateTimeMeta

NOT SET Enter date/time 

DecimalMeta IntegerMeta

StringListMeta LocalListMeta

A  

DatabaseListMeta 

Default metadata values from audience definition are shown within the panel. Hierarchical overrides are not displayed; for example, a metadata attribute value that has been overridden at an upstream audience is not shown within the panel. You can override metadata values directly at an interaction activity using the panel; existing offer history meta records are updated with specified values prior to fulfillment. All downstream activities inherit values overridden at an interaction activity; however, they only display defaults from the audience definition.

3.11.22 Configuration Panel – Seeds Tab

This tab is only displayed for batch audiences, and interactive activities that have been configured with an audience. It allows you to assign seed groups directly to audience segments.

General Outputs **Seeds**

Seeds

Apply the following seed groups across all segments:

Seed Groups

None assigned

Apply all seeds to each segment (will result in duplicates)

Distribute seeds evenly across all segments

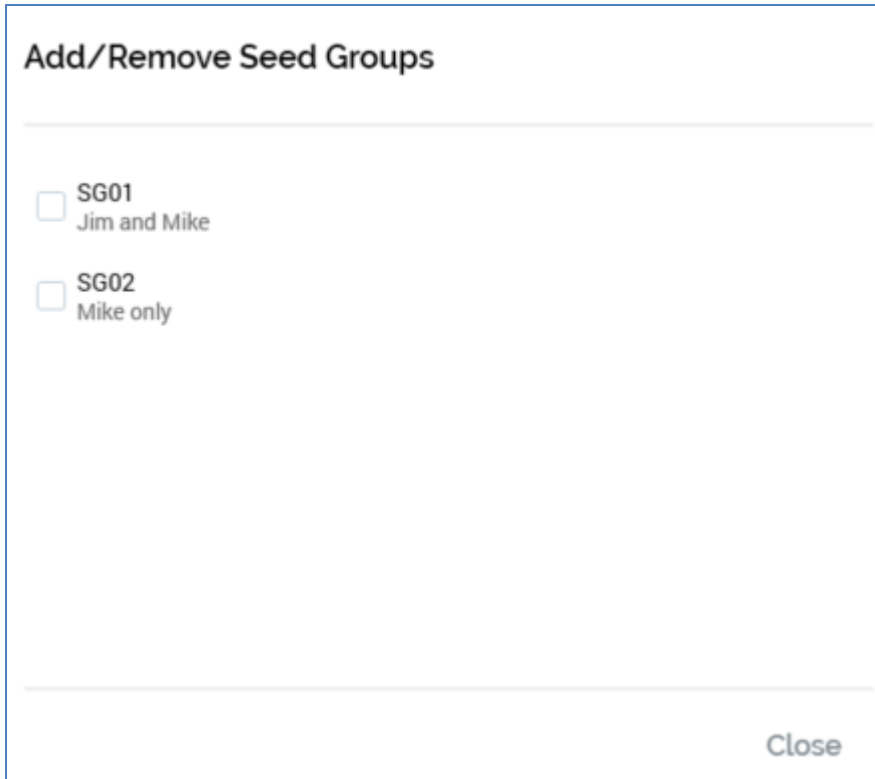
Apply seeds to the selected segments below:

Name	Seed Groups
1	None assigned
2	None assigned
3	None assigned

The tab contains the following:

Two outer radio buttons allow you to specify the basic type of seed assignment.

- Apply the following seed groups across all segments: this option is not selected by default. When selected, seed groups will be applied across all segments. Additional settings allow you to refine how this will occur:
 - Seed groups: you can select the seed groups that you wish to assign across all segments. By default, no seed groups are selected for assignment. You can click the Add/Remove Seed Groups button to display the Add/Remove Seed Groups dialog, within which you can choose the seed groups to be assigned across all segments.



The dialog lists all seed groups configured for the current RPI client. The name of each is shown, along with its description and a checkbox (unchecked by default). Having made your selection, on clicking off the dialog, the selected seed groups are displayed at the configuration panel.

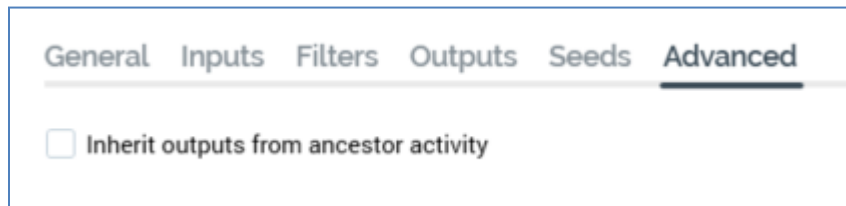
Having selected the required seed groups, two inner radio buttons allow you to define how they are to be assigned across all segments:

- Apply all seeds to each segment (will result in duplicates): this option is selected by default. If selected, as stated, all seeds within the selected seed groups will be applied to all segments generated by the audience, which, in the case of a multi-segment audience, will result in the application of the same seed across more than one segment.
- Distribute seeds evenly across all segments: again as stated, if this option selected, seeds from the specified seed groups will be assigned evenly across all segments generated by the audience.
- Apply seeds to the selected segments below: this option is selected by default. It allows you to assign seed groups to specific audience segments manually.

When selected, a grid listing all audience segments is shown. For each, the Name of the segment is displayed, along with a list of the seed groups assigned to that segment. When displayed initially, no seed groups are assigned to segments. You can click the inline Add/Remove Seed Groups button to display the Add/Remove Seed Groups dialog, within which you can choose the seed groups to be assigned to the segment. On clicking off the dialog, the selected seed groups are displayed in the grid.

3.11.23 Configuration Panel – Advanced Tab

This tab is only displayed for batch audiences, and interactive activities that have been configured with an audience. It allows you to access one specific, advanced-level feature.



The advanced tab is only displayed if there exists at least one upstream batch audience, or interactive activity configured with an audience, within the current workflow.

The tab contains the following:

- **Inherit outputs from ancestor activity:** this checkbox is unchecked by default. Checking it enables the accompanying dropdown and displays the following verbiage:

'This activity's outputs will be overwritten by the selected activity's.'

- **Ancestor activities:** this dropdown field is enabled if the Inherits... checkbox is checked. It lists all upstream batch audiences and interactive activities configured with audiences. List entries are ordered as per their position within the workflow, and the last upstream activity is selected automatically.

On workflow execution, if the Inherits... checkbox is checked, segment names and metadata at the current batch audience/interactive activity will be inherited from the selected upstream activity.

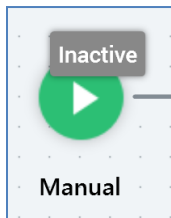
3.12 Triggers

Triggers are used to start workflows within an interaction. RPI supports four types of trigger:

- Manual
- Scheduled
- Recurring
- Activity State

Each of these is discussed in detail separately.

3.12.1 Manual Trigger



As its name implies, a manual trigger is used to manually initiate activity within a workflow.

The following options are available in the mini toolbar when you select a manual trigger:

- Activate Trigger button: used to initiate execution of a manual trigger's workflow.
- Rollback current Workflow Instance: only available post-completion of production execution. Removes the workflow instance entirely.
- Play/Pause workflow instance:
 - If the currently-executing activity's status is Playing, the button is enabled. Its accompanying tooltip reads Pause workflow instance. Invocation pauses the workflow instance.
 - If the currently-executing activity's status is Paused, the button is enabled. Its accompanying tooltip reads Play workflow instance. Invocation plays the workflow instance.
 - If the currently-executing activity's status is not Playing or Paused, the button is not displayed.
- Stop workflow instance: the button is only available if the currently-executing activity's status is Playing or Paused.
- Reactivate trigger: this button is only available when a workflow instance is Stopped in Production mode.
- View results: displays the Results Window, within which the current workflow's results are displayed.

- Show configuration panel

A manual trigger's configuration panel contains a single tab (General):

The screenshot shows a configuration panel titled "Manual" with a close button (X) in the top right corner. The panel is divided into several sections:

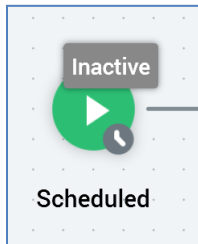
- General:** This section is currently selected and underlined.
- Trigger:** This section contains two informational messages:
 - "There are no settings required to use the manual trigger"
 - "This workflow will start as soon as it is activated."
- Constraints:** This section contains one message: "No constraints have been defined". Below this message is a button labeled "+ Add Trigger Constraint".
- Stop Checking At:** This section features a date input field with the placeholder text "Enter date" and a calendar icon (grid of dots) on the right side.
- Input Workflow (optional):** This section contains one message: "No workflows available".

At the bottom of the panel, there is a status message: "This block controls how the workflow starts". To the right of this message are two buttons: "Valid" (with a checkmark icon) and "Done" (in a dark blue button).

The General tab contains a label advising that no configurable settings exist for a manual trigger (Input Workflow is documented separately).

Constraints and Input Workflow sections are displayed. They are covered separately in this documentation.

3.12.2 Scheduled Trigger




A scheduled trigger is used to initiate activity within a workflow at a specified date and time.

The following options are available in the mini toolbar when you select a scheduled trigger:

- Activate/Deactivate trigger:
 - If the interaction contains no unsaved changes, the workflow's active status is Inactive and the interaction contains no validation errors, the button is enabled and its tooltip reads Activate trigger. Invocation causes the workflow to enter a Waiting for Trigger status.
 - If the workflow's status is Inactive and the interaction has validation errors, the button is enabled and its tooltip reads Activate trigger. However, attempting to activate the trigger causes display of a warning message, and the workflow is not activated.
 - If the workflow's status is Waiting for Trigger, the button is enabled and its tooltip reads Deactivate trigger. You can re-activate the trigger if required.
- Rollback current Workflow Instance: only available post-completion of production execution. Removes the workflow instance entirely.
- Fire trigger: fires the trigger immediately, creating a workflow instance.
- Play/Pause workflow instance:
 - If the currently-executing activity's status is Playing, the button is enabled and its tooltip reads Pause workflow instance. Invocation pauses the workflow instance.
 - If the currently-executing activity's status is Paused, the button is enabled and its tooltip reads Play workflow instance. Invocation plays the workflow instance.
 - If the currently-executing activity's status is not Playing or Paused, the button is disabled.
- Stop workflow instance: only available if the currently-executing activity's status is Playing or Paused.
- Reactivate trigger: this button is only available when a workflow instance is Stopped in Production mode.
- View results: displays the Results Window, within which the current workflow's results are displayed.
- Show configuration panel


A scheduled trigger's configuration panel contains a single tab (General):

 **Scheduled** ✕

General

Trigger

Scheduled Date ⓘ

 **Constraints**

No constraints have been defined

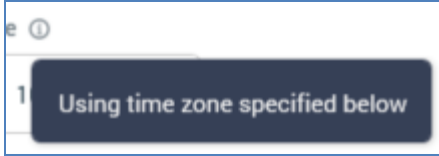
Input Workflow (optional)

No workflows available

 Not Valid

The General tab contains the following properties:

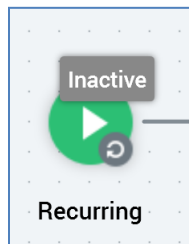
- Scheduled date: the date and time at which the trigger will fire. Scheduled date defaults to the time the trigger was added to the workspace. You can specify it manually, or by using a calendar control. The property is accompanied by an information tooltip:



- Time Zone: you can specify the time zone to be used when the trigger fires. The property defaults to the current time zone. Note that changing the Time Zone will have an effect on the displayed time, which may need to be adjusted to reflect the selection.
- Input workflow: optionally, you can elect to define an input workflow for the scheduled trigger. This property is documented separately elsewhere as it shared across all trigger types

Constraints and Input Workflow sections are displayed. They are covered separately in this documentation.

3.12.3 Recurring Trigger




Essentially an extension of the scheduled trigger, not only does a recurring trigger allow you to specify the date and time at which a workflow will start, but also the number of instances of the workflow that will execute, in addition to a wealth of recurrence options. As a simple example, you could use a recurring trigger to initiate regular, monthly campaigning activity across a whole year.

The following options are available in the mini toolbar when you select a recurring trigger:

- Activate/Deactivate trigger:
 - If the interaction contains no unsaved changes, the workflow's active status is Inactive and the interaction contains no validation errors, the button is enabled and its tooltip reads Activate trigger. Invocation causes the workflow to enter a Waiting for Trigger state.
 - If the workflow's status is Inactive and the interaction has validation errors, the button is enabled and its tooltip reads Activate trigger. However, attempting to activate the trigger causes display of a warning message, and the workflow is not activated.
 - If the workflow's status is Waiting for Trigger and a workflow instance has not yet been created, the button is enabled and its tooltip reads Deactivate trigger. You can re-activate the trigger if required.
 - If the workflow's status is Waiting for Next Trigger, the button is enabled and its tooltip reads Deactivate trigger. Invocation causes the workflow to assume a Completed status. You can re-activate the trigger if required.
 - If you have created a workflow instance in a production recurring workflow, you can make changes to its configuration post-deactivation.
 - If you deactivate a production recurring workflow that has yet to create a workflow instance, you can make changes to its configuration.
 - You cannot execute in Test mode a deactivated Production recurring workflow.
- Rollback current Workflow Instance: only available post-completion of production execution. Removes the most recent workflow instance entirely.
- Fire trigger: fires trigger immediately, creating the next workflow instance.
- Play/Pause workflow instance:
 - If the currently-executing activity's status is Playing, the button is enabled and its tooltip reads Pause workflow instance. Invocation pauses the workflow instance.

- If the currently-executing activity's status is Paused, the button is enabled and its tooltip reads Play workflow instance. Invocation plays the workflow instance.
- If the currently-executing activity's status is not Playing or Paused, the button is disabled.
- Stop workflow instance: only available if the currently-executing activity's status is Playing or Paused.
- View results: displays the Results Window, within which the current workflow's results are displayed.
- Show configuration panel

A recurring trigger's configuration panel contains a single tab (General):


Recurring
✕

General

Trigger

Create

Single workflow instance
▼

Start At ⓘ

28/08/2020 16:48
⋮

And
end after
▼

2
event(s)

Recurrence

Daily
 Weekly
 Monthly
 Manual

Once every
 Every

Day(s)	At ⓘ	Duration	From	To
1	16 : 48		▼	:
			:	:

If firing missed, trigger will fire as soon as able to. Thereafter

Commence hourly schedule based on new most recent firing time
▼

Time Zone

This block controls how the workflow starts

⚙️ Valid
 Done

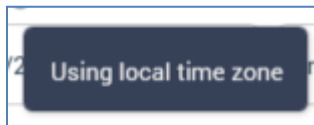
The General tab contains the following properties:

Trigger section:

- Create: this dropdown field allows you to define whether the recurring workflow will create a single or multiple workflow instances. It exposes the following values:
 - Single workflow instance: the default value. If this is selected, when the trigger is activated, a single workflow instance will be created. Any contacts targeted within the workflow will only ever be contacted once.
 - New workflow instance each time trigger fires: selecting this option allows the recurring trigger to be responsible for the creation of multiple workflow instances. If a contact is targeted within a workflow instance, he or she may also be contacted within the others, meaning that the recurring trigger can be responsible for the same person receiving communications multiple times.
- Start at: the date and time at which to commence creating workflow instances. Start at defaults to the date and time at which the trigger was added to the interaction.

It refers to the date and time at which the system will begin checking as to whether to create a new workflow instance; for example, if set to 06:00 and scheduled to fire Daily, Once every 1 day at 18:00, the trigger would fire at 18:00, not 06:00. Between 06:00 and 18:00 the trigger's status would be Waiting for Trigger.

An information icon is displayed to the right of the property. Hovering over it displays a tooltip:



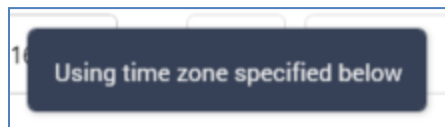
You can specify Start at manually, or by using a calendar control. Provision of a Start at date/time is mandatory.

- 'and': a dropdown is provided, exposing the following values, each of which necessitates additional configuration:
 - never end: selection of this value specifies that the recurring trigger will continue creating workflow instances, in accordance with its configuration settings, in perpetuity. No other configuration accompanies selection of this value
 - end after: this value is selected by default and indicates that the trigger will create a specific number of workflow instances. When selected, an accompanying text field is displayed ('event(s)') that defines the number of workflow instances to be created. Provision of this integer value, which defaults to 2 and which must be greater than 0, is mandatory.
 - end by: if this value is selected you must define a date and time at which the recurring trigger will cease creating workflow instances. The date defaults to today's date + 1 week; the time defaults to the trigger's original Start at time (the time at which the trigger was added to the interaction). You can set the date/time manually, or by using a calendar control.

Recurrence section:

- Daily/Weekly/Monthly/Manual: four tabs are presented within the section. Selection of one of Daily, Weekly, Monthly or Manual defines the basis upon which workflow instances will be created by the recurring trigger.
- Daily is selected by default. If selected, the following fields are shown :
 - Once every...: this field is accompanied by a radio button that is selected by default (its counterpart is Every..., which is also accompanied by a radio button). If the radio button is selected, the following fields are enabled:

- Day(s): a mandatory integer that defaults to 1, and which must be greater than 0.
- At: separate, mandatory hour and minute fields that default to the time the trigger was added to the interaction. An information icon is displayed to the right of the properties. Hovering over it displays a tooltip:



- Every...: this field is accompanied by a radio button and is a counterpart to Once every... If selected, the following fields are enabled:

Once every Every

Day(s) At Duration From ⓘ To ⓘ

: hour(s) ▼ : :

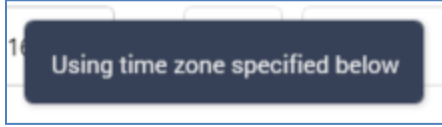
Only fire trigger on specific days of the week

Monday Saturday
 Tuesday Sunday
 Wednesday
 Thursday
 Friday

If firing missed, trigger will fire as soon as able to. Thereafter

▼

- Duration: a mandatory integer that defaults to 1, and which must be greater than 0.
- [units]: a dropdown field exposing the values minute(s) and hour(s) (the default).
- From: a mandatory hour and minute field that defaults to 00:00. An information icon is displayed to the right of the property. Hovering over it displays a tooltip:



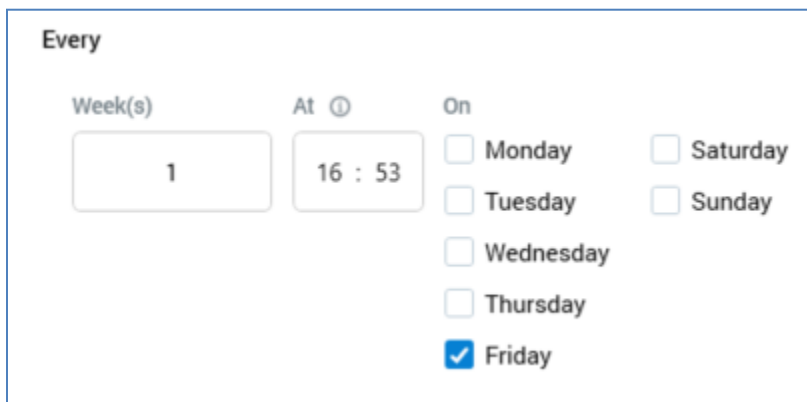
- To: a mandatory hour and minute field that defaults to 23:59. An information icon is also shown to the right of the property.
- Only fire trigger on specific days of the week: this switch allows you to specify that the trigger should only fire on the selected day(s) of the week. It is switched off by default. When on, separate checkboxes are displayed for each day of the week. All are checked by default.
- If firing missed, trigger will fire as soon as able to. Thereafter: this property is displayed when a recurring trigger's Recurrence is set to Daily, Every... is selected and units is set to hour(s). It allows you to define the action to be taken when an hourly trigger is unable to fire. A dropdown field, it exposes the following values:
 - 'Commence hourly schedule based on new most recent firing time' (the default)
 - 'Continue original hourly schedule based on Start at time'

When set to Commence..., if the trigger fails to fire due to the Node Manager service's unavailability:

- The trigger fires as soon as the service becomes available.
- The next firing time occurs in one hour's time.
- An hourly cadence is maintained thereafter.

When set to Continue...:

- The trigger fires as soon as the service becomes available.
 - The next firing time occurs when the trigger's Start at time is reached.
 - An hourly cadence is maintained thereafter.
- If Weekly is selected, the following are shown to the right of the General tab:



Every

Week(s) At ⓘ On

1 16 : 53

Monday Saturday

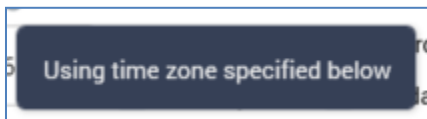
Tuesday Sunday

Wednesday

Thursday

Friday

- 'Every'
- Week(s): a mandatory integer that defaults to 1, and which must be greater than 0.
- At: a mandatory hour and minute field that defaults to the current time. An information icon is displayed to the right of the properties. Hovering over it displays a tooltip:



- on: one separate checkbox is provided for each day of the week. The current day is checked automatically.
- If Monthly is selected, the following fields are shown to the right of the General tab:

Specific day of month

Day Of Every At ⓘ

Relative day of month

On The Of Every At

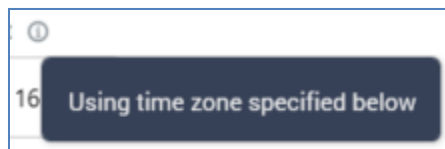
Offset By

- Specific day of month: accompanied by a radio button that is selected by default (its counterpart is Relative day of month, which is also accompanied by a radio button). If the radio button is selected, the following are enabled:

Specific day of month

Day Of Every At ⓘ

- Day: a mandatory integer, which must be greater than 0. Day [x] defaults to today's date.
- Of Every: a mandatory integer that defaults to 1, and which must be greater than 0.
- 'month(s)'
- At: a mandatory hour and minute field that defaults to the current time. An information icon is displayed to the right of the properties. Hovering over it displays a tooltip:



- Relative day of month: accompanied by a radio button and is a counterpart to Specific day of month. If selected, the following fields are enabled:

Relative day of month

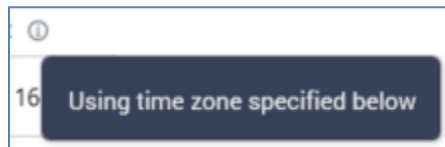
On The: first (dropdown), Friday (dropdown)

Of Every: 1 (input), month(s) (dropdown)

At: 16 : 57 (input)

Offset By: 0 (input), day(s) after (dropdown)

- On The: a dropdown field that exposes the following values: first (default), second, third, fourth and last.
- [Day of week]: a dropdown that lists the days of the week, which defaults to the current day. In addition, two other values – weekday and weekend day – are also available
- Of Every: an integer that defaults to 1.
- 'month(s)'
- At: a mandatory hour and minute field that defaults to the current time. An information icon is displayed to the right of the property. Clicking it displays a tooltip:



- Offset By: two fields accompany this setting, which allows you to adjust the trigger's scheduled firing time by pulling it forward or pushing it back by a given number of days:
 - [n]: this integer value defaults to 0 and can be maximum of 999.
 - [offset type]: this dropdown field exposes values 'None' (the default), 'day(s) after' and 'day(s) before'.
- Manual tab: allows you to fire the trigger on an ad hoc, manual basis.

Daily Weekly Monthly Manual

Use this option to fire this trigger on an ad hoc, manual basis

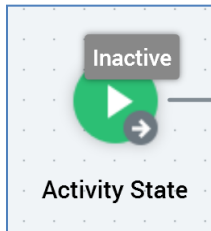
- Time Zone: this dropdown property allows you to specify the time zone within which the trigger's recurrence pattern will operate. It defaults to the local time zone. Note that the specified time zone only affects the trigger's recurrence once active; its Start time will be acted upon on a local basis. Note also that changing the Time Zone will have an effect on the displayed time, which may need to be adjusted to reflect the selection.

- **Input Workflow:** optionally, you can elect to define an input workflow for the recurring trigger. This property is documented separately elsewhere as it shared across all trigger types.

Note that all time values specified reference your local time setting.

Constraints and Input Workflow sections are displayed. They are covered separately in this documentation.

3.12.4 Activity State Trigger



An activity state trigger is used to initiate workflow activity when one or more activities within a preceding workflow start or complete. The activities contained in the activity state's workflow can optionally act upon the data set output by the preceding workflow.

The following options are available in the mini toolbar when you select an activity state trigger:

- **Activate/Deactivate trigger:** if the interaction contains no unsaved changes, the workflow's active status is Inactive and the interaction contains no validation errors, this button is enabled and its tooltip reads Activate trigger. Invocation causes the workflow to activate. If the conditions in respect of the trigger's input workflow have not been met, the trigger enters a Waiting for trigger state. If the conditions have been met, the workflow commences Playing. This also occurs at the point at which the conditions are met.

If the workflow's status is Inactive and the interaction has validation errors, the button is enabled and its tooltip reads Activate trigger. However, attempting to activate the trigger causes display of a warning message, and the workflow is not activated.

If the workflow's status is Waiting for Trigger, the button is enabled and its tooltip reads Deactivate trigger. You can re-activate the trigger if required.

- **Rollback current Workflow Instance:** only available post-completion of production execution. Removes the workflow instance entirely.
- **Play/Pause workflow instance:** if the currently-executing activity's status is Playing, the button is enabled and its tooltip reads Pause workflow instance. Invocation pauses the workflow instance.

If the currently-executing activity's status is Paused, the button is enabled and its tooltip reads Play workflow instance. Invocation plays the workflow instance.

If the currently-executing activity's status is not Playing or Paused, the button is disabled.

- Stop workflow instance: only available if the currently-executing activity's status is Playing or Paused.
- Reactivate trigger: this button is only available when a workflow instance is Stopped in Production mode.
- Fire trigger: this option is available when the trigger is in a Waiting for Trigger state, and when its Use data from input workflow property is unchecked. It allows you to manually override the rules governing the point at which the trigger is scheduled to commence execution.

This means that, should something untoward occur within the trigger's preceding workflow, you always have the option to commence execution at the activity state trigger. Key to availability of this option is the fact that the trigger does not source its input data from the preceding workflow – in such a case this option would not be viable, due to non-availability of input data at the point of the trigger's being fired manually.

- View results: displays the Results Window, within which the current workflow's results are displayed.
- Show configuration panel

An activity state trigger's configuration panel contains General and Activities tabs.

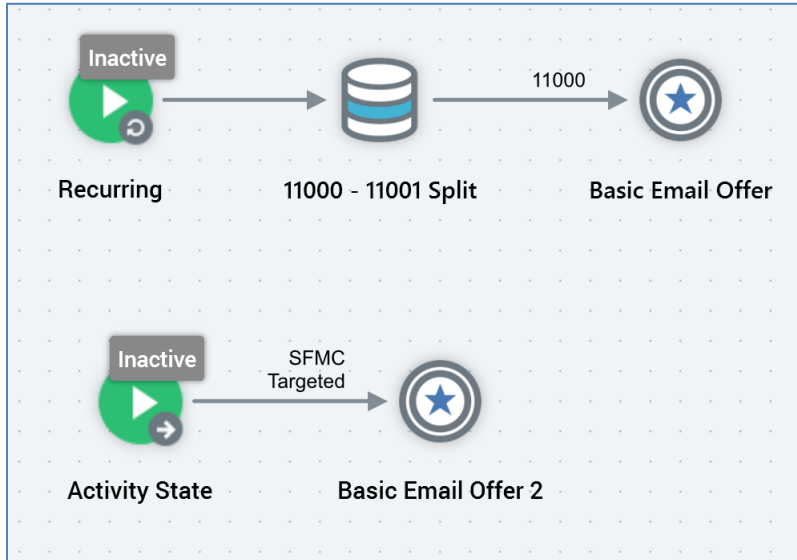
The General tab displays a message:

The screenshot shows the 'Activity State' configuration panel with the 'General' tab selected. The panel has a title bar with a play button icon and a close button. Below the title bar, there are two tabs: 'General' (active) and 'Activities'. The 'Trigger' section contains a message: 'Please choose an input workflow and configure the inputs using the Activities tab'. The 'Constraints' section contains a message: 'No constraints have been defined' and a '+ Add Trigger Constraint' button. The 'Stop Checking At' section contains a date input field with the placeholder text 'Enter date' and a calendar icon. The 'Input Workflow' section contains a dropdown menu with 'Manual' selected, a clear button (red X), and a checked checkbox labeled 'Use data from input workflow'. At the bottom, there is a status bar with the text 'This block controls how the workflow starts', a 'Valid' button with a checkmark icon, and a 'Done' button.

You can select an Input Workflow using the dropdown, which lists all other workflows' triggers within the interaction. Having selected an Input Workflow, you can clear it. Selection of an Input Workflow is mandatory for an activity state trigger.

Note that an activity state trigger does not support selection of a queue listener Input Workflow.

A checkbox (Use data from input workflow) is displayed at the bottom of the General tab. It is checked by default. If checked, the input data for the activity state trigger's workflow will be sourced from its input workflow – you must define within any activities downstream from the activity state trigger the fulfillment states that are to apply. For example...



...in this case, all records output by 'Basic Email Offer' (i.e. those in a 'Targeted' state) will serve as the input to 'Basic Email Offer 2'.

If Use data from input workflow is unchecked, the trigger's workflow's data will be sourced independently from its input workflow. This means that the activity state workflow remains entirely independent from the input workflow (other than in activity within the latter initiating activity within the former). In this case it is mandatory for the activity state workflow to contain an audience.

Constraints and Input Workflow sections are displayed. They are covered separately in this documentation.


The Activities tab contains the following:


General **Activities**


Activities

Start When

All of the selected items complete ▾

 Three Way Split

 Basic Email Offer

 Control 2

- Start when: defines the type of conditions within the input workflow that must be met before activity state execution can begin. The dropdown exposes the following values:
 - Any one of the selected items starts playing
 - Any one of the selected items completes
 - All of the selected items complete (default)
- When no input workflow has been selected, a message is shown:

Please choose an input workflow before choosing the input activities












- When an input workflow has been selected, the panel below Start when... lists all of the input workflow's activities following its trigger:

General **Activities**

Activities

Start When

All of the selected items complete ▼

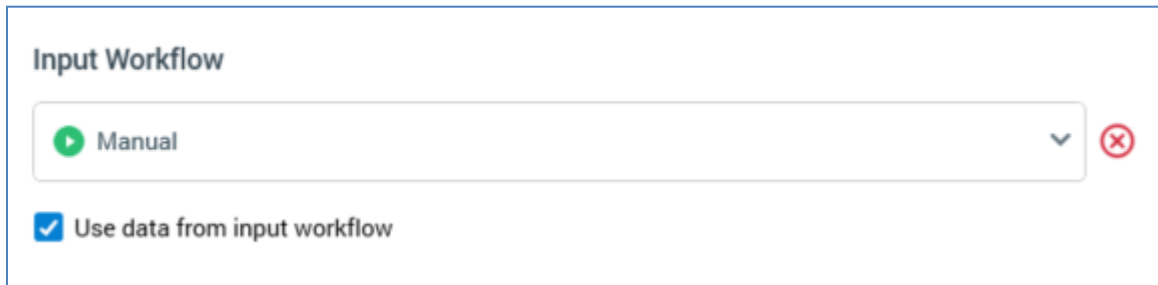
-  Three Way Split
-  Basic Email Offer
-  Control 2
-  DPP001
-  Wait for Event
-  Standard
-  Data Transfer
-  Delay
-  Broadcast
-  Drip Feed
-  Decision Offer

Each is accompanied by a checkbox. It is mandatory to select at least one checkbox. By selecting checkboxes, you define the activities within the input workflow to which the conditions defined by Start when will apply.

Note that a validation error is raised in the event of an activity state trigger's Input Workflow being configured with a recurring, multi-instance workflow.

3.12.5 Input Workflow

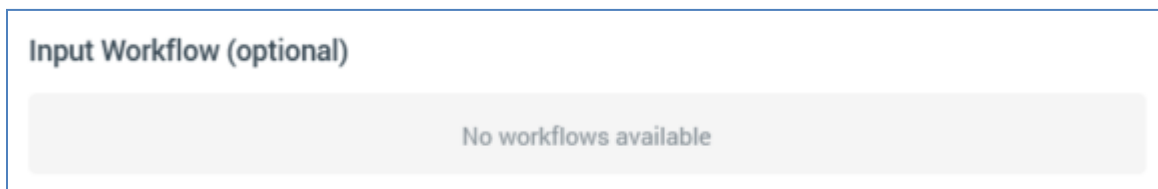
The Input Workflow property is available within the General tab for all trigger types.



The screenshot shows a configuration panel titled "Input Workflow". At the top, the title "Input Workflow" is displayed. Below it is a dropdown menu with "Manual" selected, accompanied by a green play button icon on the left and a red 'X' icon on the right. Below the dropdown is a checked checkbox labeled "Use data from input workflow".

Input Workflow is used to indicate that the input data set for the current trigger's workflow will be constrained to some of the records targeted by the Input Workflow.

If no other workflows are available to serve as input workflow, a message is shown at the property:



The screenshot shows a configuration panel titled "Input Workflow (optional)". Below the title is a light gray rectangular area containing the text "No workflows available".

Use of Input Workflow at the activity state trigger is discussed within that trigger type's documentation.

For all triggers other than the activity state trigger, Input Workflow is optional. The property is set using a drop-down that lists the names of all other workflows' triggers within the interaction, in alphabetical order. Having selected an Input Workflow, you can clear it.

You can only select a queue listener workflow as an input workflow in the event that contains at least one queue activity that generates offer history.

On selection of an Input Workflow, the Inputs tabs of all activities downstream from the trigger list all of the input workflow's fulfillment channels, along with fulfillment states for each.

At the first tree level, you can select fulfillment channels. Having selected a channel, at the second tree level, you can select specific fulfillment states within it. Any records in the selected state(s) at the point of the activity's execution will serve as its input data set. A validation error is raised if no inputs are selected.

Having specified an Input Workflow you can, if desired, attach a fulfillment activity directly to the trigger in question without a validation error being raised:

If a trigger's Input Workflow has been set, on attachment of downstream activities to the trigger, their inputs are set automatically to the Targeted state within the first of the Input Workflow's channels.

If an Input workflow is specified, all fulfillment activities within the current workflow must be named differently to fulfillment activities within the input workflow.

At execution of a trigger with an Input Workflow, the dataset upon which the workflow's activities act is determined by the fulfillment state selections described above.

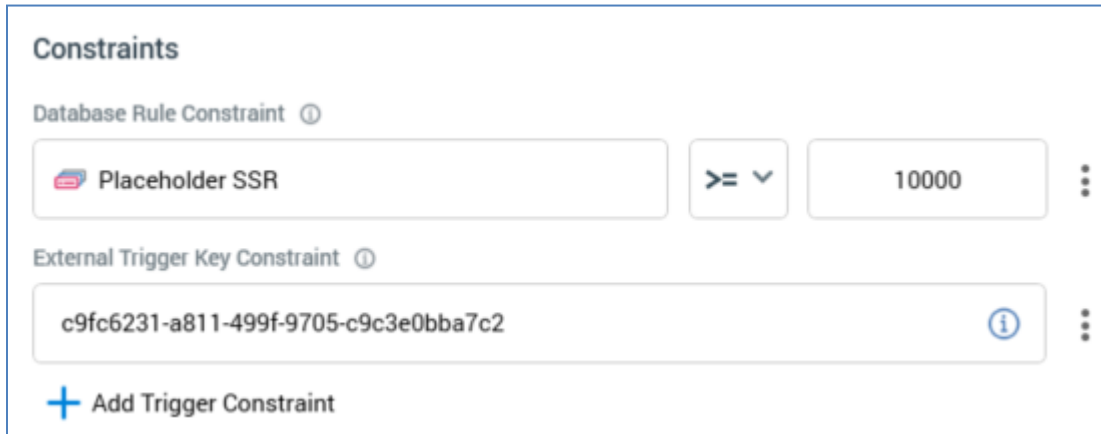
If attempt is made to execute an activity in a workflow when an Input Workflow has not provided data (e.g. has yet to run), the activity enters a Paused state. You can view details as to why the activity was Paused in its log.

If an input workflow executed in production mode, following execution of the Fulfillment state flow counts update system task, a second workflow can utilize for input purposes any fulfillment state counts generated by the first workflow. This applies even if the second workflow is to execute in Test mode.

3.12.6 Constraints

Trigger constraints are available at all four trigger types, and also within the wait for event activity. They are shown within the General tab within a trigger's configuration panel

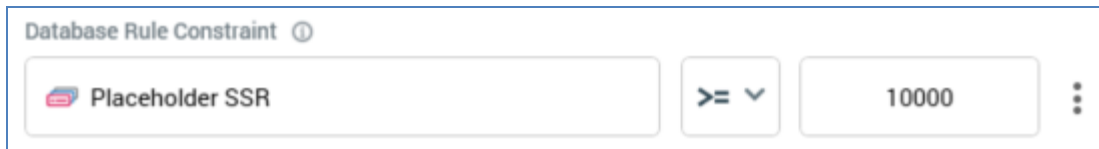
When you elect to display trigger constraints within a configuration panel, the button toggling display of trigger details and constraints reads Show trigger.



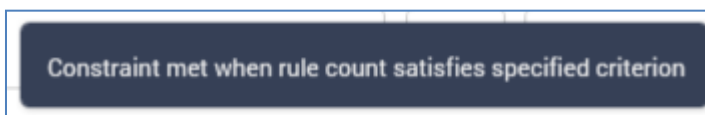
The trigger constraints panel contains the following:

- Constraints list: a list of database rule and external trigger constraints.

If a database count constraint, the following properties are shown:



- Information icon: hovering over the small info icon to the right of the constraint's title displays this tooltip:



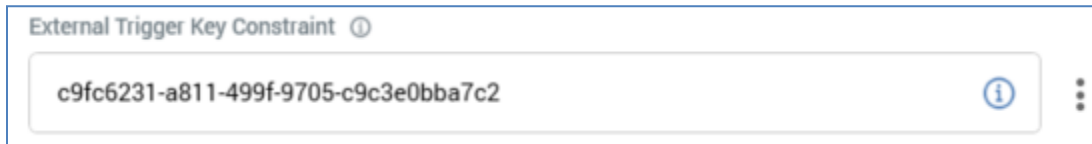
- Selection rule: mandatory. You can browse those folders within the RPI file system to which you have access to choose a selection rule; you can also drag a selection rule from the toolbox.

Once you have chosen a selection rule, you may clear it. You can also open the latest version of the selection rule. If the Rule Designer is already open, the rule is shown there. If it is not, a new instance of the Rule Designer is opened to display the rule.

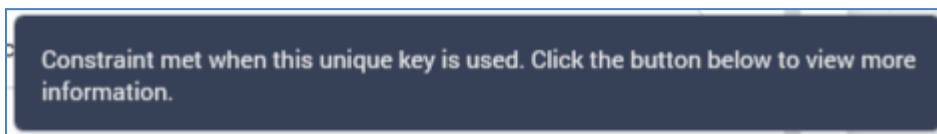
Use of selection rules with auxiliary database resolutions is supported in this context.

- Operator: you can choose an operator for the constraint using a drop-down list, which defaults to >= (more than or equal to).
- Value: a mandatory integer, which defaults to 0.
- Options: exposing a single Remove option.

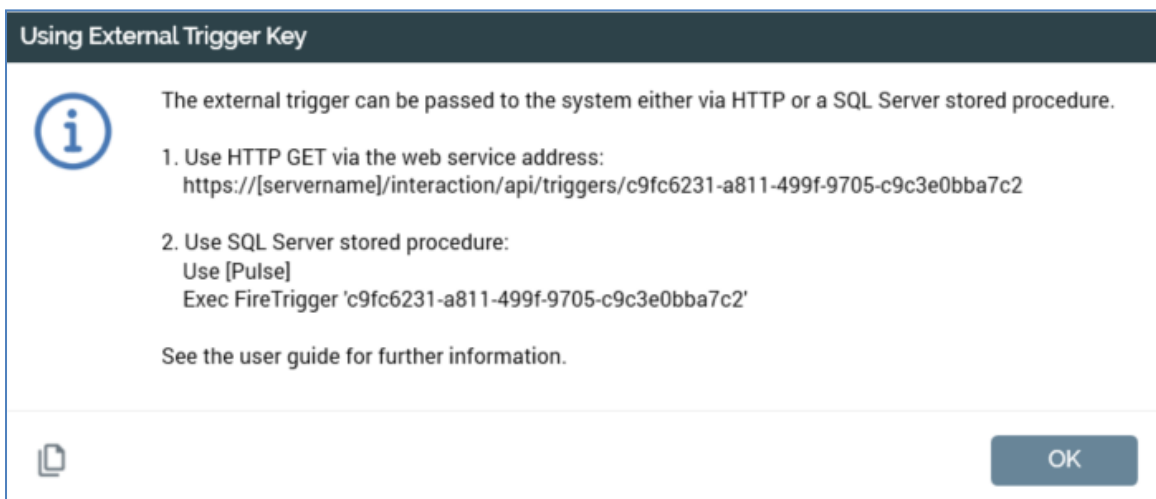
If an external trigger constraint, the following properties are shown:



- Information icon: hovering over the small info icon to the right of the constraint's title displays this tooltip:



- GUID: a system-generated value that is unique to the workflow. The GUID is used by a caller to identify the specific trigger constraint that is to be satisfied. Note that if you save an interaction as another name, a new GUID is generated.
- Information icon. Clicking the icon displays a dialog, which describes how the trigger constraint can be satisfied (using either an HTTP post or a SQL Server stored procedure):

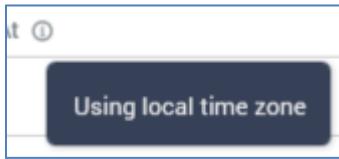


An external application can call RPI, using either of the methods described, to satisfy the trigger constraint.

You can copy the contents of the dialog to the clipboard.

- Stop checking at: only relevant if a manual, scheduled or activity state trigger. This date/time value is optional, and no default is set. The field can be populated manually or by using a calendar control.

The property is accompanied by an information tooltip:



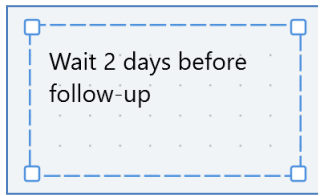
- Options: exposing a single Remove option.
- Add Trigger Constraint: invoking this button allows you to select the type of trigger constraint you wish to add from a menu (database count or external trigger constraint). Note that, when configuring a wait for event, you may only add database count constraints. Invocation creates a new, unconfigured constraint of the appropriate type within the constraints list.

3.13 Builder

The builder is a tool that, when dragged from the toolbox onto the Interaction Designer Workspace, allows you to initiate the step-by-step building of a simple email interaction using the Send Emails training aid.

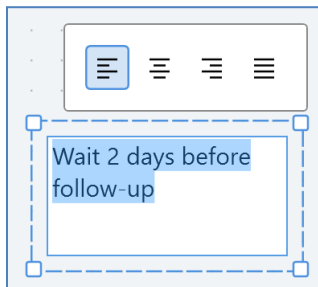
Full details of the Send Emails Training Aid are provided in the Training Aids documentation.

3.14 Note



You can annotate a workflow within the Interaction Designer by adding a note to the workspace. Simply drag a Note activity from the toolbox and drop it where required. The new note is presented in edit mode. You can also add a note by selecting Insert Note – displayed at the context menu shown when right-clicking the workspace.

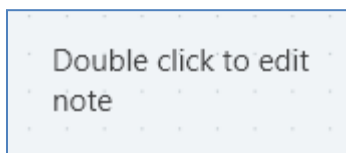
You can edit an existing note by double-clicking it:



No practicable length limit applies. If the note contains more characters than may currently be displayed, a vertical scrollbar will be shown.

A toolbar shown above the note allows you to control the alignment of the text therein.

A note in display mode is shown without a border (unless selected, when the standard dashed border is displayed). If no text has been added, the default text is shown:



If a note contains more characters than may be displayed within its current size, an ellipsis is appended to the final visible character.

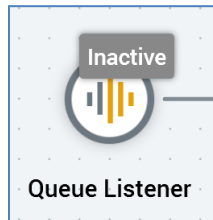
A note is presented in the Foreground (accent) color defined at the Preferences interface.

A context menu is displayed when right-clicking a note. The following options are available:

- Edit Note
- Copy Selected Items

- Remove

3.15 Queue Listener



A queue listener allows you to monitor a 'listener queue' for the arrival of data. Data arrives in the form of JSON packages – placed on the queue either by an external system, or at submission of a web form.

Downstream queue activities can then use this data to execute offers. You might typically use a queue listener for the sending of an email e.g. after a customer makes a purchase, or when a web form is submitted in a landing page.

A validation error raised if a queue listener workflow contains two or more queue activities that use different audience definitions.

3.15.1 Queue Listener – Mini Toolbar

The following options are available in the mini toolbar when you select a queue listener:

- **Activate:** this button is shown when a queue listener is Inactive or Deactivated, and when there are no unsaved changes in its workflow. Invocation places the queue listener into an Activated state (via an intermediate Waiting for Trigger state).
- **Deactivate:** this button is shown when a queue listener is Activated. Invocation places the queue listener into a Deactivated state.
- **Rollback:** this button is shown when a queue listener has been Deactivated in Production mode. Invocation removes any offer history records associated with its execution.
- **View results:** displays the Results Window.
- **Show configuration panel.**

3.15.2 Queue Listener – Configuration Panel

A queue listener’s configuration panel contains a single General tab. It contains the following:

The screenshot shows a configuration window for a Queue Listener. The window has a title bar with a logo and the text 'Queue Listener'. Below the title bar, there is a 'General' tab. The 'Listener' section contains a 'Listener Key' field with the value 'bac62e31-b875-4307-8240-49f2d8a014fa'. The 'Usage Information' section contains a button 'Click here to copy usage information to clipboard'. The 'Realtime Event' section contains a checkbox 'Listen for realtime events' which is unchecked. At the bottom of the window, there is a status bar with the text 'Monitors listener queue for arrival of data', a red error icon with 'Not Valid', and a 'Done' button.

Listener section:

- Listener key: a read-only GUID value that is unique to the current queue listener. The queue listener's Listener key is used when placing messages onto the listener queue; messages that contain a unique Listener key value are processed by the queue listener matching the supplied value.
- Usage information: a button is provided which, when clicked, copies details of how external parties can place messages on the listener queue for processing by queue listeners:

There are three ways for external systems to integrate with this queue listener.

- 1) Via the Interaction API web service

2) Via the Interaction Realtime API web service

3) By placing messages directly onto the queue

INTERACTION API WEB SERVICE

Endpoint : <https://tryfan/interaction/api/triggers/queue>

NB. The message header must contain a valid bearer token

INTERACTION REALTIME API WEB SERVICE

Endpoint : <http://uk.tryfan.tld:81/api/events/queue>

NB. The message header must contain the RPIAuthKey setting configured for this service.

DIRECT TO QUEUE

The queue type and path is configured in the Server Workbench

MESSAGE BODY

The message is the same for all three methods e.g.:

```
{"TriggerKey":"470d7eca-9a8d-4762-a538-cf97c94afb63","SendAddress":"e.g. email address","Parameters":{"FirstName":"NOT SET","LastName":"NOT SET","EmailAddress":"NOT SET"},"RepeaterParameters":{"OrderTitle":"NOT SET","ParamProductName":"NOT SET","ParamProductValue":"1","ParamProductDate":"7/6/2016 12:00:00 AM","ParamBigInt":"111","ParamDateOnly":"3/30/2017 12:00:00 AM","ParamMoney":"5.00","ParamDecimal":"7.77"}}
```

If the queue listener's associated queue activity's audience definition is configured to support queue listener repeater parameters, the Message Body section appears as follows:

```
{'TriggerKey':'95f401e4-76ae-4db4-9cb8-2f21ff020db5','SendAddress':'e.g. email address','Parameters':{'EmailAddress':'NOT SET','FirstName':'NOT SET','LastName':'NOT SET'},'RepeaterParameters':{'OrderTitle':'NOT SET','ParamProductName':'NOT SET','ParamProductValue':'1','ParamProductDate':'7/6/2016 12:00:00 AM','ParamDateOnly':'3/30/2017 12:00:00 AM','ParamMoney':'5.00','ParamDecimal':'7.77'}}
```

Realtime Event section:

Realtime Event

Listen for realtime events

Web Events Adapter ⓘ

Default web tracker
▼

Event ⓘ

Choose an event

Event Detail ⓘ

Event Metadata ⓘ

[+ Add Event Metadata](#)

Realtime Queue Profile ⓘ

Repeat Sends ⓘ

Prevent repeat sends for: day(s) : :

- Listen for realtime events: this checkbox is unchecked by default. When checked, the properties below it are shown.
- Web events adapter: this mandatory property allows you to select a web events adapter to provide realtime event data to which the queue listener will respond. A dropdown, it lists all configured web events adapters. The default web tracker is selected by default.
- Event: this mandatory property allows you to select a fulfillment state representing an event to which the queue listener will respond. It is enabled when a Web events adapter has been selected. Clicking the button displays the Choose Event dialog. All states made available by the selected Web events adapter are listed. You can click a state to select it in the dialog, or double click it to select it and close the dialog. Clicking the Close button removes the dialog from display (clicking off the dialog has the same effect). Having selected an Event, you can clear it using the button provided.
- Event detail: this optional property allows you to apply a filter to the event - e.g. a Page Visit page name or Link Click URL. It supports a maximum length of 2000 characters. Partial matches can be used.

- **Event Metadata:** this optional property allows you to apply an additional filter, on the metadata accompanying the event. All specified event metadata must be received for the queue listener to be fired.

A list of event metadata Name/Value pairs can be specified. Names must be unique within the list, and both Name and Value are mandatory. An Add New Event Metadata button, displayed below the list, allows you to add a new entry. Its default name is 'New event metadata' (if this name already exists, and incrementing integer can be appended to ensure uniqueness), and its default value is blank.

- **Realtime queue profile:** this optional property allows you to select a QueueListenerConfiguration name (as defined at RPI Realtime's appsettings file), which defines the parameters to be sent to the queue listener. The default configuration is used if the property is not set. A dropdown property, values are sourced from appsettings. If provided manually, a maximum length of 100 characters can be accommodated.

An example of a QueueListenerConfiguration entry is provided below:

```
"QueueListenerConfiguration": [
  {
    "Name": "Cart",
    "SendAddressParameter": "EmailAddress",
    "Parameters": [
      "FirstName",
      "LastName"
    ],
    "RepeaterParameters": [
      "CartItem",
      "CartItemPrice"
    ]
  }
]
```

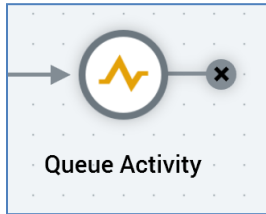
Note that SendAddressParameter and Parameters are sourced from a visitor's realtime profile.

Note also the presence of RepeaterParameters above; these can be used to include transactional details in an email delivered on realtime triggering of the queue via a smart asset configured with a listener key, or via a queue listener configured to respond to realtime events. Repeater parameters are sourced from array values persisted in profile parameters, or from a cached attribute list lookup. Note that the number of array elements present in each repeater parameter must match the data received in that context.

- **Prevent repeat sends for:** this optional property allows you to specify a time period within which repeat sends to same recipient from the current queue listener will be disregarded.

Note that it is not possible to specify trigger constraints in the context of a queue listener.

3.16 Queue Activity



A queue activity allows for the execution of an offer following its upstream queue listener's receipt of data via a JSON package arriving on the listener queue (and the optional customization of the content therein based on the data thus received, using parameter attributes).

You can only attach a queue activity to a queue listener. A queue activity cannot be attached to more than one queue listener. You cannot add a queue activity downstream from another queue activity. You also cannot add any other activities downstream from a queue activity.

3.16.1 Queue Activity – Mini Toolbar

The following options are available in the mini toolbar when you select a queue activity:

- View results: shows the Results Window, within which are displayed the queue activity's results.
- Show configuration panel.

3.16.2 Queue Activity – Configuration Panel

A queue activity's configuration panel contains General and Metadata tabs.

The General tab contains the following:

The screenshot shows the 'Queue Activity' configuration panel with the 'General' tab selected. The panel includes a title bar with a logo and a close button. Below the title bar are two tabs: 'General' (active) and 'Metadata'. The configuration is organized into sections: 'Mode' with a dropdown set to 'Generate offer history'; 'Audience Definition' with a dropdown set to 'Queue'; 'Qualification' with a 'Qualification Rule' dropdown set to 'Choose a Qualification Rule'; and 'Fulfillment' with an 'Offer' dropdown set to 'Offer', an 'Offer Channel' dropdown set to 'Choose a channel', and a 'Send Address Parameter Override' field. At the bottom, there is a summary text 'Fulfills selected offer to audience sourced from queue', a red error icon with the text 'Not Valid', and a 'Done' button.

Queue Activity

General Metadata

Mode
Generate offer history

Audience Definition
Queue

Qualification
Qualification Rule
Choose a Qualification Rule

Fulfillment
Offer
Offer
Offer Channel
Choose a channel
Send Address Parameter Override ⓘ

Fulfills selected offer to audience sourced from queue Not Valid **Done**

- Mode: this dropdown exposes the following options:
 - Generate offer history: selected by default. When selected, the Audience definition property is displayed; on execution of the queue activity, a record will be added to the offer history table defined by the selected audience definition.
 - Don't generate offer history: when selected, on execution of the queue activity, an offer history record is not written. The Metadata tab is not shown when this value is selected.
- Audience definition: this dropdown is only displayed when Generate offer history is selected. It lists only queue listener audience definitions. Other audience definitions are not shown. If a default queue listener audience definition has been selected, it is selected by default.
- Qualification section, exposing a single property:
 - Qualification rule: this optional property allows you to specify that only incoming data targeted by a specified selection rule or realtime decision will be served the queue activity's configured offer. You can associate a selection rule or realtime decision with the queue activity. If required, you can initiate the creation of a new standard selection rule or standard selection rule placeholder.

When a qualification rule is applied to a queue activity, on the activity's execution, if a parameter passed within an incoming data packet matches the RPI Realtime Master Key or an Alternative Key, the profile of the visitor in question is loaded, and parameter values from the same are available for rule evaluation. Any incoming parameter values are saved to the visitor's profile, and are written to the current queue listener resolution table. In addition, if a parameter passed in matches a cached attribute list lookup name, the visitor profile's database values are loaded and available for evaluation at a database realtime decision.

Note that an Identity object can also be passed in to load visitor profile parameters (data from the same can also be written to the queue listener resolution table).

In addition, a Geolocation object can also be passed in the queue message to facilitate the making of geolocation decisions.

The Qualification rule is evaluated against the visitor profile. For example, if a selection rule was chosen, a visitor profile key must match a resolution key targeted by the rule for it to be satisfied. If a realtime decision was selected, it is evaluated against the visitor profile. Note that if identifying parameters are not passed, a qualification rule can be satisfied by its not requiring such - e.g. a Web realtime decision with a Day of the week criterion, or by a non-identificatory parameter being used to satisfy the decision.

If a Qualification rule is evaluated successfully, the queue activity's result count is incremented, and its offer is fulfilled to the recipient's send address. If not evaluated successfully, the count not incremented, and the offer is not fulfilled.

Note that you can change an active queue activity's Qualification rule by deactivating its parent queue listener, changing the property, saving and re-activating the queue listener.

- Fulfillment section: exposing the following properties:

- Offer: provision of an offer with which to configure the queue activity is mandatory (unless a Control channel has been selected). The selected offer must be valid. You can choose an offer by browsing, or by using drag and drop. The selected offer must support at least one non-broadcast delivery method. You can also initiate the creation of a new offer. Once an offer has been selected, you can open its latest version in the Offer Designer. You can also clear your selection. Note that a validation error will be raised in the event of selecting a data onboarding offer.

You can also configure a queue activity's Offer property by dropping an existing RPI offer file from the toolbox directly onto a queue activity icon in the Interaction Designer workspace.

- Offer Channel: this dropdown field lists only those channels supported by the currently-selected offer's delivery method(s). Broadcast channels are not shown. Note that you can select a Control channel without first selecting an offer.

The following channels are supported in the context of queue activities:

- SFMC Email
- SendGrid
- Acoustic
- Amazon Simple Email Service (SES)
- CheetahMail
- SparkPost
- Instiller
- Responsys
- Dotdigital
- Listrak
- Mailchimp
- Cordial
- LuxSci
- Paubox
- SFMC Data Transfer
- Amazon Pinpoint Email
- SFMC Mobile Connect
- SFMC SMS
- Messente
- Twilio
- Twitter Direct

- Amazon Pinpoint SMS
- MS Dynamics CRM
- Salesforce.com CRM

Note that Salesforce.com CRM and MS Dynamics CRM channels' Allow update option is not applicable when executed in a queue activity.

- Send address parameter override: this optional text field is blank by default. When set, it allows you to specify that another field in the supplied JSON payload will also serve as the payload's SendAddress. By attaching multiple queue activities to queue listener, each with different send address, you can fulfill multiple offers through the submission of a single JSON payload. Note that only a single row is added to the queue listener resolution table when you do so, with one offer history row per offer fulfillment/contact. The same resolution key is used for all offer history records.

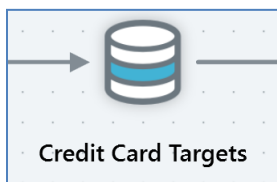
The Metadata tab is shown when Mode is set to 'Generate offer history'. It contains the following:

The screenshot shows a configuration window with two tabs: 'General' and 'Metadata'. The 'Metadata' tab is selected. Below the tabs, the section 'Activity Metadata Overrides' contains four input fields arranged in a 2x2 grid:

- Integer:** A text input field containing the number '1'.
- Stringie:** A text input field containing the text 'NOT SET'.
- Decimalie:** An empty text input field.
- DateTimey:** A date and time input field containing '07/05/2020 00:00'.

- Activity Metadata Overrides: this section lists the metadata attributes defined at the currently-selected Audience definition. You can override values and revert to the defaults provided as required. Metadata values are written to a mode-specific Offer History Meta table on parent queue listener activation (one record per queue activity). If a queue listener is de-and re-activated, persisted metadata values are updated to reflect current values at the point of activation.

3.17 Batch Audience



A batch audience is used to retrieve a set of records from the data warehouse. Having done so, typically you will then undertake some form of fulfillment activity in respect of the data set thus created (for example, sending an email).

The rules used to determine which records are to form the dataset are defined by the audience file with which the batch audience is configured. For full details of audiences, please see the Audience Designer documentation.

Note that a batch audience contrasts with an interactive activity configured with an audience insofar as a batch audience runs the rules defined by the audience once only. The interactive activity may run the rules defined by its audience a number of times, in accordance with its frequency settings, to generate its dataset cumulatively.

3.17.1 Batch Audience – Mini Toolbar

The following options are available in the mini toolbar when you select a batch audience:

- **Play:** this option is available when the batch audience is Paused, Stopped or Failed. Invocation resumes execution, returning it to a Playing state (via intermediary state Resume play requested). The option is available irrespective of the mode in which executed.
- **Pause:** this option is available when the batch audience is Playing. Invocation ceases activity at the next available opportunity, placing the audience into a Paused state (via intermediary states Pause requested and Pausing). The option is available irrespective of the mode in which executed. When the audience is Paused, its workflow remains Playing.
- **Stop and Rewind:** this option is available when the audience is Playing, Paused or Failed. Invocation ceases activity at the next available opportunity, placing the audience into a Stopped state (via intermediary states Stop requested and Stopping). Records are removed from the offer history tables. The option is available irrespective of the mode in which executed. When the audience is Stopped, its workflow remains Playing.
- **View results:** shows the Results Window, within which are displayed the audience instance's results.
- **Show configuration panel.**

3.17.2 Batch Audience – Configuration Panel

A batch audience's configuration panel contains up to six tabs: General, Inputs, Filters, Outputs, Seeds and Advanced.

- The General tab is always displayed, and contains the following:

Three Way Split

General Outputs Seeds

Audience

Three Way Split

Placeholders

Manage placeholders

Options

Pause before this activity completes ⓘ

Minimum Batch Limit ⓘ Maximum Batch Limit ⓘ

Executes an audience Valid **Done**


- Audience: mandatory. You can drag an audience from the toolbox file system treeview or can browse accessible locations within the RPI file system for an audience.

You can open the audience in the Audience Designer in a separate tab. You can also clear an existing audience.

- Manage placeholders: this button is displayed when an audience has been selected at the activity. Clicking it displays the [Audience Name] - Attribute Placeholders dialog. Full details of the Attribute Placeholders dialog can be found in the Framework documentation.

You can use the dialog to provide values for any placeholder attributes used in selection rules at the audience's filters, suppressions, split and cell list blocks. Any overridden values supplied at the audience are reflected as default values at the interaction. A validation error raised if a required placeholder value is not supplied.

- Pause before this activity completes: a checkbox, default unchecked. If checked, workflow execution will pause prior to completion of the current or execution of any subsequent workflow activities.
- Minimum batch limit: this optional integer property allows you to define the minimum number of records to be targeted at a time by the batch audience. If fewer records are targeted than the value specified, the activity will enter a Paused state. The minimum supported value is 1, and the maximum 9,999,999,999. The value provided must be less than or equal to the Maximum batch limit value.
- Maximum batch limit: this optional integer property allows you to define the maximum number of records to be targeted at a time by the batch audience. If more records are targeted than the value specified, the activity will enter a Paused state. The minimum supported value is 1, and the maximum 9,999,999,999. The value provided must be greater than or equal to the Minimum batch limit value.
- Maximum target limit: this property is only displayed if the batch audience is hosted in a recurring workflow, and the recurring trigger's Create property is set to Single workflow instance. It allows you to set a targeting limit for the audience; if set, at the point at which the specified limit is reached or exceeded, the recurring trigger will stop firing. The property is an optional integer, which accepts a minimum value of 1 and a maximum value of 9,999,999,999.
- The Outputs tab is always displayed, and contains the following:


Three Way Split
✕

General
Outputs
Seeds

Override Activity and Segment Metadata

Metadata values can be overridden at the activity and segment level. Select this activity or a segment below to override metadata values.


Choose Activity Or Segment

This activity ▼

Activity Metadata Overrides

<p>StringMeta</p> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;">NOT SET</div>	<p>DateTimeMeta</p> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;">Enter date/time</div>
<p>DecimalMeta</p> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"></div>	<p>IntegerMeta</p> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"></div>
<p>StringListMeta</p> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;">A ▼</div>	<p>LocalListMeta</p> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;">▼</div>
<p>DatabaseListMeta</p> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;">▼</div>	

Executes an audience


Valid

Done

- Explanatory text is shown at the top of the panel, advising that metadata can be overridden at the level of the activity as a whole, or at an individual segment.
- This activity: you can select the top list entry to set metadata values in respect of the activity as a whole.
- Segments: you can select an individual segment to assign metadata values in that context.
- Activity/Segment Metadata Overrides: this grid lists all of the activity's or segment's available metadata attributes. For each, the following are displayed:

- Name: read-only
 - Value: updateable. You can update a metadata attribute's value at the level of the audience as a whole, or for a specific segment. Any metadata overrides that were effected at the audience are displayed. Any metadata overrides that you stipulate are applied to segments during workflow execution.
- The Inputs, Filters, Seeds and Advanced tabs are documented separately.

3.18 Interactive Activity



An interactive activity serves two purposes:

- It can be configured with an audience and be used to retrieve a set of records from the data warehouse that can then be acted upon by downstream activities within the workflow. Note that, in contrast to the batch audience, which executes once to retrieve a data set, an interactive activity can execute a number of times in accordance with its defined frequency settings, retrieving records all the while as they satisfy the rules defined in its audience and cumulatively building a dataset.
- If not configured with an audience, it can be placed downstream of an existing fulfillment activity (such as an offer or export) and can then be used to control the frequency at which another fulfillment activity, further downstream, will execute. For more details, please see Downstream Post-Fulfillment Activities.

3.18.1 Interactive Activity – Mini Toolbar

The following options are available in the mini toolbar when you select an interactive activity:

- Play: this option is available when the interactive activity is Paused, Stopped or Failed. Invocation resumes execution, returning it to a Playing state (via intermediary state Resume play requested). The option is available irrespective of the mode in which executed.
- Pause: this option is available when the interactive activity is Playing. Invocation ceases activity at the next available opportunity, placing it into a Paused state (via intermediary states Pause requested and Pausing). The option is available irrespective of the mode in which executed. When the activity is Paused, its workflow remains Playing.
- Skip current Interactivity Activity instance: this button is available only when an interactive activity's status is Paused or Failed. It serves as a 'fast forward' control; invocation abandons the current interactive activity execution instance and moves to the next instance. Having done so, the activity assumes Skipping, then Playing, states.
- View results: shows the Results Window, within which are displayed the interactive activity's results.
- Show configuration panel.

3.18.2 Interactive Activity – Configuration Panel

An interactive activity's configuration panel contains up to four tabs: General, Inputs, Filters and Outputs.

- The General tab is always displayed, and contains the following:

The screenshot shows the 'Drip Feed' configuration window with the following elements:

- Header:** 'Drip Feed' title and a close button (X).
- Navigation:** 'General', 'Outputs', and 'Seeds' tabs, with 'General' selected.
- Audience:** A field containing 'Drip Feed' with copy, search, and delete icons.
- Placeholders:** A field with a 'Manage placeholders' button.
- Recurrence Options:**
 - Sub-tabs: 'Daily', 'Weekly', 'Monthly'.
 - Frequency: 'Once every' (unselected) and 'Every' (selected).
 - Day(s): Input field with '1'.
 - At: Input field with ':'.
 - Duration: Input field with '1' and a dropdown menu showing 'hour(s)'.
 - From: Input field with '00 : 00'.
 - To: Input field with '23 : 59'.
 - Toggle: 'Only fire trigger on specific days of the week' (disabled).
 - Text: 'If firing missed, trigger will fire as soon as able to. Thereafter'.
 - Dropdown: 'Commence hourly schedule based on new most recent firing time'.
- Time Zone:** A dropdown menu showing '(UTC+00:00) Dublin, Edinburgh, Lisbon, London'.
- Continue Checking For Data:**
 - Text: 'Continue Checking For Data'.
 - Dropdown: 'For'.
 - Input fields: '0', 'day(s)', '1', ':', '0', ':', '0'.
- Footer:**
 - Text: 'Regularly checks for data or initiates downstream activity'.
 - Buttons: 'Valid' (with a checkmark icon) and 'Done'.

- Audience : when an interactive activity is preceded in a workflow by an audience, provision of an audience at the interactive activity is optional. In this case, the interactive activity is not used to actively retrieve records from the data warehouse to determine a data set in respect of which to undertake further action; rather, it is simply used to trigger activity on a cyclical basis.

When an interactive activity is not preceded in a workflow by an audience , provision of an audience at the interactive activity is mandatory. You can drag an audience from the toolbox file system treeview or can browse accessible locations within the RPI file system for an audience .

You can also open the audience in the Audience Designer in a separate tab. In addition, you can clear an existing audience.

During execution, when configured with an audience , the interactive activity executes the audience to check for applicable data in accordance with its configured Check for data settings.

- Manage placeholders: this button is displayed when an audience has been selected at the activity. Clicking it displays the [Audience Name] - Attribute Placeholders dialog. Full details of the Attribute Placeholders dialog can be found in the Framework documentation.

You can use the dialog to provide values for any placeholder attributes used in selection rules at the audience's filters, suppressions, split and cell list blocks. Any overridden values supplied at the audience are reflected as default values at the interaction. A validation error raised if a required placeholder value is not supplied.

- Daily/Weekly/Monthly: these radio buttons are used in the definition of the frequency at which the interactive activity should execute. Selection of a radio button defines the fields shown to the right of the configuration panel. Daily is selected by default.

- If Daily is selected, the following fields are shown:

- Once every...: this field is accompanied by a radio button (its counterpart is Every..., which is also accompanied by a radio button). If the radio button is selected, the following fields are enabled:
 - Day(s): a mandatory integer that defaults to 1, and which must be greater than 0.
 - At: a mandatory hour and minute field that defaults to the time the trigger was added to the interaction.
- Every...: this field is accompanied by a radio button that is selected by default and is a counterpart to Once every.... If selected, the following fields are enabled:
 - Duration: a mandatory integer that defaults to 1, and which must be greater than 0.
 - [units]: a dropdown field exposing the values second(s), minute(s) and hour(s) (default).
 - From: separate, mandatory hour and minute fields that default to 00:00. An informational tooltip advises that the specified Time zone will be used.
 - To: separate, mandatory hour and minute fields that default to 23:59. An informational tooltip advises that the specified Time zone will be used.
- Only fire trigger on specific days of the week: please see the Recurring Trigger documentation.
- If firing missed...: please see the Recurring Trigger documentation.

- If Weekly is selected, the following fields are shown:

Daily **Weekly** Monthly

Every

Week(s) At ⓘ On

1 17 : 18 Monday Saturday

Tuesday Sunday

Wednesday

Thursday

Friday

- Week(s): a mandatory integer that defaults to 1, and which must be greater than 0.
- At: a mandatory hour and minute field that defaults to the current time. An informational tooltip advises that the specified Time zone will be used.
- On: a separate checkbox is provided for each day of the week. The current day is checked automatically.

- If Monthly is selected, the following fields are shown:

Daily Weekly **Monthly**

Specific day of month

Day Of Every At ⓘ

28 1 month(s) 17 : 19

Relative day of month

On The Of Every At

month(s) :

Offset By

0 day(s) after

- Specific day of month: accompanied by a radio button that is selected by default (its counterpart is Relative day of month, which is also accompanied by a radio button). If the radio button is selected, the following fields are enabled:

- Day: a mandatory integer, which must be greater than 0. Day [x] defaults to today's date.
- Of Every: a mandatory integer that defaults to 1, and which must be greater than 0.
- 'month(s)'
- At: a mandatory hour and minute field that default to the current time. An informational tooltip advises that the specified Time zone will be used.
- Relative day of month: this field is accompanied by a radio button and is a counterpart to Specific day of month. If selected, the following fields are enabled:
 - On The: a dropdown field that exposes the following values: first (default), second, third, fourth and last.
 - [Day of week]: a dropdown that lists the days of the week, which defaults to the current day.
 - At: a mandatory hour and minute field that default to the current time. An informational tooltip advises that the specified Time zone will be used.
- Offset by: two fields accompany this setting, which allows you to adjust the activity's scheduled firing time by pulling it forward or pushing it back by a given number of days:
 - [n]: this integer value defaults to 0 and can be maximum of 999.
 - [offset type]: this dropdown field exposes values 'None'(the default), 'day(s) after' and 'day(s) before'.
- Time zone: this dropdown property allows you to specify the time zone within which the activity's recurrence pattern will operate. It defaults to the local time zone.
- Continue checking for data: this section defines how long the interactive activity will continue executing on a regular basis. The following fields are shown:
 - For/Until: a dropdown field.
 - Days/Hours/Minutes/Seconds: shown if set to 'For'
 - Date/Time: shown if set to 'Until'

At workflow execution, an interactive activity executes on a regular basis for a duration defined by its configuration settings.

- The Inputs, Filters and Advanced tabs are documented separately.
- The Outputs tab is only displayed when the interactive activity is configured with an audience , and contains the following:

General **Outputs** Seeds



Override Activity and Segment Metadata

Metadata values can be overridden at the activity and segment level. Select this activity or a segment below to override metadata values.

Choose Activity Or Segment

This activity ▼

Activity Metadata Overrides

StringMeta		DateTimeMeta
NOT SET		Enter date/time 
DecimalMeta		IntegerMeta
StringListMeta		LocalListMeta
A ▼		▼
DatabaseListMeta		
▼		

- Explanatory text is shown at the top of the panel, advising that metadata can be overridden at the level of the activity as a whole, or at an individual segment.
- This activity: you can select the top list entry to set metadata values in respect of the activity as a whole.
- Segments: you can select an individual segment to assign metadata values in that context.
- Activity/Segment Metadata Overrides: this grid lists all of the activity's or segment's available metadata attributes. For each, the following are displayed:
 - Name: read-only
 - Value: updateable. You can update a metadata attribute's value at the level of the activity as a whole, or for a specific segment. Any metadata overrides that were effected at the audience are displayed. Any metadata overrides that you stipulate are applied to segments during workflow execution.

3.19 Subscription Group Activity

A subscription group activity allows you to create a subscription group (supporting the LiveRamp RampID, SurveyMonkey, Alchemer and Twilio Inbound SMS providers).

For more information, please see the Subscription Group Designer documentation.

3.19.1 Subscription Group – Mini Toolbar

The following options are available in the mini toolbar when you select a subscription group activity:

- View results
- Show configuration panel

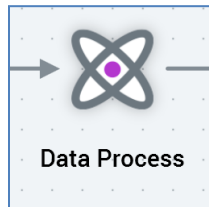
3.19.2 Subscription Group – Configuration Panel

A subscription group's configuration panel contains a single General tab.

The General tab contains the following properties:

- **Subscription Group:** if the subscription group activity was created by dragging and dropping an existing subscription group template, this property is populated by default. You can invoke Browse... to choose a subscription group template with which to configure the activity, or you can drag an existing subscription group from the toolbox and drop it onto the property. Once populated, you can invoke Open latest version to view the subscription group template in the Subscription Group Designer. You can also Clear the subscription group.
- **Channel:** this mandatory property is populated with the first default channel, accordant with the subscription group type, as defined within the Channels configuration interface. If you wish, you can click the currently-selected channel to change it.

3.20 Data Process Activity



A data process activity allows you to invoke the execution of a Redpoint Data Management project from within an interaction workflow.

A data process activity is configured with a data process project. Data process projects are managed within their own dedicated configuration interface. Each data process project contains a reference to a Redpoint Data Management project.

A data process project can (but does not have to) execute its Redpoint Data Management project against the dataset provided as the activity's input. Optionally, it can write the results of project execution to a data warehouse table. For example, a series of customer records supplied as the input to a data process block can be passed to its Redpoint Data Management project, and a score generated for each record therein. A series of bands can be defined at the data process project, which leverage the execution results – for example, creating High, Medium and Low score bands.

The use of data process blocks is not supported downstream from interactive activities. To make use of a data process block in a cyclical capacity, please use a recurring trigger.

For more information on data process projects, please see the Configuration Workbench documentation.

3.20.1 Data Process – Mini Toolbar

The following options are available in the mini toolbar when you select a data process activity:

- Pause
- Stop and Rewind
- Play
- View results
- Show configuration panel

3.20.2 Data Process – Configuration Panel

A data process activity's configuration panel contains General, Inputs and Filters tabs.

DPP001

General Inputs Metadata

Data Process Project

DPP001

Project Parameters

Name	Value
A	<input type="text"/>

This activity executes the specified data project

Valid Done

The General tab contains the following properties:

- **Data Process Project:** this property allows you to specify the Redpoint Data Management project that will be executed by the data process activity. It is initially empty. If no data process projects have been configured at the current RPI client, a message advises accordingly.

A dropdown field, it lists all configured data process projects, which are presented in alphabetical order, and each accompanied by an icon (custom if so configured). If you choose a data process project with a custom icon, the activity icon as displayed at the Interaction Designer workspace is updated accordingly. Selection of a data process project is mandatory.

- Project Parameters: this grid allows you to specify values to be passed to the selected data process project's project parameters. If no project parameters are configured at the select data process project, or if a data process project has yet to be selected, a message is displayed:

No parameters configured

If one or more project parameters has been configured, they are listed in the grid. For each, the following are displayed:

- Name: read-only. If provided, the parameter's description is shown in a tooltip on hover.
- Value: updateable. A data type-appropriate mask is provided. If no default value is configured for the parameter, you can specify a value; if a default value is provided, you can override it (you can revert the value to the default using the button displayed to the right). If the parameter supports selection of a list value, a dropdown is displayed.

The Inputs and Filters tabs allow you to restrict the input records to be acted upon by the data project activity.

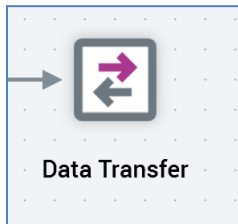
Note that the following Environment configuration settings must be configured to use data process activities:

- DataManagementCredentials
- DataManagementServerName
- DataManagementServerPort
- DataManagementVersionMajor

Note also that the following project parameters must be configured at a Redpoint Data Management project that is due to be invoked from a data process activity:

- RPIActivityID
- RPIActivityName
- RPIClientID
- RPIInteractionID
- RPISQLSource
- RPIWorkflowAssociationID
- RPIWorkflowID
- RPITestFlag

3.21 Data Transfer Activity



A data transfer activity allows you to execute an offer in Production mode without writing records to offer history.

A data transfer activity requires a data input. Note that a data transfer activity does not expose states that can be leveraged by downstream activities. This means e.g. that you cannot configure an activity state workflow to rely upon the data output from an input workflow that undertakes fulfillment using a data transfer activity only.

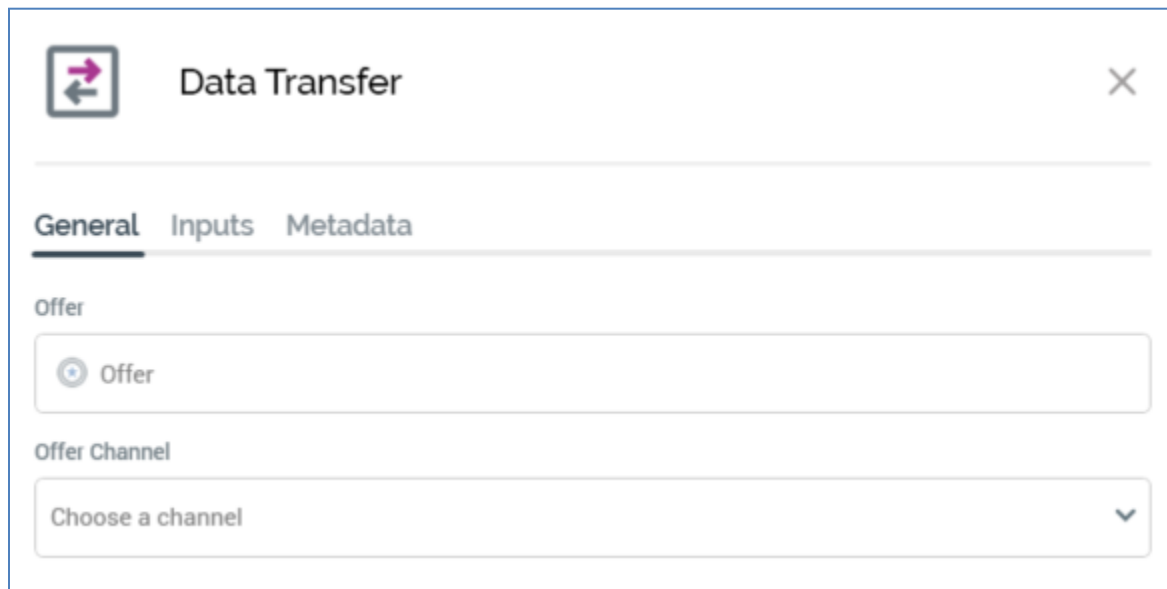
3.21.1 Data Transfer – Mini Toolbar

The following options are available in the mini toolbar when you select a data transfer activity:

- View Results
- Show Configuration Panel
- Pause
- Stop and Rewind
- Play

3.21.2 Data Transfer – Configuration Panel

A data transfer activity's configuration panel contains General, Inputs and Filters tabs.



The General tab contains the following properties:

- Offer: this mandatory property represents the offer that will be executed when the data transfer activity is run. You can browse for an offer, or populate the property using drag and drop (you can also drop an offer directly onto a data transfer activity as displayed in the Interaction Designer workspace). The selected offer must be valid, and must support at least one of the following delivery methods:
 - Data Extract
 - LiveRamp
 - Realtime Cache

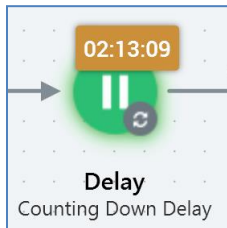
Having selected an offer, you can open its latest version in the Offer Designer. You can also clear the property.

- Offer channel: selection of a channel through which the offer will be executed is mandatory and is carried out using this dropdown property. The values exposed are limited to only relevant channels that are supported by the selected offer's delivery method(s).

The Inputs and Filters tabs allow you to restrict the input records to be acted upon by the data transfer activity.

Note that seed lists are not supported in the context of the data transfer activity.

3.22 Delay



A delay is simply used to cease activity within a workflow for a defined period of time.

Note that you cannot place a delay downstream from an interactive activity.

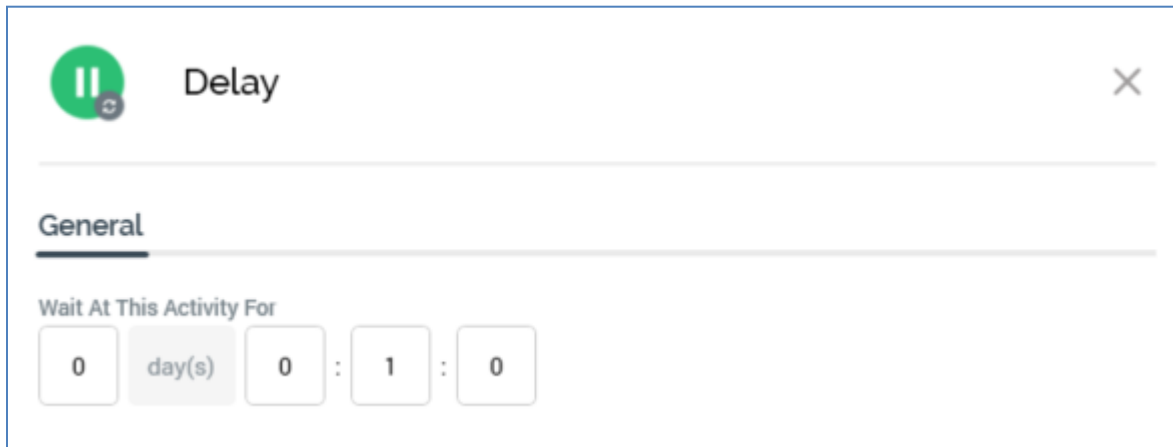
3.22.1 Delay – Mini Toolbar

The following options are available in the mini toolbar when you select a delay:

- Fire Delay: this option is only available when a delay's status is Counting down delay. Firing the delay ceases the countdown, setting the remaining delay time to 00:00:00 and its status to Completed, and causes the subsequent activities to commence execution.
- Show configuration panel

3.22.2 Delay – Configuration Panel

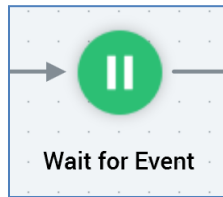
A delay's configuration panel contains a single tab (General).



The General tab contains a single property:

- Wait at this activity for: you can specify the delay's duration as a combination of separate days, hours, minutes and seconds values. All values thus supplied must be integers. The default duration for a delay is one minute.

3.23 Wait for Event



A wait for event activity is used to cease activity within a workflow until a specific event occurs. In many respects, a wait for event can be thought of as a trigger inserted mid-stream within a workflow; indeed, each wait for event is associated either with a manual or a scheduled trigger.

When a workflow containing a wait for event configured with a manual trigger is run, upon reaching the wait for event, execution ceases until the trigger is fired manually.

When a workflow containing a wait for event configured with a scheduled trigger is run, upon reaching the wait for event, execution ceases until the scheduled trigger's configured date and time are reached.

Note that you cannot place a wait for event downstream from an interactive activity.

3.23.1 Wait for Event – Mini Toolbar

The following options are available in the mini toolbar when you select a wait for event activity:

- Fire trigger: this button is only available when a wait for event is in a Waiting for Trigger state. Firing the wait for event's trigger continues execution of the wait for event's parent workflow immediately.
- Show configuration panel

3.23.2 Wait for Event – Configuration Panel

A wait for event's configuration panel contains a single tab (General).

Wait for Event

General

Trigger Type

Manual

Trigger

There are no settings required to use the manual trigger

This trigger will fire as soon as it is activated.

Constraints

No constraints have been defined

+ Add Trigger Constraint

Stop Checking At

Enter date

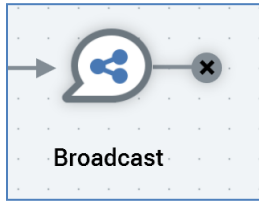
This activity forces the workflow to wait for the specified trigger to fire before continuing

Valid Done

The General tab allows you define the type of trigger with which the wait for event is associated. Only manual and scheduled triggers are supported. Additional scheduled trigger properties are the same as for the standard scheduled trigger.

Note that only database count constraints are support at the wait for event activity...external constraints are not.

3.24 Broadcast



A broadcast activity disseminates a message to a non-targeted audience via a broadcast channel such as Twitter, Facebook or LinkedIn.

In contrast to other fulfillment activities, a broadcast may not be followed by any further downstream activities. Accordingly, the broadcast icon is accompanied by a 'dead end' indicator.

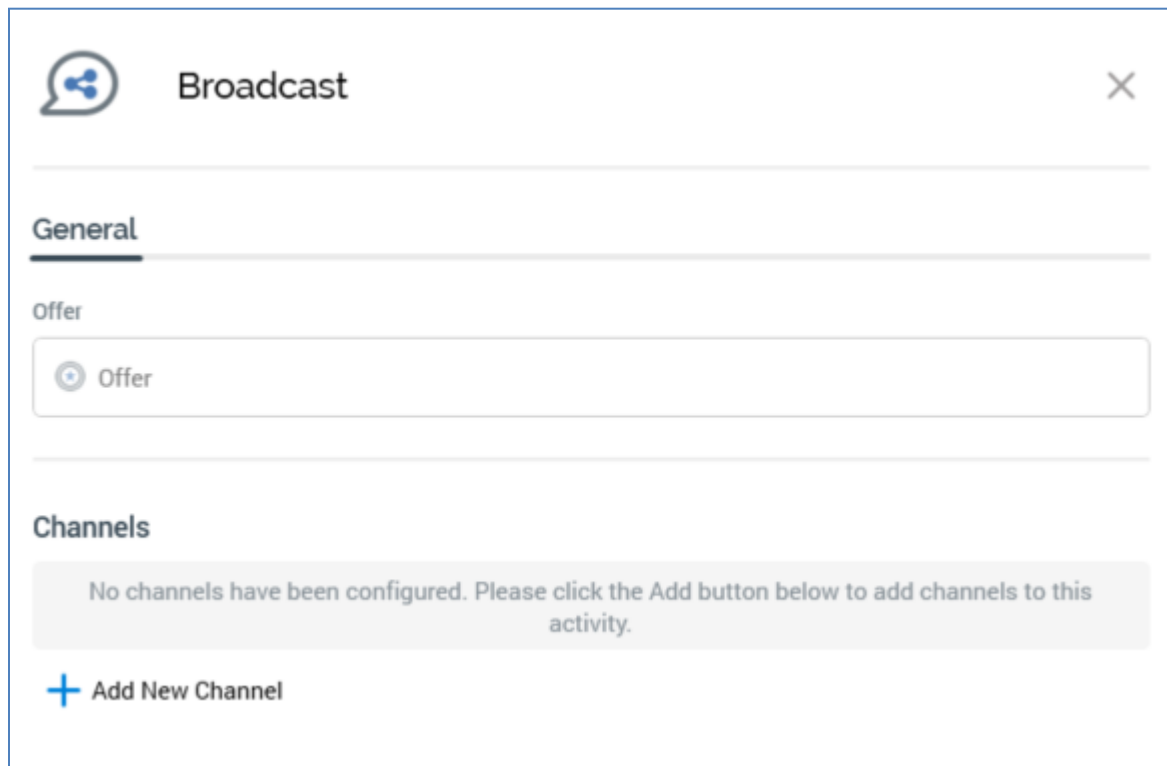
3.24.1 Broadcast – Mini Toolbar

The following options are available in the mini toolbar when you select a broadcast:

- Show configuration panel
- Resume current activity: this option is available following failure of a broadcast (note that on failure of a broadcast activity, the workflow within which it is sited assumes a Paused status). On invocation of Resume, the workflow and broadcast start Playing again. Resuming a broadcast has the same effect as clicking Play at the workflow.

3.24.2 Broadcast – Configuration Panel

A broadcast's configuration panel contains a single tab (General).



The General tab contains:

- Offer: selection of an offer to associate with the broadcast is optional, if none of its defined channels require one. For example, if the broadcast is configured with a single above-the-line (ATL) channel, provision of an offer for the broadcast is not required. Note that you are at liberty to add ATL channels to the broadcast as required.

If an offer is required, you can browse for one. Doing so displays the File System Dialog, which allows access to offers only within folders to which you have access. You can also drag an offer from the toolbox. The offer you select must support at least one broadcast delivery method (i.e. Twitter, Facebook or LinkedIn). Once you have selected an offer, you may clear it if desired. You can also navigate to the offer and display it in the Offer Designer within a new tab.

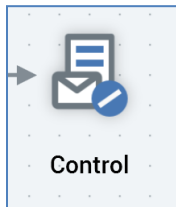
- Channels list: the channels list is populated automatically with each broadcast channel marked as default. The broadcast channel types supported currently are Twitter, Facebook and LinkedIn. The channels list has a toolbar, which exposes the following options:
 - Add new channel: invocation of this option presents a submenu, which lists any broadcast channels that have not already been added (either automatically or manually) within the Channels list. If no further channels are available for selection, an advisory message ("No

more broadcast channels available') is shown instead. Selecting a channel adds it to the bottom of the channels list.

- Remove selected channel: invocation of this option removes the selected channel from the channels list and is not protected by 'Are You Sure?'.

Note that at least one channel must be specified within the channels list.

3.25 Control



A control is a type of fulfillment activity intended for internal use only. When a control executes, data is written to RPI's history tables, but no actual fulfillment occurs...messages are not sent and potential recipients are not contacted.

3.25.1 Control – Mini Toolbar

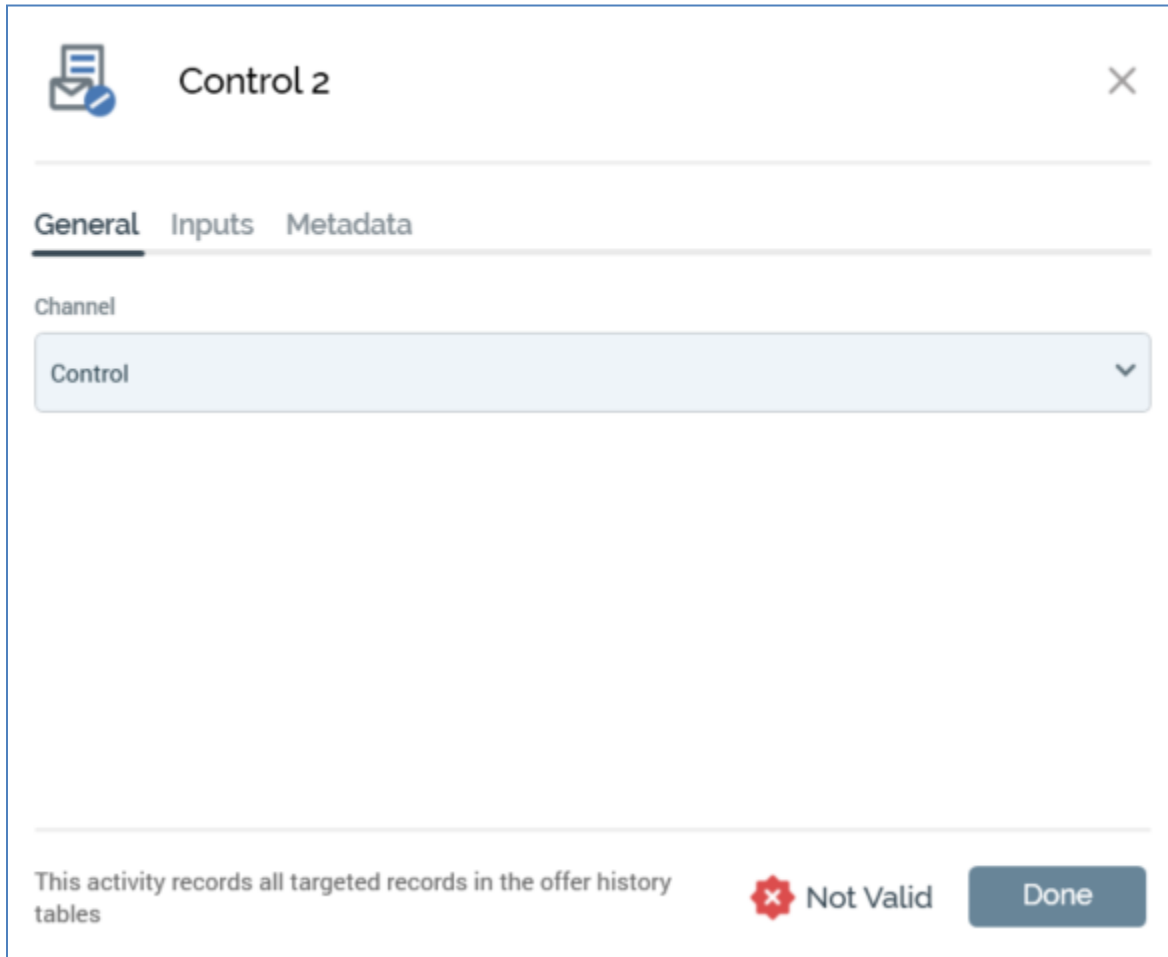
The following options are available in the mini toolbar when you select a control:

- Show configuration panel
- Pause: this option is available when the control is Playing. Invocation ceases activity at the next available opportunity, placing the control into a Paused state (via intermediary states Pause requested and Pausing). The option is available irrespective of the mode in which executed. When the control is Paused, its workflow remains Playing.
- Play: this option is available when the control is Paused, Stopped or Failed. Invocation resumes control execution, returning it to a Playing state (via intermediary state Resume play requested). The option is available irrespective of the mode in which executed.
- Stop: this option is available when the control is Playing, Paused or Failed. Invocation ceases activity at the next available opportunity, placing the control into a Stopped state (via intermediary states Stop requested and Stopping). Records are removed from the offer history tables. The option is available irrespective of the mode in which executed. When the control is Stopped, its workflow remains Playing.
- Stop and rewind: this option is available when the control is Playing, Paused or Failed. Invocation ceases activity at the next available opportunity, placing the control into a Stopped state (via intermediary states Stop requested and Stopping). Records are removed from the offer history tables. The option is available irrespective of the mode in which executed. When the control is Stopped, its workflow remains Playing.

3.25.2 Control – Configuration Panel

A control's configuration panel contains up to four tabs: General, Inputs, Filters and Metadata.

The General tab is always displayed, and contains the following properties:

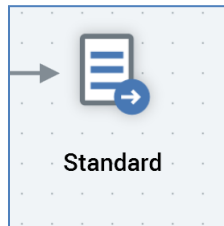


The screenshot shows a configuration window titled "Control 2". It features three tabs: "General", "Inputs", and "Metadata". The "General" tab is active. Below the tabs, there is a "Channel" label and a drop-down menu currently displaying "Control". At the bottom of the window, there is a status bar containing the text "This activity records all targeted records in the offer history tables", a red gear icon with "Not Valid" text, and a "Done" button.

- Channel: you can select a channel from a drop-down list of available control channels. Channel defaults to either the first default control channel or, if no control channel has been defined as default, the first control channel found. If no control channels have been configured, the drop-down list is not displayed; rather, a label states 'Using the system control channel'.

The Inputs, Filters and Metadata tabs are documented separately.

3.26 Export



An export activity is used to generate a flat file containing a list of records identified by execution of a workflow. The format of the file thus generated is determined by the export template with which the export activity is configured.

3.26.1 Export – Mini Toolbar

The following options are available in the mini toolbar when you select an export activity:

- Show configuration panel
- Pause: this option is available when the export is Playing. Invocation ceases activity at the next available opportunity, placing the export into a Paused state (via intermediary states Pause requested and Pausing). The option is available irrespective of the mode in which executed. When the export is Paused, its workflow remains Playing.
- Play: this option is available when the export is Paused, Stopped or Failed. Invocation resumes export execution, returning it to a Playing state (via intermediary state Resume play requested). The option is available irrespective of the mode in which executed.
- Stop: this option is available when the export is Playing, Paused or Failed. Invocation ceases activity at the next available opportunity, placing the export into a Stopped state (via intermediary states Stop requested and Stopping). Records are removed from the offer history tables. Export files are also removed. The option is available irrespective of the mode in which executed. When the export is Stopped, its workflow remains Playing.
- Stop and rewind: this option is available when the export is Playing, Paused or Failed. Invocation ceases activity at the next available opportunity, placing the export into a Stopped state (via intermediary states Stop requested and Stopping). Records are removed from the offer history tables. The option is available irrespective of the mode in which executed. When the export is Stopped, its workflow remains Playing.

3.26.2 Export – Configuration Panel

A control's configuration panel contains up to four tabs: General, Inputs, Filters and Metadata.

- The General tab is always displayed, and contains the following properties:

The screenshot shows a configuration window titled "Export" with a close button (X) in the top right corner. The window has two tabs: "General" (selected) and "Metadata".

General Tab Settings:

- Export Method:** A dropdown menu set to "Use export template".
- Export Template:** A text input field containing "Export Template".
- Extract Location:**
 - Location Type:** A dropdown menu set to "Use Default".
 - Fail on copy error
- Extract Filename:**
 - Filename Format:** A dropdown menu set to "Default".
- Compression Options:**
 - Create zip file
- Encryption Options:**
 - Use PGP Encryption:** A dropdown menu set to "No".
- Production Suppression Options:**
 - Suppress sample file
 - Suppress summary file
- Advanced Options:**
 - Allow duplicates
 - Create files in test mode

At the bottom of the window, there is a status bar with the text "Exports the data using the supplied template" on the left, a red error icon and the text "Not Valid" in the center, and a "Done" button on the right.

- Export Method section: this dropdown property exposes two options:
 - Use export template: specifies that the activity will make use of an export template file to define the structure of files generated during its execution. The option is selected by default. When selected, the accompanying [Export template] property is enabled.
 - [Export template]: when enabled, you may select an existing export template, either by browsing the RPI file system using the File System Dialog, or by dragging an export template from the toolbox and dropping it onto the export activity. A read-only representation of the template's description is displayed below your selection. Once you have selected an export template, you can clear it or view its latest version by navigating to the template displayed within the Export Template Designer.

Note that if you create a new export activity by dragging an export template onto the workspace, this option will be selected automatically, and the accompanying [Export template] property will be likewise populated.

Note also that a validation error will be raised if you select an export template with an auxiliary database resolution level.

- Use extract channel: when this option is selected, at execution, files produced by the activity will be accordant with the settings defined at an existing data extract channel, which can be selected using the accompanying [Data extract channel] dropdown.
 - [Data extract channel]: when enabled, you can select a data extract channel with which to configure the activity from a dropdown list of all the data extract channels currently configured in the Channels configuration interface.

When Use extract channel is selected, the Extract Location section is not displayed. The Extract Filename and Production Suppression Options sections are shown, but are not used.

- Extract location section: containing the following:
 - Location type: a dropdown field, exposing the following values:
 - Use Default: the default value. If this is selected, the export file will be handled in accordance with the system-wide SFTPHost and SFTPLocation settings.
 - Network Path: selecting this value makes the Export path format field visible. If selected, the export file will be created on the RPI server, irrespective of the system configuration settings.

The value provided must be a full network path if configuration setting FileOutputAllowAllServerLocations is set to True. If set to False, only a relative network path can be specified.

If the file output location is being set at the cluster level, setting GlobalFileOutputAllowAllServerLocations applies instead.

- FTP Server: selecting this value makes the Export path format and FTP location fields visible. If selected, the export file will be made available via a secure FTP connection, irrespective of the system configuration settings.
- External Content Provider: selecting this value makes the Export path format and External content provider fields visible. If selected, the export file will be made available at the selected provider.
- Database Table: rather than data being written to file, when this option is selected, data is instead written to a database table. When selected, the following sections are not shown:
 - Extract Filename
 - Compression Options
 - Encryption Options
 - Production Suppression Options

The Extract Table Name section is shown instead.

Note that Location type is disabled if you have defined that the export activity is to use a data extract channel.

- Export path format: a button. made visible and is enabled when Location type is set to Network Path, FTP Server or External Content Provider. When an Export path format has not been set, 'Click here to design the format' is displayed on the button. Clicking it allows you to change the Export path format using the Design Export Path Format dialog.

Once the Export path format is set, a read-only representation of the export path example is displayed at the button. Export path format is mandatory if location type is set to Network Path; if this is the case, a folder matching the defined Export path format is created at runtime (if it does not already exist) on the RPI server, as an absolute path if specified as such, or as relative path within 'C:\Windows\System 32'.

If Location type is set to FTP Server, the folder is created at runtime (if it does not already exist) as a relative path at the root of FTP server.

- FTP location: this field is visible and enabled when Location type is set to FTP Server. It is mandatory if enabled. A dropdown field, it lists all FTP locations currently configured within the system. The default FTP location is selected if one exists.
- Append to existing: this checkbox is visible and enabled when Location type is set to Network Path. It is unchecked by default.

When the property is checked, on production execution of a second export activity when the following stipulations are realized...

- The second export activity follows an initial export activity.

- A custom extract filename is specified at both export activities.
- The filename is the same at both export activities.
- The first and second export activities are either in the same, or separate, interaction workflows.

...records are appended by the second export activity to the main export file generated by the first activity. Separate sample and summary files continue to be generated by each activity.

Likewise, if the export is executed in the context of an interactive activity, and new data is provided at the interactive activity's execution, the data is appended to the original output file, but separate sample and summary files are generated.

Note that a data extract offer can be used to generate the first file. Note also that it is possible for the same record to be written, by separate activities, to the same export file more than once.

Finally, no validation is performed at the Interaction Designer to ensure that the format of files generated by both activities are identical.

Note that Append to existing behavior is assumed when Location type is set to Default.

- External content provider: this mandatory dropdown field is visible and enabled when Location type is set to External Content Provider. It lists all configured external content providers. The default location is automatically selected.
- Fail on copy error: this checkbox is unchecked by default. It is displayed when Location type is set to one of the following:
 - Use Default (only if FTP server or external content provider)
 - FTP Server
 - External Content Provider

If checked, when unable to copy a file to an FTP site or external content provider, the activity fails.

- Extract Table Name section: containing the following
 - Table Name Format: this dropdown property exposes the following values:
 - Default: the default value. The name of table to which data is written can be discerned from inspection of the activity's Log, shown within the Results Window.
 - Custom: when selected, the Custom Format property is displayed.
 - Custom Format: this property, which is mandatory when shown, is displayed when Table Name Format is set to 'Custom'. It defaults to the value 'RPI_'. You can click

the property to design the table name using the Design Table Name Format dialog. The value provided must be a valid database table name.

- Days To Persist Table: this mandatory integer property represents the number of days after which the table will be removed by RPI Housekeeping. It defaults to 7, and accepts a range of values between 1 and 999.
- Extract filename section: containing the following:
 - Filename format: this dropdown exposes the options 'Default' (the default) and 'Custom'.
 - Custom Format: this property is displayed when Filename format is set to 'Custom'. When a custom format has not been set, 'Click here to design the format' is displayed. You can click the property to change the filename format using the Design Filename Format dialog.

Once the format has been set, a read-only representation of filename example is shown. Setting a custom filename format is mandatory if the field is enabled.

At export execution, export files are created in accordance with the configured properties. If an Export path format is not supplied, files are created in the folder defined by client system configuration setting FileOutputDirectory or server setting GlobalFileOutputDirectory (as appropriate).

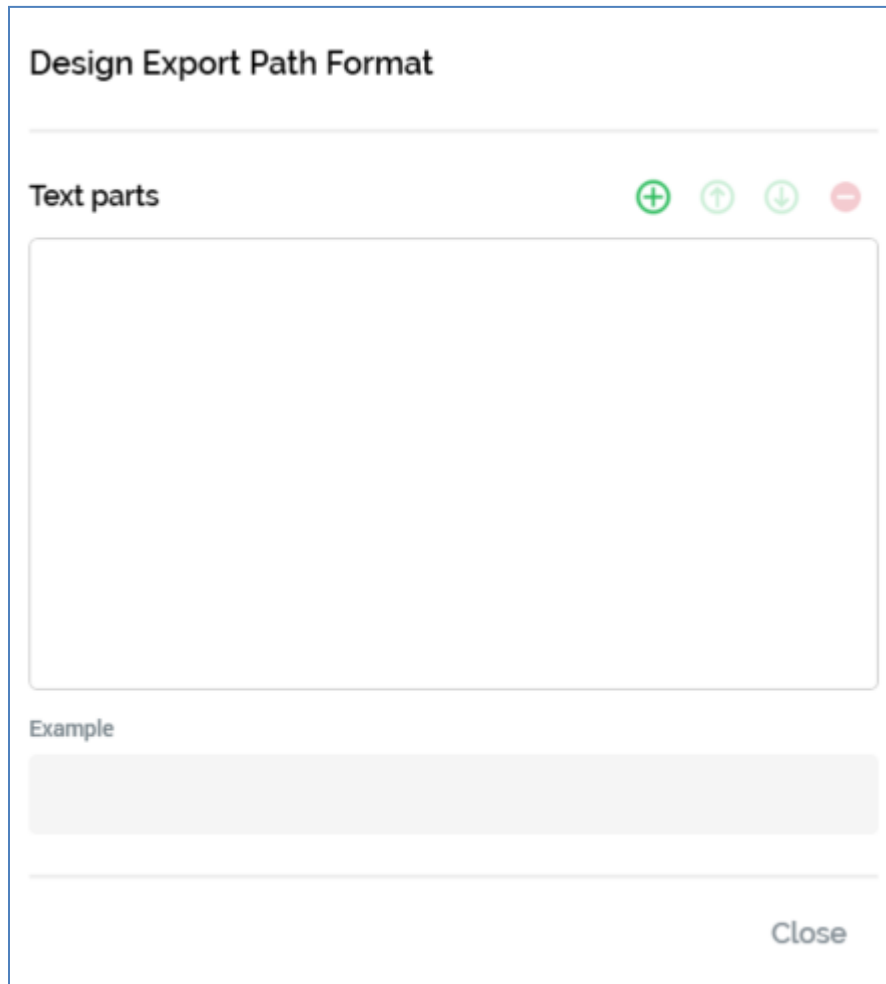
- Compression options section: containing the following:
 - Create Zip file: this checkbox is unchecked by default. It is not displayed if Export Method is set to Use extract channel. If checked, on activity execution, the full export file is zipped and made available in the Results Window's Files tab. Note that the unzipped file is also made available at the server. A validation error is raised if both Append to existing and Create zip file are checked concurrently.
- Encryption Options section: only displayed when Export Method is set to 'Use export template'. It exposes the following properties:
 - Use PGP Encryption: this dropdown allows you to specify whether the export activity should apply PGP encryption to any full export files that it generates (sample and summary files are not encrypted). The property defaults to 'No'. If set to 'Yes, the Public Key File property is displayed.
 - Public key file: this property is only shown when Use PGP encryption is checked. It is mandatory when displayed. The property initially displays the text 'Choose the public key file'. You can browse the Windows file system for a public key file (File type defaults to 'PGP Certificates'). Having selected a public key file, you can clear your selection.
- Production suppression options section: containing the following:
 - Suppress sample file: a checkbox, unchecked by default.
 - Suppress summary file: a checkbox, unchecked by default.

If either or both of these options are checked, when the activity is executed in production mode, the files in question are not produced. Note that, if the activity is configured to use a data extract channel, and that channel is defined to suppress either or both file types, the files in question are suppressed, irrespective of the activity's configuration.

- Advanced section: this section is only displayed when Use export template is selected. It contains the following properties:
 - Allow duplicates: this checkbox is unchecked by default. When the option is selected, at runtime, if a data extract offer or export activity's export template is configured with any cross-resolution attributes, deduplication is ignored, and multiple records for a single resolution key can be output in the export file. Note that the export activity's bubble count continues to reflect the activity's deduplicated count.
 - Create exports in Test mode: this option allows you to define whether extract files will be created when the export is executed in a Test interaction workflow. It is a checkbox and is unchecked by default.
- The Inputs, Filters and Metadata tabs are documented separately.

3.26.3 Design Export Path/Filename Format Dialog

The same dialog is used when designing an export activity's export path or filename format. The dialog is named in accordance with its usage context.



The dialog contains the following:

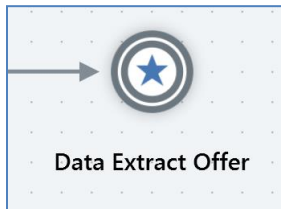
- Text parts toolbar: exposing the following options:
 - Add a new Text Part: invocation of this option displays a submenu:
 - Add String
 - Add Date part
 - Add Interaction name
 - Add Trigger name
 - Add Activity name
 - Add Offer name
 - Add Channel name

- Add Offer channel name
- Add Execution ID
- Add Workflow ID
- Add Audience ID
- Add Test Indicator: this option facilitates customization of the path or filename by inserting the word 'TEST' in the event that an interaction is run in Test mode, and extract files are produced.

Selection of a submenu option adds a text part of the appropriate type to the Text parts list. The example cell code formats displayed at the bottom of the dialog and on the invoking button are updated immediately.

- Move the selected Text Part up: this option is enabled when a text part other than the first in the list is selected. Invocation moves the text part up one position in the list. Example cell code formats are updated immediately.
- Move the selected Text Part down: this option is enabled when a text part other than the last in the list is selected. Invocation moves the text part down one position in the list. Example cell code formats are updated immediately.
- Remove the selected Text Part: this option is enabled when a text part is selected in the list. Invocation removes the selected text part and is not protected by 'Are You Sure?'.
- Text parts list: displays all text parts configured for the current context. For each, the following are displayed:
 - [Ordinal position indicator]: a read-only, system-supplied integer
 - [Text part type]: read-only
 - [Value]:
 - If a String text part: a text field is displayed, provision of a value within which is mandatory. The default value is blank. The value provided cannot contain illegal characters (e.g. '/').
 - If a Date text part: a dropdown is displayed, exposing DayOfTheMonth (default), DayNameShort, DayNameFull, Month, MonthNameShort, MonthNameFull, Year2Digits, Year4Digits, Hour, Minutes, Seconds and Milliseconds. Examples default to the current date and time.
 - If another type of text part, the examples are shown as e.g. '[Interaction]'
- Example: a read-only field that displays an example of the export path or filename format. String values are displayed as entered. Date part values displayed in accordance with dropdown setting and show the current date and time. Other text parts are displayed as e.g. '[Interaction]'. The example's maximum length is 100 characters. The example is also displayed at the invoking button.
- Close: invocation of this button removes the dialog from display. Clicking off the dialog has the same effect.

3.27 Offer



An offer activity is the principal medium by which fulfillment (generation of lists, sending of emails, etc.) occurs during workflow execution.

An offer activity is configured with an offer, which can define content suitable for delivery across multiple channels. For more information, please see the Offer Designer documentation.

3.27.1 Offer – Mini Toolbar

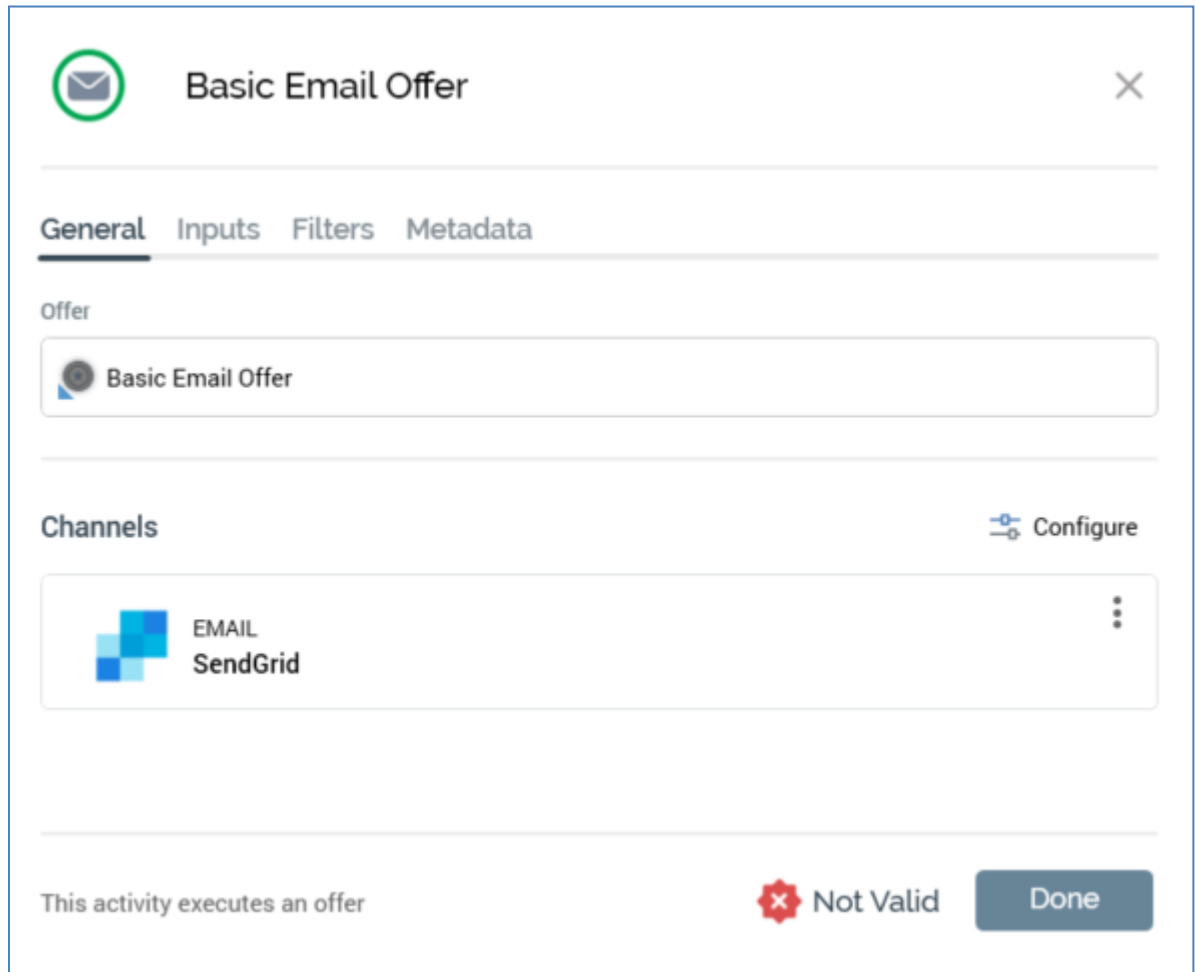
The following options are available in the mini toolbar when you select an offer activity:

- View results
- Show configuration panel
- Pause: this option is available when the offer is Playing. Invocation ceases activity at the next available opportunity, placing the offer into a Paused state (via intermediary states Pause requested and Pausing). The option is available irrespective of the mode in which executed. When the offer is Paused, its workflow remains Playing.
- Play: this option is available when the offer is Paused, Stopped or Failed. Invocation resumes offer execution, returning it to a Playing state (via intermediary state Resume play requested). The option is available irrespective of the mode in which executed.
- Stop and rewind: this option is available when the offer is Playing, Paused or Failed. Invocation ceases activity at the next available opportunity, placing the offer into a Stopped state (via intermediary states Stop requested and Stopping). Records are removed from the offer history tables. The option is available irrespective of the mode in which executed. When the offer is Stopped, its workflow remains Playing.

3.27.2 Offer – Configuration Panel

An offer's configuration panel contains up to four tabs: General, Inputs, Filters and Metadata.

- The General tab is always displayed, and contains the following properties:



- Offer: the offer that will be used to provide content when the offer activity is executed. You can browse for an existing offer using the File System Dialog, or you can drag an existing offer from the toolbox. When you select an offer, any channels configured as default that are relevant to the offer's supported delivery methods are added automatically to the offer activity. If you change the offer, any previously-added channels are retained, with additional default channels added as appropriate (note that only one default channel is added per delivery method). You may clear a previously-configured offer (note that doing so does not clear any existing channel configuration). You can also invoke the Offer Designer in a separate tab to view the currently-selected offer.

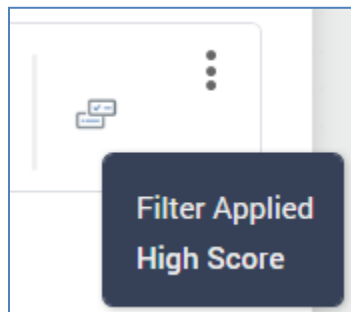
If file approval is currently enabled for offers, the icon displayed at the offer within the configuration panel reflects the current offer's approval state. Full details are provided in the File Approval documentation.

- Channels: a list of channels through which the offer activity is to be fulfilled. When an offer is selected, one channel is added automatically for each non-broadcast channel (e.g. data extract, email, and SMS) configured as default and supported by the offer's delivery methods.

A Configure button is shown above the Channels list. Clicking it displays the Offer Activity Channel Configuration dialog, which is used to manage offer activity channel properties (documented separately).

The following is shown at each listed channel:

- Delivery Method
- Name
- Filter: if a filter has been applied at the channel, an icon is displayed. Hovering over it displays the following:



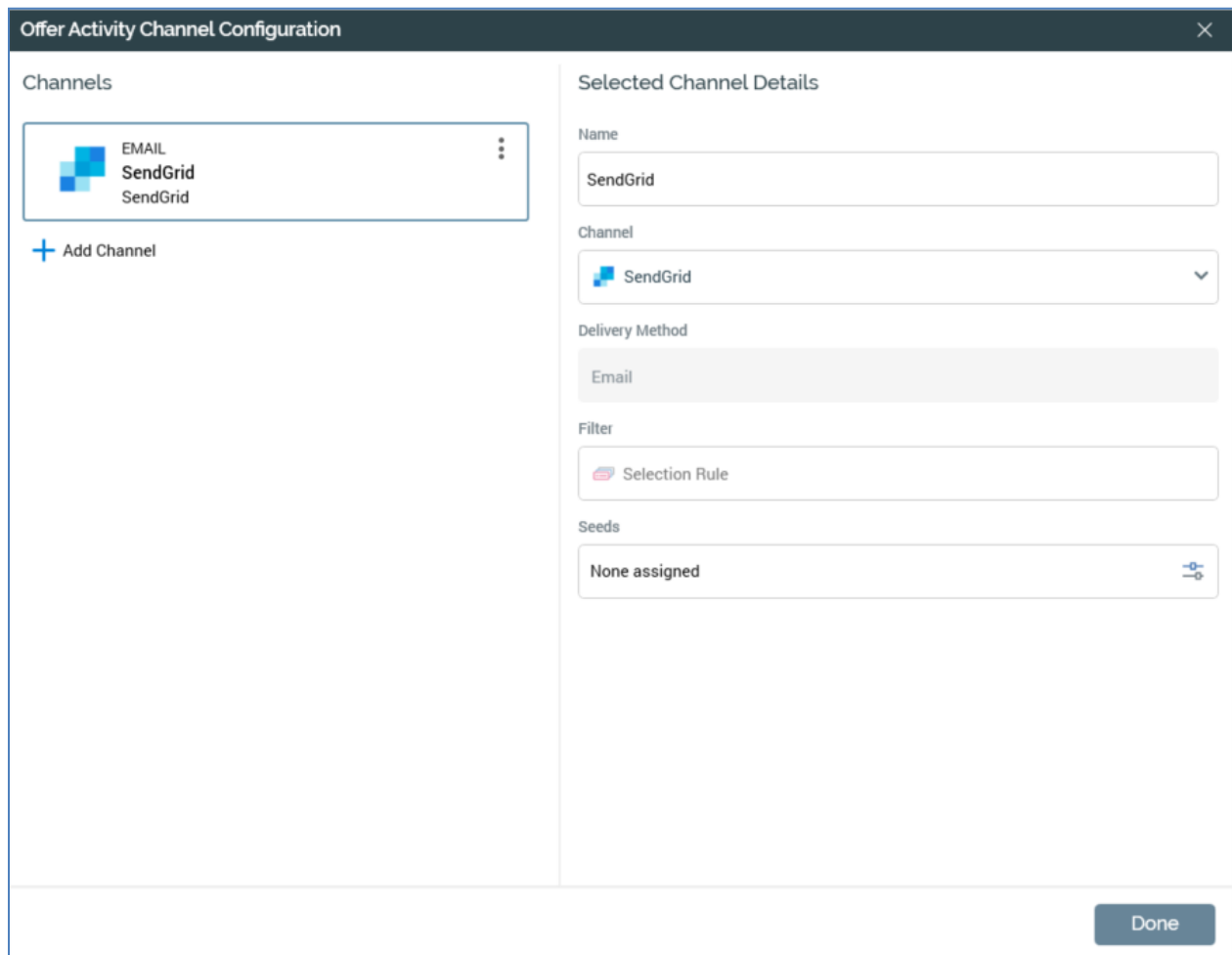
- Actions: exposing the following options:
 - Move up
 - Move down
 - Remove: not protected by 'Are You Sure?'

The order in which channels are presented is significant. A record targeted by the offer will receive communications via the first applicable channel listed within the offer. Channel applicability is determined by the channel's Filter property (a selection rule: when a record is targeted by the filter's selection rule, the channel is deemed to be applicable for that record).

- The Inputs, Filters and Metadata tabs are documented separately.

3.27.3 Offer Activity Channel Configuration

The Offer Activity Channel Configuration dialog is used to configure an offer activity's channels.



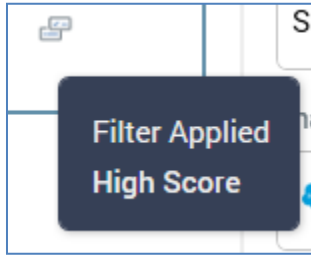
It is displayed as a modal dialog, containing:

- Channels section: displayed to the left of the dialog. The section contains the following:
 - Channels list:

The list displays all channels through which fulfillment will be performed by the offer activity. For each channel, the following read-only properties are displayed:

- Icon
- Name: of the specific channel in the context of the offer activity.
- Channel: name of the channel as defined at the Channels configuration interface
- Delivery method

- Filter: if a filter has been applied at the channel, an icon is displayed. Hovering over it displays the following:



- Actions menu: exposing the following:
 - Move up
 - Move down
 - Remove
- Selected Channel Details: displayed to the right of the dialog. The following properties are shown for all channel types:
 - Name: a mandatory text field, with a maximum length of 100 characters. Name represents the channel in the context of the offer activity, rather than simply the name of the offer (this allows you to provide custom channel names to differentiate, for example, two email channels with different settings configured within the same offer activity). Name defaults to the value selected at the Channel dropdown but can be manually overridden if required.
 - Channel: you can select the channel to use using a dropdown.

If any channels' linked nodes are incompatible with the user's organization node assignment, a Restricted Items button is shown at the bottom of the list. Clicking the button changes its text and allows you to choose a restricted channel. Note that you will not be able to execute an interaction workflow that contains an offer activity configured with a restricted channel.

If you change the Channel property, and have not supplied a custom channel Name, the Name property will be automatically updated to reflect the change of channel.

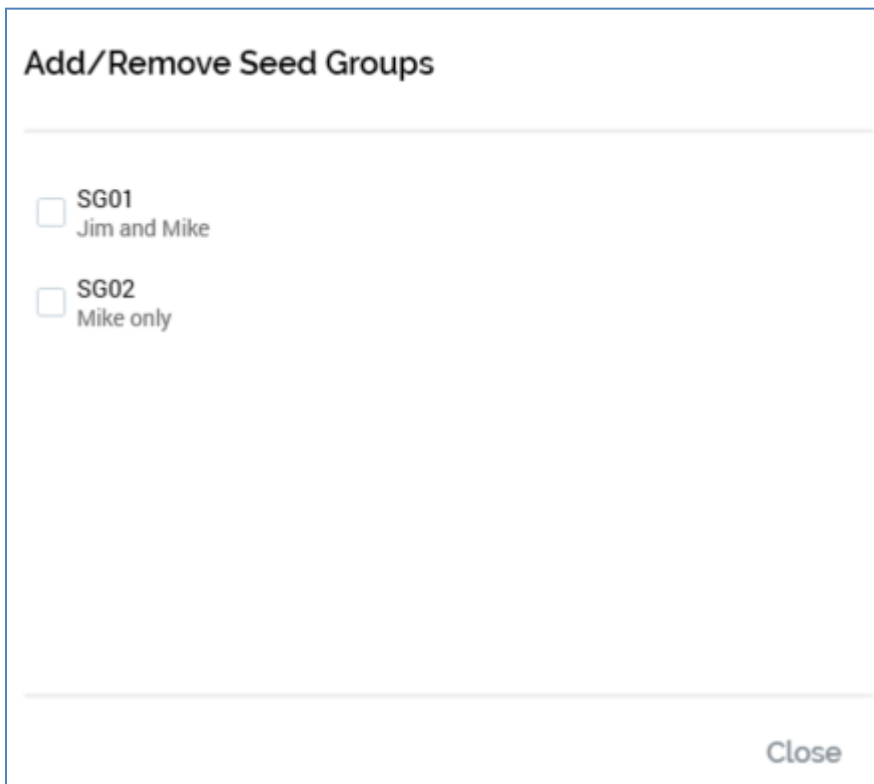
A validation error is raised if the selected channel's delivery method is not supported by the offer activity's template.

- Delivery method: read-only and sourced from the selected channel.
- Filter: you can optionally apply a filter to the channel by associating it with a selection rule. If you do so, only records that meet the rule's criteria will be contacted via the channel. You can browse for a selection rule or initiate the creation of a new rule to serve as a filter. Once a filter has been applied, you can open the latest version of the selection rule in the Rule Designer. You can also Clear the selection rule.

Note that a validation error will be raised if you choose a selection rule with an auxiliary database resolution level.

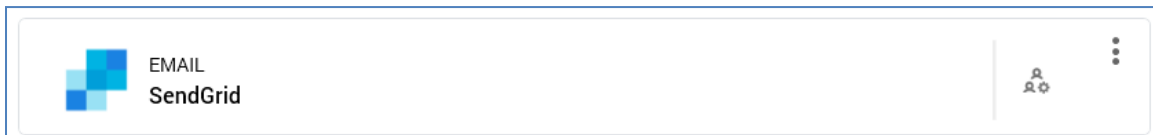
- Seeds: seed groups, and the seeds that they contain, are set up using the Seeds configuration interface. You can include test contacts within your offer output by associating an offer channel with one or more seed groups.

The Seeds property field initially displays the label 'None assigned'. You can attach seeds to the channel by clicking Add/Remove Seed Groups, which displays the Add/Remove Seed Groups dialog.



Any selected seed groups are shown as a comma-separated list.

When seed groups have been applied to a channel, an icon accompanies the channel's delivery method as displayed within the offer activity's configuration panel.



Note that seeds functionality is not available for the following channel types:

- Azure Push Notification

- Control
- Twitter
- Twitter Direct
- Facebook
- LinkedIn
- Salesforce.com
- Microsoft Dynamics CRM
- YouTube

The following additional properties are shown for email channels other than Dyn, Acoustic, SendGrid, Listrak and LuxSci:

- Schedule delivery: a checkbox, unchecked by default. When checked, the Deliver at and On fields are displayed.
- Deliver at: these field allow you to define the specific time at which the channel provider should send emails. They default to the next full hour (e.g. if accessed at 09:36, the fields default to 10:00).
- On: two radio buttons are displayed:
 - the first occurrence of the delivery time: selected by default.
 - the delivery time on: selection of this option enables a [Date] field, which defaults to today.

Note that, if the scheduled date/time has already passed at execution:

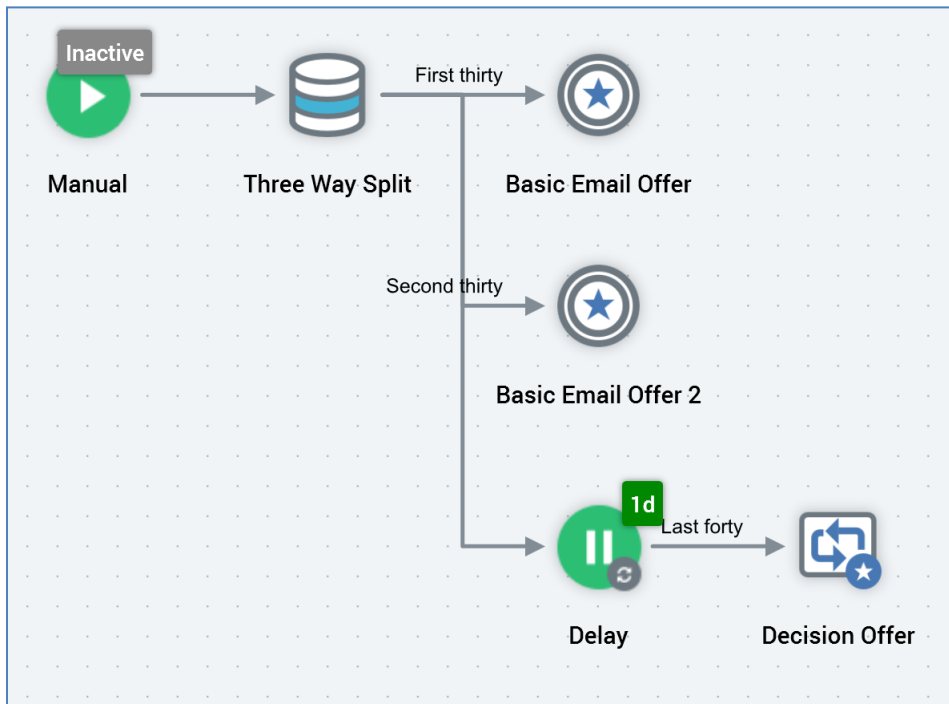
- A runtime validation warning is shown.
- If you proceed with execution, the email offer is sent immediately.

When the offer is configured with more than one channel, an informational message is displayed at the bottom of the dialog:

3.28 Decision Offer



A decision offer activity is used to decide which of a series of previously-executed test offers is to be treated as the 'winner' and sent to a target audience.



As an example, consider a batch audience, with three segments – two at 30% of the total targets, and one at 40%.

Basic Email Offer is sent to the first 30%, and Basic Email Offer 2 to the second.

A third segment from the audience is configured with a delay, which gives sufficient time for results of the preceding email offers' execution to be gathered .

A decision offer is placed after the delay. It is configured to use the Basic Email Offers as test offers, with the 40% split as its input data. In addition, it is configured to send the winning test offer to its input data set.

'Winning', in this example, is defined as the email that received the highest proportion of click throughs as a percentage of the overall number of emails sent. Note that you can choose any

valid fulfillment state – channel-supplied or custom – when setting the rules to determine the winning offer.

On executing the decision offer, it was determined that Basic Email Offer received a click-through rate of 10%, and Basic Email Offer 2, 15%. Basic Email Offer 2 is therefore the winner and is sent to the decision offer's 40% input data set.

Note also that a decision offer is not limited to configuration with only two test offers – as many can be selected as required.

3.28.1 Decision Offer – Mini Toolbar

The following options are available in the mini toolbar when you select a decision offer activity:

- View results
- Show configuration panel
- Pause: this option is available when the decision offer is Playing. Invocation ceases activity at the next available opportunity, placing the decision offer into a Paused state (via intermediary states Pause requested and Pausing). The option is available irrespective of the mode in which executed. When the decision offer is Paused, its workflow remains Playing.
- Play: this option is available when the decision offer is Paused, Stopped or Failed. Invocation resumes execution, returning it to a Playing state (via intermediary state Resume play requested). The option is available irrespective of the mode in which executed.
- Stop and rewind: this option is available when the decision offer is Playing, Paused or Failed. Invocation ceases activity at the next available opportunity, placing the decision offer into a Stopped state (via intermediary states Stop requested and Stopping). Records are removed from the offer history tables. The option is available irrespective of the mode in which executed. When the decision offer is Stopped, its workflow remains Playing.

3.28.2 Decision Offer – Configuration Panel

A decision offer's configuration panel contains up to three tabs: General, Inputs and Filters.

- The General tab is always displayed, and contains the following properties:

The screenshot shows a configuration panel titled "Decision Offer" with a close button (X) in the top right corner. Below the title are four tabs: "General", "Inputs", "Filters", and "Metadata", with "General" being the active tab. The panel is divided into several sections:

- Choose Offers to Test:** A list of offers to test. One offer, "Basic Email Offer", is shown with an unchecked checkbox and a radio button icon to its left.
- Test Criteria:**
 - Test Channel:** A dropdown menu.
 - Winner Has The:** A dropdown menu set to "Highest" and a text input field labeled "Choose Fulfillment State".
- Seeds:** A text input field containing "None assigned" and a toggle icon on the right.

At the bottom of the panel, there is a status message: "This activity chooses and fulfills an offer based on previous offer state results". To the right of this message is a red gear icon with a white 'X' inside, followed by the text "Not Valid". Further right is a blue button labeled "Done".

- Choose the offers to test: all offers within the decision activity's workflow, excluding any downstream offers, are listed. For each offer, a checkbox (unchecked by default), icon and the offer activity's name are shown. In addition, a toggle button (default unselected) is displayed to the right of each offer; only one offer can be selected. If an offer is selected, it is treated as the default offer, to be sent when the decision offer is fulfilled, and when

unable to determine a winner among the selected test offers. It is mandatory to select at least test two offers.

- Test channel: this dropdown is initially empty, thereafter being populated with a list of channels shared by all offers shown in the Choose the offers to test list. Selection of a Test channel is mandatory and represents the channel through which fulfillment of the winning offer will be made.
- The winner has the: the two fields accompanying this label allow you to define the rule upon which the decision as to which is the winning offer will be made. You can choose, for example, to declare the winning offer as the one that receives the highest number of email click throughs (as a proportion of the number of offers targeted to the data set in question).
- [highest/lowest]: this dropdown exposes two values: highest (the default) and lowest.
- [Fulfillment state]: this property is disabled until a Test channel has been selected. The button initially displays the message 'Choose fulfillment state'. Invocation displays the Choose Fulfillment State dialog. The dialog lists all fulfillment states relevant to the selected Test channel, including any custom state flows. Note that the Targeted state is not shown. You can double-click a state to select it. Once you have selected a state you can clear it. Selection of a state is mandatory.
- Seeds: this button's text is displayed initially as None assigned. Clicking it displays the Add/Remove Seed Groups dialog, allowing you to choose seed groups that are to receive the winning offer.

The Inputs and Filters tabs are documented separately.

Note that a validation error is raised if a decision offer is scheduled to start at the same time as one of its test offers.

3.29 Interaction Execution

Having assembled activities to create one or more workflows within an interaction, you can then save the interaction and execute each workflow independently.

3.29.1 Executing a Workflow

Workflows within an interaction are executed independently of one another. A workflow's execution commences with the activation or firing of its trigger. A workflow with a manual trigger commences execution immediately upon activation (subject to trigger constraints); scheduled and recurring triggers are activated and, at an appointed time, fired automatically (you can override the schedule by firing a trigger manually if required). Activity within a workflow controlled by an activity state trigger only commences when the criteria defined within the trigger's configuration are realized.

For more detail on activating manual and scheduled/recurring workflows, please see the separate sections on these subjects.

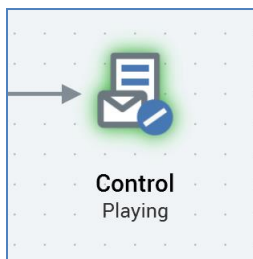
If interaction and/or offer approvals are enabled within the current RPI server installation, certain approval criteria may need to be met before an interaction workflow can be executed. Full details of such criteria can be found in the File Approval documentation.

When a trigger is activated, the system checks that all audiences within its workflow are valid. If not, you are presented with a list of validation errors and the workflow is not activated. The following validation constraints are applied:

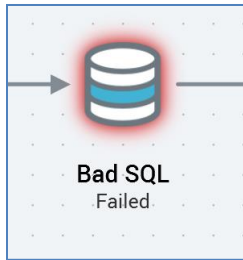
- All required joins must exist.
- All required database tables must exist in the RPI catalog.
- All required database columns must exist in the RPI catalog.
- Metadata to be written into the offer history meta table must be accordant with that table's data types.

Following the firing of a workflow's trigger, workflow activities within a given workflow branch are executed in sequence. Separate workflow branches are executed in parallel.

The currently-executing activity (if one exists) is surrounded by green halo.



If an activity's execution fails, it is surrounded by a red halo.



Similarly, an expired workflow's activities are surrounded by red halos. Workflow expiry occurs after a defined period of inactivity within an executing workflow.

A Completed activity is not surrounded by a halo.

Note that the input to any activity is constrained by the output of its preceding activity; for example, an offer may only be addressed to the records defined by a preceding audience.

If you attempt to execute an interaction workflow that contains a batch audience or interactive activity using an audience that is configured with a restricted audience definition, or, through its blocks, a restricted resolution level, a Permission Denied message is displayed and you may not proceed with the execution.

The same applies when the workflow contains an export activity using an export template configured with a restricted resolution level, or an offer activity, broadcast, export activity or control configured with a restricted channel.

Note also that if you attempt to execute an interaction workflow containing an offer activity using a channel that requires authorization, but which has not been authorized, a runtime validation error is raised.

3.29.2 Workflow Execution Modes

It is possible to execute workflows in the Interaction Designer in one of two modes: Test (the default) or Production. You can switch between modes using the dropdown available in the toolbar.

If a workflow is run in test mode, the results of execution are written to the 'sandbox' offer history and offer history meta tables. Fulfillment activities do not take place: e.g. data extract outputs are not generated, export files not created and emails not sent. During test execution, a workflow's status is Test Mode. Following test execution, its status is Test Completed (if successful) or Test Failed (if not). Note that you can edit or reactivate a workflow after test execution.

If a workflow is run in production mode, the results of execution are written to the standard offer history and offer history meta tables. Fulfillment activities are carried out: e.g. data extract outputs are generated, export files created and emails sent. You cannot reactivate a workflow after execution in production mode.

3.29.3 Workflow Instances

When a workflow executes, a workflow instance is created. A workflow with a recurring trigger may have more than one workflow instance. If one or more workflow instances has been created in respect of a workflow shown within the Interaction Designer:

- If more than one instance exists, details of the most recent instance are displayed.
- Each activity's current status is shown below the activity's name.

3.29.4 Workflow Statuses

There are two types of status within a workflow:

Active status: indicates whether the workflow's trigger has been activated, and the mode within which activated.

- Workflow status: all activities within a workflow have a status. A trigger's status is synonymous with the state of the workflow as a whole and is independent of its contained activities – for example, a manual trigger may be Playing, but an early activity within the sequence of workflow activities may be Completed. Each activity's status is shown below the activity, using a textual label. In addition, a Playing or Failed activity is surrounded by a green or red halo, respectively.

The following workflow statuses are supported:

- Waiting For Trigger: displayed whilst waiting for workflow activity to occur. A manual trigger assumes the Waiting for Trigger state temporarily upon being played. Scheduled, activity state and recurring triggers are displayed as Waiting for Trigger in advance of their firing. A wait for event activity enters this state in advance of the firing of its manual or scheduled trigger.
- Deactivation Requested: displayed during deactivation of an active trigger.
- Trigger Requested: displayed post-manual firing of a trigger.
- Playing: when displayed at:
 - Trigger: indicates that activities within the workflow are currently non-dormant. Note that a Playing workflow may contain activities in other states.
 - Batch audience: shows that execution of the rules defined by the audience is currently ongoing.
 - Interactive activity: indicates that the interactive activity is currently live. The activity may currently be executing the rules defined by its audience (if configured with one) or may be waiting to execute in accordance with its defined frequency.
 - Export: records defined to be exported are being written to a file in accordance with the export's configured export template.
 - Offer activity: fulfillment activities (e.g. generation of data extract export files or blasting of emails) are ongoing.

- Decision offer: as per the offer activity – fulfillment of the winning offer is currently taking place.
- Subscription group: metrics are currently being collated.
- Control: data is being written to the sandbox offer history tables.
- Pause Requested: you have asked for a workflow, or an audience within a workflow, to be paused.
- Pausing: the system is currently processing a request to pause a workflow or audience within a workflow.
- Paused: if pause was invoked at the trigger, execution of the workflow is temporarily suspended (having completed ongoing activities as necessary). If pause was requested at an audience, rules within the audience cease execution at an appropriate juncture, and the activity enters a Paused state.
- Resume Play Requested: you have requested that a workflow, or audience within a workflow, be played following a cessation of execution.
- Stop Requested: you have asked for a workflow to be stopped, or an audience within a workflow to be stopped and rewind.
- Stopping: the system is responding to a stop request.
- Stopped: if stop was invoked at a workflow, all activity has ceased within the workflow, and all trace of the workflow having executed has been erased. The workflow is effectively defunct and may not be played again.

If stop and rewind was invoked at an audience , all record of its execution is also removed (records are removed from offer history tables); however, in contrast to a Stopped workflow, a Stopped audience may be re-played.

- Failed: an error occurred within workflow execution. The Failed status is displayed against both the activity within which the error occurred, and against its parent workflow.
- Completed: the workflow or activity executed successfully.
- Waiting Next Trigger: displayed at a recurring trigger only, this status indicates that one or more workflow instances has run, and that the system is awaiting the next firing of the trigger.
- Counting Down Delay: relevant only to a delay activity. This status indicates that the delay is activity counting down the time remaining until workflow execution restarts.

3.29.5 Workflow Rollback

You can initiate the rollback of an interaction workflow post-its production execution using the Rollback current Workflow Instance button, displayed at its trigger's mini toolbar.

The ability to roll back an interaction workflow instance is controlled by the Interaction - Rollback functional permission.

Rollback is available when a workflow's status is one of Completed, Failed or Stopped. Invocation of rollback is protected by the Confirm Production Workflow Rollback dialog ('Are

you sure you want to roll back the 'Manual' workflow? WARNING: Doing so will remove all offer history and file assets associated with this workflow instance.').

Having initiated a workflow rollback, it assumes the following statuses:

- Rollback Requested
- Rolling Back
- Rolled Back
- Rollback Failed

These are displayed at the workflow's trigger and all non-broadcast, delay or wait for event activities (these are unaffected by rollback).

Following a successful rollback, all related records removed from the Offer History and Offer History Meta data warehouse tables. All data extract offer and export files are deleted. Having rolled back a workflow, you can re-activate it.

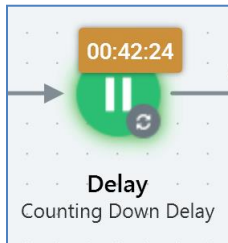
If you rollback a workflow with a recurring trigger only its most recent workflow instance is rolled back.

If you roll back an interaction workflow that includes audience containing a data process block, or a data process activity, the RPDM project specified at the data process project's Rollback repository path property will be executed.

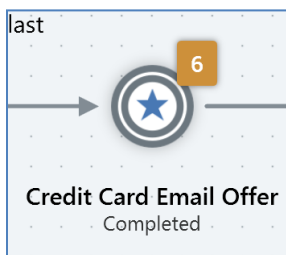
3.29.6 Information Bubbles

Additional indicators as to the current state of a workflow are given via informational bubbles:

- A bubble is displayed at a delay to advise of the amount of time remaining as the delay is executed:



- Results bubbles are displayed at audiences, exports, offers, decision offers, controls, subscription groups and queue activities to indicate that results exist in a given context:



3.29.7 Activating a Manual Trigger

Execution of a workflow with a manual trigger commences immediately upon the trigger's activation (subject to satisfaction of any related trigger constraints). A workflow instance is created and is assigned a unique integer ID. The workflow assumes a Playing state and the activities that it contains are executed appropriately. A workflow can be activated only when valid (note that other workflows, and the interaction as a whole, may be in an invalid state at this time).

3.29.8 Activating a Scheduled or Recurring Trigger

When a workflow with a scheduled or recurring trigger is Inactive, it may be activated by invoking Activate at the trigger's mini toolbar. This sets its active status to Active. The trigger enters a Waiting for Trigger state until the arrival of its start date and time. When in this state, the workflow is read-only.

A workflow can be activated only when valid (note that other workflows, and the interaction as a whole, may be in an invalid state at this time).

When the trigger's start date and time arrives it fires, creating a workflow instance, which is assigned a unique integer ID (firing is subject to satisfaction of any associated trigger constraints). In the case of a recurring trigger, the start time used is always local.

If the workflow is currently Active, but the trigger has not yet fired, the same button can be used to deactivate the workflow. A scheduled or recurring trigger within an Inactive workflow does not fire at the arrival of its scheduled date and time.

A workflow can only be activated if it is valid and contains no unsaved changes.

If you activate a scheduled or recurring trigger when its scheduled date and time have already passed, it fires immediately.

If the workflow's trigger is a recurring trigger, its behavior depends on the setting at its Create property.

If Create is set to Single workflow instance, when the trigger fires, a workflow instance is created and, after its initial execution, the workflow enters a Waiting for Trigger state. On firing for a second or subsequent time, a new workflow instance is not created; instead, only qualifying records that have not yet been contacted within the workflow instance are targeted. Results bubbles continue to be shown when the workflow's status is Waiting for Trigger.

If Create is set to New workflow instance each time trigger fires, following completion of the initial workflow instance, the workflow enters a Waiting for Next Trigger state. The next workflow instance is created in accordance with the trigger's recurrence parameters, as defined within its configuration panel. The workflow continues creating instances, in accordance with its configuration settings, until all instances required have executed (unless configured to never end, in which case instances will continue to be created in perpetuity). Note that results bubbles do not continue to be shown when the workflow's state is Waiting for Trigger.

A recurring trigger's recurrence pattern is observed in the context of the time zone specified within the trigger.

Following deactivation of a Production recurring trigger, you can edit the trigger's schedule settings, and can re-activate workflow having saved your changes. This functionality is available irrespective of as to whether a workflow instance had been created by the trigger at the point of workflow deactivation.

If a recurring trigger is unable to start workflow execution (for example, if the Workflow Manager service happens to be unavailable), a series of retry attempts are performed. An attempt to start is made every 10 seconds for the first minute, then every 1 minute for the next 9 minutes, then every 10 minutes for the next 50 minutes. After this time the attempt to start the workflow is abandoned and the trigger reverts to its defined schedule.

If the Manual tab is selected at a recurring trigger, on activation, the trigger enters a Waiting for Trigger state. It is necessary to click the Fire Trigger button manually to invoke activity at the same. If end after is set, workflow execution ceases after trigger is fired the prescribed number of times. If end by is set, workflow execution ceases at the appointed time. If never end is set, there is no limit to the number of times the trigger can be fired.

3.29.9 Trigger Constraint Execution

When a trigger is configured with one or more trigger constraints, all must be satisfied prior to the trigger's firing.

- A database count trigger constraint is satisfied if the count returned by the execution of the related selection rule is accordant with the supplied operator and value.
- An external trigger constraint is satisfied if a call is received from an external source that utilizes the trigger's unique GUID.

Trigger constraints are checked for satisfaction every minute.

If a recurring trigger is configured with one or more trigger constraints, all must be satisfied at each firing of the trigger.

3.29.10 Manual Trigger Constraints

If one or more constraints are provided for a manual trigger:

- Upon the trigger's activation, the system commences checking database count constraints at a frequency accordant with a system configuration setting (TriggerCheckCriteriaInterval).
- The trigger remains in a WaitingForTrigger if it contains constraints that have not been met.
- The trigger fires when all constraints are satisfied:
 - All database count constraints are met.
 - Calls have been received from all external services.
- If any outstanding database count constraints remain unsatisfied when the Stop checking at date and time have already passed, the trigger does not fire.
- If the trigger is deactivated, it is necessary to set Stop checking... to a future time in order to reactivate it.

3.29.11 Scheduled Trigger Constraints

If one or more constraints are provided for a scheduled trigger:

- Upon activation, the system waits until the trigger's scheduled date and time.
- When that time is reached, it commences checking database count constraints at a frequency accordant with a system configuration setting (TriggerCheckCriteriaInterval).
- If database count constraints exist and the trigger's Stop checking at date and time have already passed, the trigger does not fire.
- The trigger fires when all constraints are satisfied:
 - All database count constraints are met.
 - Calls received from all external services.

- If any outstanding database count constraints remain unsatisfied when the Stop checking at date and time have already passed, the trigger does not fire.
- If the trigger is deactivated, it is necessary to set Stop checking... to a future time in order to reactivate it.

3.29.12 Recurring Trigger Constraints

If one or more constraints are provided for a recurring trigger:

- Upon activation, the system waits until the trigger's initial instance's scheduled date and time.
- At that time, it commences checking database count constraints at a frequency accordant with a system configuration setting (TriggerCheckCriteriaInterval).
- The trigger fires when all constraints are satisfied:
 - All database count constraints are met.
 - Calls received from all external services.
- Following execution of the initial instance, the trigger commences checking constraints in accordance with its configuration settings.

3.29.13 Activity State Trigger Constraints

If one or more constraints are provided for an activity state trigger, behavior is as per a manual trigger, other than in the required activity state configuration having to be realized before any constraints are taken into account.

3.29.14 Playing a Paused Workflow Instance

You can resume playing a workflow instance that has been paused. This is done by pressing Play within the workflow's trigger's mini toolbar. What happens next depends on the type of the most-recently executing activity:

- Batch audience: the workflow enters a Playing state, as does the batch audience.
- Interactive activity: the workflow enters a Playing state, as does the interactive activity. Any immediately-downstream activities also commence Playing.
- Delay: if the original delay duration has not passed, the workflow enters a Playing state, and the delay's state is set to Counting Down Delay. If the duration has passed, the workflow enters a state appropriate to the current or most recent activity (e.g. if an audience is Playing, the workflow is also Playing; if all offers are Completed, the workflow is also Completed). The delay itself enters a Completed state.
- Wait for Event: if its trigger is manual, the workflow enters a Playing state, as does the wait for event. If the wait for event's trigger is scheduled, and the scheduled time has not passed, the workflow enters a Playing state and the wait for event a Waiting for Trigger state. If the scheduled time has passed, the workflow enters a state appropriate to the current activity, and the trigger is fired.

- Export: the workflow enters a state appropriate to the current activity, and the export enters a Completed state (execution thereof having finished prior to the workflow entering a Paused state).
- Offer activity: the workflow enters a state appropriate to the current activity, and the offer activity enters Completed state (execution thereof will have finished prior to the workflow entering a Paused state).
- Decision offer activity: as per offer activity.
- Control: the workflow enters a state appropriate to the current activity, and the control enters a Completed state.

3.29.15 Pausing a Playing Workflow Instance

It is only possible to pause a workflow instance when the workflow is Playing. The impact on the workflow's currently-executing activity is as follows:

- Batch audience: the workflow enters a Paused state, as does the audience.
- Interactive activity: the workflow enters a Paused state, as does the activity. Any immediately-downstream activities also enter a paused state.
- Delay: the workflow enters a Paused state, as does the delay.
- Wait for Event: the workflow enters a Paused state, as does the wait for event. If the wait for event is associated with a scheduled trigger, the trigger does not fire at the trigger's scheduled date and time if the workflow is Paused.
- Export: the workflow enters a Pausing state, and a Paused state having completed export execution. Upon playing, the export completes.
- Offer activity: the workflow enters a Pausing state, and a Paused state having completed offer execution. Upon playing, the offer activity completes.
- Decision offer activity: as per offer activity.
- Control: the workflow enters a Pausing state, and a Paused state having completed control execution. Upon playing, the control completes.

3.29.16 Stopping a Playing or Paused Workflow Instance

It is only possible to stop a workflow instance when its state is Playing or Paused. When a workflow instance is Failed, it is effectively defunct and may not be replayed. When Stopped in Production mode, a workflow cannot be replayed; however, it may be replayed in Test mode. Any interactive activities and activities downstream from them are shown as Terminated.

3.29.17 Reactivating a Stopped Production Workflow

If a workflow instance has been stopped in Production mode, you can reactivate it.

Invocation of Reactivate displays the Confirm Production Workflow Reactivation dialog ('Are you sure you want to reactivate the '[Workflow Name]' workflow? WARNING: Doing so will

cause all activities, including those that have previously completed, to be executed again. In addition, any new records found will be targeted').

Proceeding with the reactivation restarts the workflow instance from the beginning. Any previous contacts are not targeted.

Note that Reactivate is not available at a recurring trigger configured to create a single workflow instance.

3.29.18 Batch Audience Execution

When a batch audience is executed, an audience instance is created and the blocks within its audience are run. Audience history data is stored for the duration of execution within a temporary table.

If the batch audience is preceded by another audience within the workflow, its rules are applied against that audience's segments. In this case, the inputs to a batch audience are defined by:

- The inputs selected from the previous audience's segments within its configuration panel's Inputs tab.
- Any metadata filters applied to the previous audience's selected segments within its configuration panel's Filters tab.

If Pause before this activity completes has been set, following execution of the audience's rules, execution ceases and the activity assumes a Paused state.

Following execution of the audience, a results bubble is displayed to the top right of the audience icon. It shows a rounded summary of the number of records retrieved by the audience. Results are shown to a single decimal place, e.g.:

1,203,492 = 1.2M

75,854 = 75.9K

You can view full results using the Results Window.

When a batch audience is executed in an interaction workflow, its count reflects the application of its audience definition's global contact rule (if one exists).

If the audience with which a batch audience is configured contains an auxiliary rule, it is executed to determine a list of keys that match the rule's criteria, and the results are written to a temporary table. This table can then be used to join to data warehouse tables to identify matching data warehouse records which will serve as the audience's segment(s).

If sufficient joins do not exist to link the resolution levels of the auxiliary rule and the audience's definition, a runtime validation error is displayed.

If the batch audience's audience definition is configured to produce validation files, these are created when the audience executes, and can be accessed from the Results Window.

At execution of an audience based on a transactional audience definition, the offer history table is populated with transactional data in addition to standard resolution data. Transactional data is deduplicated in accordance with the settings recorded at the audience definition. Only records from the audience definition's resolution table with matching record(s) in the transaction table are retrieved. Any transactional attributes recorded in offer history must also be accordant with the selection rules utilized in the transactional audience. Note that this also applies to interactive activities configured with transactional audience.

When the current RPI installation is using a SQL Server data warehouse, if the system is unable to connect when executing an audience (for example due to the database server not being found, the database login failing (due e.g. to the database being detached) or because of a deadlock), a series of attempts to reach the data warehouse are made (over a maximum of a 10-minute period). After this time the series of retries are abandoned. All retry details are logged to the server log.

If an interaction workflow contains more than one linked batch audiences that are configured with separate audience definitions, and hence multiple sets of offer history tables, data is written to the final set thereof.

If a batch audience is hosted within a Manual, Scheduled or Activity State workflow, and if one of its Minimum or Maximum batch limit values is not met, the audience enters a Paused state, and a message is added to the execution Log ('The current activity batch count of [x] is [less]/[greater] than the [minimum]/[maximum] batch limit of [y] set for this activity'). You can click Play at the Paused activity to resume execution and ignore the limit.

If a batch audience is hosted within a Recurring workflow, the same applies on an individual batch basis. In addition to the Minimum and Maximum batch limits, the overall Maximum target limit continues to be applied.

If the audience is running in a single workflow instance recurring workflow, and its Maximum target limit property set, at the point at which the specified limit is reached or exceeded, the workflow enters a Completed state. If the workflow contains multiple batch audiences with the setting specified, as soon as the first limit is reached, execution ceases.

At interaction workflow execution, a runtime validation warning is raised if the resolution of an audience in the workflow has no configured primary key ('The audience definition's resolution table has not been configured with a primary key. This may impact on performance.').

3.29.19 Interactive Activity Execution

When an interactive activity executes, what happens depends on whether the activity was configured with an audience.

If the interactive activity was configured with an audience, the rules as defined within the template are run in accordance with its configuration settings and are applied to its input dataset (which may itself be constrained in accordance with Inputs and Filter tab settings). Execution of the audience is repeated in accordance with the frequency settings defined within its configuration panel. Records selected each time the audience's rules are run do not include those selected within previous executions – in this way, the interactive activity's results are built up cumulatively through time. Audience history data is stored for the duration of execution within a temporary table.

If the audience with which an interactive audience is configured contains an auxiliary rule, it is executed to determine a list of keys that match the rule's criteria, and the results are written to a temporary table. This table can then be used to join to data warehouse tables to identify matching data warehouse records which will serve as the audience's segment(s).

If sufficient joins do not exist to link the resolution levels of the auxiliary rule and the audience's definition, a runtime validation error is displayed.

If the interactive activity was not configured with an audience, RPI checks the activity's input dataset to determine to which records the interactive activity is to apply. This check is performed a number of times in accordance with the activity's Check for data settings. Any records that match the fulfillment states configured within the Inputs tab are deemed to have been targeted by the interactive activity and are then passed through to any downstream fulfillment actions. As when configured with an audience, a given record will only be targeted once by an interactive activity, and results are cumulative

When executing, an interactive activity will run in accordance with its defined schedule. For example, if the activity runs initially at 1:00pm, and is scheduled to run again in an hour's time, it next executes at 2:00pm. If the activities undertaken by the interactive activity are lengthy enough such that it is still running at the next scheduled time of execution, the activity will begin running at the earliest opportunity following cessation of the current cycle of execution

The activity continues to execute at the defined frequency until either the audience's 'For' time period has passed, or 'Until' date and time has been reached.

Note that, when an interactive activity is in a dormant state whilst awaiting the next occurrence of execution activity, its status is shown as 'Waiting for Trigger'.

During and following execution of the activity, a results bubble is displayed to the top right of its icon. It shows a rounded summary of the cumulative number of records targeted by the activity. Results are shown to a single decimal place, e.g.:

1,203,492 = 1.2M

75,854 = 75.9K

You can view full results using the Results Window.

When an interactive activity configured with an audience is executed in a workflow, its count reflects the application of its audience's audience definition's global contact rule (if one exists).

If a long-running interaction workflow contains an interactive activity that periodically initiates offer execution, and offer approval is enabled, the most recently-approved version of the offer is utilized; this means that, for example, an email offer's contents can evolve through time, but updated content will only ever be sent to a recipient once approved.

If the Workflow Manager service becomes unavailable during interactive activity execution, if its period of unavailability intersects with the point at which an interactive activity was due to execute, the interactive activity will execute immediately on the service becoming available. Thereafter, behavior is contingent on the activity's schedule:

- If scheduled to execute e.g. every 10 minutes, the activity will execute 10 minutes after its initial execution post-the service's availability, and every 10 minutes thereafter.
- If scheduled to execute e.g. 2 weeks at 1300 on Wednesday, the activity will re-adopt its original schedule after its initial execution post-the service's availability.

Note that, if an interactive activity is configured with an audience, and the audience's definition is defined at producing validation files, such files are not produced at interactive activity execution.

At interaction workflow execution, a runtime validation warning is raised if the resolution of an audience in the workflow has no configured primary key ('The audience definition's resolution table has not been configured with a primary key. This may impact on performance.').

3.29.20 Metadata Overrides at Fulfillment Activity Execution

Metadata is persisted at the audience output level. One row is written into Offer History Meta per audience output produced during interaction workflow execution. If more than one fulfillment activity (offer, export, control) leverages an output, and different meta overrides are ascribed at different fulfillment activities, the last fulfillment activity to execute will take precedence, and will have its meta value written into Offer History Meta.

3.29.21 Playing and Pausing an Audience

You can play and pause both a batch audience and an interactive activity configured with an audience.

You can pause a Playing audience, which causes it to assume a Paused state (via Pause Requested and Pausing), temporarily ceasing activity within the audience.

You can play a Paused or Stopped audience, which causes it to assume a Playing state (via Resume Play Requested).

Note that undertaking these actions at the audience does not affect the status of the workflow as a whole.

Note also that an audience will assume a Paused state if its audience contains a block set to pause before playing.

3.29.22 Stopping and Rewinding a Batch Audience

This action is only available when a batch audience is currently Playing or Paused. Stopping and rewinding the audience causes the currently-executing activity within batch audience to cease. The audience assumes a Stopped state, and all trace of its execution is erased. However, the workflow remains in a Playing state.

Note that it is possible to resume playing a Stopped audience.

3.29.23 Data Process Activity Execution

At Production execution of a data process activity, the Redpoint Data Management project with which it is configured is executed. A bubble count is displayed at the activity. The activity's configured inputs and filters are applied; if a filter is applied at a data process activity, any restrictions thus imposed are ignored by subsequent downstream activities. Note that the activity will not fail if the data process project's configured project parameters do not match those configured in Redpoint Data Management.

At Test execution, the Redpoint Data Management project is still executed; you can leverage the RPITestFlag project parameter to determine whether a different action is to be taken by Redpoint Data Management if executed in Test mode.

3.29.24 Data Transfer Activity Execution

When you execute a data transfer activity in Test mode, no offer fulfillment takes place. When doing so in Production mode, offer fulfillment takes place – e.g. data extract files are created, or data written to the realtime cache. However, no records are inserted into Offer History or Offer History Meta.

Note that, when you execute a data transfer activity in a recurring workflow that is configured to produce a single workflow instance, or when you execute it downstream from an interactive activity, all qualifying records are targeted with the offer, rather than just new records.

3.29.25 Backfill Files

During audience execution, if the audience's definition is configured to generate backfill files, they are generated at workflow (in Test and/or Production mode, as specified). The backfill query type is INSERT, and separate files are generated for offer history ('[Table name]__[GUID]') and offer history meta ('[Table name]_[GUID]') tables (note the double underscore at the former). Files match the selected export template's basic settings and contain data as per a given table's structure.

In addition, an offer history details backfill file is generated in Production mode only.

When an audience instance is rolled back, if the audience's definition is configured to generate backfill files, such a file is generated at workflow rollback. The backfill query type is DELETE a file is generated for offer history ('[Table name]_Rollback_[GUID]') only. The file contains RPContactID, ChannelExecutionID and RowCounter fields.

In addition, an offer history details backfill file is generated to reflect the rollback.

Note that backfill files are also generated at receipt of records by a queue listener, if the activity is configured to generate offer history. Offer history meta backfill files are not generated in this context.

For more information on backfill files, please see the Audience Definitions section in the Configuration documentation.

In addition, the Export backfill state data system task generates offer history states and channel execution results backfill files. For more information, please see the Operations interface documentation.

3.29.26 Delay Execution

When a delay executes within a workflow, activity ceases within the delay's workflow branch for the duration specified within the delay. While activity remains ceased, the delay's status is Counting down delay. The workflow remains in a Playing state.

The delay shows in a bubble the amount of time remaining at the most recent refresh of the Interaction Designer.

Following execution of a delay, subsequent activities within the workflow begin. The delay assumes a Completed status after execution.

If a delay is sited downstream from a fulfillment activity that follows an interactive activity, the interactive display of time remaining is not shown – the original delay duration is displayed as a static figure. In such a circumstance, the delay time is applied separately to each group of records targeted by the interactive activity.

Note that a delay will continue to count down even when the workflow within which it is sited is Paused.

3.29.27 Wait For Event Execution

When a wait for event executes, activity within the current workflow branch ceases until the wait for event's associated manual or scheduled trigger fires. During this time, the wait for event's status is Waiting for Trigger.

Note that a wait for event can be associated with one or more database count constraints.

Upon the wait for event's activation, the system commences checking database count constraints at a frequency accordant with a system configuration setting

(TriggerCheckCriteriaInterval). The wait for event's associated trigger may only fire when all database count constraints are met. If a manual wait for event, when all attached database count constraints are satisfied, the wait for event will fire immediately. If any outstanding database count constraints remain unsatisfied when the Stop checking at date and time have already passed, the associated trigger does not fire.

Constraints are ignored when firing a manual wait for event.

Following the firing of a wait for event's manual or scheduled trigger, downstream activities within the workflow commence once again.

If an interaction workflow contains a scheduled wait for event that is configured with a date/time in the past, a runtime validation warning is shown at the workflow's activation. If the warning is ignored, the wait for event will fire immediately at its activation.

3.29.28 Offer History Details

On execution of a production fulfillment activity, a row is inserted into the relevant audience definition's [Offer History]_details table. This provides a summary of the activity's execution, which can be queried for reporting purposes.

The table contains the following fields:

- ChannelExecutionID
- TriggerExecutionID
- OfferExecutionID
- FirstExecutionDate
- LastExecutionDate
- ExportFileName
- ChannelName
- DeliveryMethod
- ActivityName
- ActivitySubName
- InteractionName
- OfferName
- FulfillmentCode
- TargetCount
- SeedCount
- InteractionStartDate
- InteractionEndDate

- IsRolledBack
- RolledBackDate
- MessageListMasterID
- MessageListInstanceID
- MessageID
- MessageListName
- MessageName

If system configuration setting OfferHistoryDetailsSandboxEnabled is set to True, on the next execution of the Validate Audience Definitions job, Sandbox versions of all Offer History Details tables are created. Thereafter, on interaction workflow Test execution, data is written to the same. If the setting is subsequently set to False, there is no effect on the existing offer history details sandbox tables; however, on interaction workflow Test execution, data is no longer written to the same. Note that a change to the setting's value takes a few minutes to be picked up, as it is cached by the Execution Service.

3.29.29 'Chunking' Inserts

System configuration setting DatabaseInsertBatchLimit is used to determine how RPI undertakes the insertion of records into the audience and offer history tables.

If set to a value greater than 0, the insertion of records will take place in 'chunks', with the maximum number of records inserted at a time being accordant with the setting's value, and, potentially, a number of separate SQL statements being executed to complete the insert.

If set to 0, no chunking takes place, with insertion of records being carried out en masse. This has the effect of executing a single SQL statement, but one that has the potential to be longer-running and more resource-intensive.

Note that, if running against a DB2 data warehouse, DatabaseInsertBatchLimit will also apply to inserts into all of the following database tables:

- Dataflow_*
- RP_BC_*

3.29.30 Control Execution

When a control activity executes, relevant records are written to the offer history and offer history meta tables. No other fulfillment occurs, and no contacts are made from RPI.

The records written in this way may be further restricted if the control channel used has been associated with a filter.

In addition, if the channel is configured to call an external service post-execution, that service is invoked immediately upon control execution. If an invalid service address was supplied at channel configuration, execution continues without failing.

If a channel is configured to call a Redpoint Data Management job post-execution, note that the job will be called when executed in both Test and Production mode.

3.29.31 Export Activity Execution

When an export activity executes, records are exported in accordance with the export's selected parent outputs and applied metadata filters. The activity produces export files when executed in Production mode, or in Test mode when:

- Use export template is selected and Create files in Test mode is checked.
- Use extract channel is selected, and the channel's Create files in Test mode property is checked.

If the data extract channel with which the export is configured, or the activity's export template, is configured to allow duplicates on resolution, if the channel's export template or the export template is configured with any cross-resolution attributes, deduplication is ignored, and multiple records for a single resolution key can be output in the export file. Note that the activity's bubble count continues to reflect its deduplicated count.

On generation of an export file in Test mode, Offer History and Offer History Meta attribute values are replaced with sandbox equivalents. Note that when the same tables are referenced as aggregation tables, sandbox values are not substituted.

If the export activity's export template is configured with a custom header, it is displayed in accordance with its definition. Any Record Count text parts reflect the full export file count.

By default, export files are created in accordance with system configuration setting FileExportLocation. Writing of files to a server folder, FTP site or external content provider root folder is supported.

If files are generated at the server, they are by default created in a sub-folder named in accordance with the following:

'[(Global)FileOutputDirectory]\WFAI[WorkflowInstanceID]\Export files\[Export name]'

Where (Global)FileOutputDirectory is accordant with the configuration setting value defined at the cluster or client, Workflow Instance ID is the unique numerical identifier assigned to the workflow instance at its creation, and Export name is the name by which the export is known within the interaction.

When created at an FTP site or external content provider, '(Global)FileOutputDirectory' is replaced by an 'Export' folder.

If configured to write to an external content provider, and no default file export provider has been identified, files are written to the RPI application server instead.

Three files are created:

- actionExport.txt: the main export file. Contains records in a structure defined by the export's configured export template.
- actionExport.txt_summary.xml: an XML file that summarizes the contents of the main export file. The following elements and attributes are provided:
 - exportSummary
 - format
 - headerRow
 - lineDelimiter
 - dateFormat
 - addRowID
 - RowCount
 - File
 - CreationDate
 - CreationTime
 - delimiterSettings
 - columnDelimiter
 - otherDelimiter
 - Attribute
 - name
 - ordinal
 - start
 - size
 - precision
 - scale
 - dataType
- actionExport_sample: contains a subset of data from the main export file. The number of rows output are defined by system configuration setting ExportSampleSize. The sample file is also accordant with the export's specified export template.

Following execution of an export, a results bubble is displayed to the top right of the export icon. It shows a rounded summary of the number of records in the export's results set. Results are shown to a single decimal place, e.g.:

1,203,492 = 1.2M

75,854 = 75.9K

Full results are available in the Results Window.

When executing an export activity, note that offer history details are recorded prior to the data's being exported. This means that, if you include within the activity's export template attributes based on metadata, they can be exported without incident.

Behavior of an export downstream from an interactive activity configured with an audience depends on its and its channel's configuration. If the file to which data is to be written is local to the RPI server, rows are appended to the output file dynamically as they are targeted by the audience. If the export path has been specified, a new file is written at the arrival of new records.

If an export activity is configured to produce a file with a specific name, and the file in question exists already within the folder where due to be created, RPI creates the new file anyway, with its name's uniqueness ensured by the appending of an integer (which can be incremented if necessary).

If configuration setting `InteractionDaysToPersistExportTempTables` is greater than 0, the temporary table generated during export activity execution is persisted for a number of days specified by the setting. This occurs both in Production mode, and in Test mode when `Create files...` is checked. Persisted temporary tables can be tracked in the `ExportTempTableLookup` table, which can be found in the Interaction Audit database. The Dataflow housekeeper removes temporary tables, and matching rows from the table, after the specified number of days.

When PGP encryption is configured at an export activity, full export files generated using the channel are encrypted. Sample and summary files are not encrypted. PGP encryption is also applied when files are generated in Test mode, and when file compression is enabled.

If the export uses the Database Table extract location, data is persisted within a data warehouse table in accordance with activity or data extract channel settings. If using default settings, the table will be named `'RPI_Export_[GUID]'` (the actual table name may be discerned within the export activity's execution log). If the table already exists, it is dropped and re-created. If a lengthy custom table name has been specified, it is truncated in accordance with the maximum number of characters permitted by the database. The table is deleted by RPI Housekeeping in accordance with the relevant `Days To Persist Table` setting.

3.29.32 Offer Activity Execution

When an offer activity runs, fulfillment occurs in accordance with the offer activity's specified channels.

Where an individual qualifies to be contacted by more than one channel, contact is made via the first applicable channel for which he or she qualifies. Channel applicability is determined by the channel's filter. The filter is defined as a selection rule; if a record is targeted by a selection rule associated as a channel filter, that channel is deemed to be applicable for the record.

Results of the execution of an offer activity are written to the permanent offer history and offer history meta tables (the actual table names are defined by audiences' audience definitions).

In addition, fulfillment activities take place in accordance with the channels' delivery method. Each delivery method is documented separately.

Following execution of an offer activity, a results bubble is displayed to the top right of the offer activity icon. It shows a rounded summary of the number of records in the results set. Results are shown to a single decimal place, e.g.:

1,203,492 = 1.2M

75,854 = 75.9K

Full results are available in the Results Window.

Contacts made through a particular channel may be further restricted if the channel used has been associated with a filter. In this case, fulfillment will only take place in respect of those records that are targeted by the filter's selection rule.

You can invoke Stop or Pause at an executing email, push notification, SMS, data onboarding or CRM offer. Having done so, you can Play the activity again. Any records previously targeted by the offer will not be targeted upon resumption of execution.

When the number of records targeted by an offer activity (or export activity configured to use a data extract channel) exceeds its channel's Targeted warning threshold, the activity enters a Paused state. This applies in both Test and Production mode. Log messages are written to advise as to why this occurred. If required, Channel Targeted Threshold Exceeded email alerts are sent. You can click Play at the activity to resume its execution. Note that a threshold check is applied per individual fulfilment occurrence - e.g. one specific email send within a recurring trigger.

If the offer's channel's Fail if no merge files property is checked, the workflow will fail when zero records are targeted, with the message 'No mail merge has been generated; sending will be terminated' being shown in the log.

If the channel is configured to call an external service post-execution, that service is invoked immediately upon channel execution. If an invalid service address was supplied at channel configuration, execution continues without failing.

If a channel is configured to call a Redpoint Data Management job post-execution, not that the job will be called when executed in both Test and Production mode.

Following production execution of an offer activity when offer approval is enabled, if you view the Completed offer's configuration panel and drill through to the offer's template, the version displayed is always the latest – even if a prior version was used at interaction execution.

Note – if executing an offer against a Google BigQuery data warehouse, and having applied offer metadata overrides at the interaction, the potential exists for lengthy delays to occur.

3.29.33 Offer Activity Execution – Data Extract

During data extract offer execution, files are created as per execution of an export activity and are made available at the RPI server, via FTP, or at an external content provider root folder.

A data extract offer produces files when executed in Production mode, or in Test mode when its channel's Create files in Test mode property is checked.

By default, data extract files are created in accordance with system configuration setting FileExportLocation. Writing of files to a server folder, FTP site or external content provider root folder is supported.

If files are generated at the server, they are by default created in a sub-folder named in accordance with the following:

'[(Global)FileOutputDirectory]\WFAI[WorkflowInstanceID]\Export files\[Export name]'

Where (Global)FileOutputDirectory is accordant with the configuration setting value defined at the cluster or client, Workflow Instance ID is the unique numerical identifier assigned to the workflow instance at its creation, and Export name is the name by which the data extract offer is known within the interaction.

Note that the default folder may be overridden if configured accordingly at the data extract channel.

When created at an FTP site or external content provider, '(Global)FileOutputDirectory' is replaced by an 'Export' folder.

If configured to write to an external content provider, and no default file export provider has been identified, files are written to the RPI application server instead.

The resultant data and sample files are accordant with the export template with which the channel is configured; in addition, any extra attributes specified within the Offer Designer are appended within the output files.

If the data extract channel through which the offer is fulfilled is configured to allow duplicates on resolution, if the channel's export template and/or the activity's offer is configured with any

cross-resolution attributes, deduplication is ignored, and multiple records for a single resolution key can be output in the export file. Note that the activity's bubble count continues to reflect its deduplicated count.

On generation of an extract file in Test mode, Offer History and Offer History Meta attribute values are replaced with sandbox equivalents. Note that when the same tables are referenced as aggregation tables, sandbox values are not substituted.

If the channel's export template is configured with a custom header, it is displayed in accordance with its definition. Any Record Count text parts reflect the full export file count.

Filenames are generated as GUIDs (Globally Unique IDs) unless explicitly defined at the channel.

Behavior of a data extract offer downstream from an interactive activity configured with an audience depends on its and its channel's configuration. If the file to which data is to be written is local to the RPI server, rows are appended to the output file dynamically as they are targeted by the audience. If the export path has been specified, a new file is written at the arrival of new records.

If configuration setting InteractionDaysToPersistExportTempTables is greater than 0, the temporary table generated during offer activity execution is persisted for a number of days specified by the setting. This occurs both in Production mode, and in Test mode when Create files... is checked at data extract channel configuration. Persisted temporary tables can be tracked in the ExportTempTableLookup table, which can be found in the Interaction Audit database. The Dataflow housekeeper removes temporary tables, and matching rows from the table, after the specified number of days.

When PGP encryption is configured at a data extract channel, full export files generated using the channel are encrypted. Sample and summary files are not encrypted. PGP encryption is also applied when files are generated in Test mode, and when file compression is enabled.

If the offer uses the Database Table extract location, data is persisted within a data warehouse table in accordance the data extract channel's settings. If using default channel settings, the table will be named 'RPI_Export_[GUID]' (the actual table name may be discerned within the offer's execution log). If the table already exists, it is dropped and re-created. If a lengthy custom table name has been specified, it is truncated in accordance with the maximum number of characters permitted by the database. The table is deleted by RPI Housekeeping in accordance with the relevant Days To Persist Table setting.

3.29.34 Offer Activity Execution – Outbound Delivery

At Production execution of an outbound delivery offer, if Generate export file is checked at the channel, an export file will be generated in accordance with the channel and its export template settings. Note that values RPContactID and ChannelExecutionID are added at the beginning of each row in the export file. If Generate export file is unchecked, an export file is not generated. However, offer history records are written as expected.

If Use content was checked at the channel through which the offer is executed, additional files are created in accordance with the offer's content:

- RPI_Export_[CHANNELEXECUTION_ID]_Content.txt
- RPI_Export_[CHANNELEXECUTION_ID]_Source.txt)

Any pre-processed dynamic content is added at the end of each row in the export file, using the channel's configured Start and End tag delimiters.

The table used to import and process channel states data will be automatically created during execution of the channel sync task, with the following prefix:

RPI_CDS_<GUID>

Once the import of states data is complete, the table will be dropped.

If the channel's Import state results via DM property is checked, channel state results can be collated as per the following:

A file containing state results can be placed in the folder defined by the channel's State results folder property, in order to be processed by the Redpoint Data Management job defined at the channel's RPDM Repository path. .txt and .csv file types are supported, and the structure of the state results file to be imported must match that defined at the Redpoint Data Management project. A header row is also required. Channel results are processed on execution of the Outbound Delivery channel's synchronization task, which is responsible for reading in delivery state data (in accordance with definition of the same at the channel). Once channel results have been processed, the file is deleted.

If Import state results via DM is unchecked, execution of the Outbound Delivery channel sync task does not result in collation of state results.

A sample Redpoint Data Management project is available at:

DeploymentFiles\DataManagement Macros\Channel Synch Loads\OutboundDelivery_v4.dlp.

The project can be customized to clients' specific requirements.

If configured, Realtime in Outbound can be used to vary delivered content served by an outbound delivery channel.

3.29.35 Offer Activity Execution – Email

During email offer execution emails are sent to qualifying individuals only where a valid email address exists. Textual and HTML content are consistent with that defined within the Offer Designer, and any attributes included within the email template are resolved for inclusion within the body of the email.

The emails to be sent will depend on the email offer's Content mode setting:

- If set to Multi-part, both HTML and text emails will be sent.
- If set to Text only, only text emails will be sent.
- If set to HTML only, only HTML emails will be sent.

If an email offer has been defined to perform fulfillment at a specific scheduled time, on executing the offer in Production mode in advance of that time, it immediately assumes a Completed status. Emails are delivered later in accordance with the offer channel's settings.

If the email offer's channel's Recipient email field is populated with an attribute with a target table that is incompatible with any of its workflow's audiences, a warning message is displayed at workflow activation. For each email offer in the workflow, the following message is shown:

'An issue was encountered validating offer activity [activity name], Join not found between [audience table] and [email attribute table]'

When email execution takes place using an email channel, the system automatically de-duplicates on email address. One row is added to the Offer History table per pre-deduplication record. The Selected field in the Offer History table indicates whether a given record survived the deduplication exercise.

An external email service provider (ESP – Salesforce Marketing Cloud, SendGrid, CheetahMail, Acoustic, SparkPost, Instiller, Responsys, Dotdigital, Listrak, Mailchimp, Cordial, LuxSci, Paubox, Amazon SES or Amazon Pinpoint) is responsible for sending the emails. If the channel has been defined as auto-suppressing, email addresses present in the email suppression table are not contacted.

If the connection to the ESP's email service cannot be made, RPI repeats its attempt to connect every minute for 10 minutes before failing.

When an email offer contains an embedded asset, during recurring execution (in a recurring workflow or following an interactive activity), when the asset is updated, the latest version of the asset is included in delivered email content. The same applies at nested embedded assets.

You cannot execute an email offer in Production mode if it contains an image asset that is larger than the maximum permissible size defined by system configuration setting MaxEmailImageSize. Note that this setting does not apply if the images used are hosted (privately or publicly) at an external content provider.

If configured, Realtime in Outbound can be used to vary delivered content served by an email channel. For more information, please see the Smart Asset Designer documentation.

Use of the RPI Realtime service to personalize outbound messages is supported at the following email providers:

- CheetahMail
- Cordial
- dotdigital
- Acoustic
- Amazon Pinpoint
- Amazon Simple Email Service (SES)
- Instiller
- Listrak
- LuxSci
- Mailchimp
- Paubox
- Responsys
- Salesforce Marketing Cloud
- SendGrid
- SparkPost

If the email offer contains a URL, and the channel is configured with compatible Google Analytics, web events, Matomo or Kissmetrics adapters, on traversing the link in the posted message, website activity can be tracked and monitored. This is carried out by the appending of query string parameters to the URL.

The following parameters are appended for a Google Analytics adapter:

- utm_source
- utm_medium
- utm_content
- utm_campaign

Any supplied meta tags are rendered appropriately.

The following parameters are appended for a Web Events adapter:

- rpcid: RPCContactID
- exid: ChannelExecutionID

The following parameters are appended for a Matomo adapter:

- clid: ClientID
- exid: ChannelExecutionID

- rpcid: RPContactID

The following parameters are appended for a Kissmetrics adapter:

- kme: DeliveryMethod
- kmi: Contact Key
- km_exid: ChannelExecutionID
- km_campaign: Offer activity name

When an email offer is executed via a channel associated with one or more PURL adapters, URL parameters are appended to URLs with which web links in the email content are configured, in accordance with PURL adapter configuration.

If more than one PURL adapter is associated with channel, all URL parameters are appended. If a PURL adapter's Web Site URL is not set, parameters are appended to URLs in all links in the email content. If a PURL adapter's Web Site URL is set, parameters are only appended to URLs accordant with the setting.

Multiple parameters are appended in the order defined within the PURL adapter configuration interface. Parameter values are set to the value of the relevant attributes for the email recipient. Note that a validation error is raised at runtime if the attribute with which a URL is configured is incompatible with the audience definition used by an audience within the interaction workflow.

Note also that, if a link URL is sourced from an attribute value, the personalization thereof using a PURL adapter is not supported.

Following a hard bounce due to email undeliverability, a record is added to the email suppression table; its UnsubscribedMethod is set to 'Hard Bounce'

If you invoke Stop at a Playing workflow that contains a Playing production email offer, and email data has been uploaded to the ESP, the offer is terminated as expected. However, emails will still be delivered, and state information will continue to be monitored for.

On receipt of an email sent via an email channel, if the email offer content was defined as for Marketing purposes, the following elements are automatically included:

- 'To view this email as a web page, go here': this link is displayed above the email's content. Clicking the link launches (a new tab within) the client application machine's default web browser to display the contents of the email as a web page.
- 'This mail was sent to: [recipient's email address]': displayed immediately below the email's content.
- 'This mail was sent by [sender name and address]'.
- One-Click Unsubscribe: clicking the link launches (a new tab within) the client application machine's default browser to display the Unsubscribe Center.

- Update Profile: clicking the link launches (a new tab within) the client application machine's default browser to display the Subscription Center.
- Manage Subscriptions

A runtime validation error is raised when a non-queue listener workflow contains an email offer fulfilled using an email channel without a Recipient email property.

The following RPI email service providers support use of an email offer's Reply-to Email property:

- Mailchimp (note that the reply-to email address needs to be verified at the Mailchimp portal before it can be used)
- Cordial
- Instiller
- Listrak
- LuxSci
- Paubox (when replying to a secure message, Paubox always uses Sender-email as the default Reply-to email)
- SendGrid
- SparkPost

If an email offer sent using one of the above providers includes a Reply-to Email address, if Reply or Reply All is clicked in respect of a received email offer, the configured address will be used as the reply's 'To' address. If not configured, Sender email is used instead.

If sent using a provider that does not support Reply-to, a runtime validation error is raised at workflow execution. In the event of proceeding with execution, the default Reply-to address as configured at the email service provider account is used.

If a BCC email address has been set up at the email channel (and/or overridden at the offer), the following apply:

- A runtime validation error is raised if the current channel provider doesn't support BCC and BCC was overridden at the offer.
- One BCC email is sent to the BCC email address per delivered email, in accordance with the channel and offer settings.
- Dynamic content variations are reflected in delivered BCC emails.
- BCC emails are not sent if the supplied BCC email address is invalid.
- If a contact is undeliverable, a BCC email is not sent.

3.29.36 Offer Activity Execution – Email – ESP Considerations

The following considerations relate to specific ESPs. Note that additional considerations and limitations are documented in the RPI Plugin Features Matrix – please see that document for further information.

- Salesforce Marketing Cloud:
 - When executing an email offer containing an embedded table asset in an Oracle environment, and when the channel's Import via file setting is checked, please ensure the channel's Disable field quote wrapping property is also checked.
 - The email's Sender address must be validated at the SFMC Portal.
 - At execution of a Salesforce Marketing Cloud email offer, the data extension and email objects' names thus created are preceded with the following:

'[Interaction name]-[Activity name]-'

If the interaction name is the same as the activity name, the objects are preceded with:

'[Interaction name]'

- If Encrypt exported file was checked at the channel, the export file generated at email offer execution will be encrypted in accordance with the specified public key and encryption type. Execution will fail if the key is not valid. If encryption is successful, the encrypted file is uploaded to SFMC with the following file naming conventions:

[GUID].csv.pgp/gpg

If the channel's File transfer activity name property is valid, the file is decrypted and data loaded into the SFMC data extension.

- At channel synchronization Task execution, if the channel's Decrypt imported file property is checked, the supplied Tracking extract activity name is used to generate disposition data. The supplied File transfer activity name is used to encrypt disposition data which is saved in accordance with the channel's configuration. Saved files are downloaded and decrypted using specified the Encryption private key, in accordance with the selected Encryption type. If the specified key is not valid, the file import process fails.

- SendGrid:
 - On clicking an unsubscribe link in a SendGrid-delivered email, the recipient is redirected to the URL configured in the SendGrid account's Apps Subscription Tracking Settings Custom Landing Page URL property.
 - No image hosting is supported. At email offer execution, if the offer contains an RPI image asset or private external content provider-supplied asset, a warning is displayed:
'The channel must be configured with an external content provider in order to use image assets within the email content'

At this point, you can proceed with or cancel execution of the email offer.

 - When utilizing a table smart asset within a Text email offer, spaces within table content may be truncated upon receipt of the email message. This issue does not appear within the Offer Designer and only occurs upon email execution using SendGrid's SMTP API v2 service.
 - If configuration setting SendGridSaveEventFiles is set to False, any SendGrid JSON files are deleted after successful processing by the SendGrid callback service. If the setting is True, JSON files are moved to the 'SendGridEmailResults\[Tenant ID]\Processed folder' after successful processing by the SendGrid callback service.
- CheetahMail:
 - No image hosting is supported. At email offer execution, if the offer contains an RPI image asset or private external content provider-supplied asset, a warning is displayed:
'The channel must be configured with an external content provider in order to use image assets within the email content'

At this point, you can proceed with or cancel execution of the email offer.

 - Email offer execution through a CheetahMail channel can take longer than other email providers – a 15-minute delay in fulfillment is not uncommon.
 - Note that a delay of up to a day can occur prior to the availability of CheetahMail results.
 - Use of rule smart assets in email content is supported. Doing so utilizes one of the channel's data fields. If no available data fields exist, execution will fail.

- Acoustic:
 - No image hosting is supported. At email offer execution, if the offer contains an RPI image asset or private external content provider-supplied asset, a warning is displayed:
'The channel must be configured with an external content provider in order to use image assets within the email content'

 - At this point, you can proceed with or cancel execution of the email offer.
 - Links that contain a hashtag will result in link click tracking not capturing any portion of the link that precedes the hashtag.
- SparkPost:
 - The following HTTP headers are added to emails sent using SparkPost:
 - x-userid: the SparkPost account Customer ID.
 - x-rpdateofcommunication: timestamp at which the email was sent.
 - x-rpclientid: the Redpoint client ID.
 - x-rpchannelexecutionId: the Redpoint channel execution ID.
- Instiller:
 - During email offer execution using an Instiller channel, any existing email profile parameters remain as set, and are not updated.
- Responsys
 - Only 500 profile extensions are allowed per profile list.
 - Dynamic attributes in links are not supported.

- Dotdigital
 - External dynamic content is supported, up to 20 placeholders per email body.
 - External dynamic content and dynamic content are not allowed in plain text emails.
 - It is necessary to create new Address Book for each 5000 subscribers per account.
 - New custom fields of the following type can be created:
 - Boolean allowed up to 50 per account.
 - Date/time allowed up to 49 per account.
 - Numeric allowed up to 50 per account.
 - String allowed up to 245 per account.
 - String or text based custom fields can only hold up to 255 characters
 - The Sender address at email offers is not used, as Dotdigital uses the default From Address for all campaigns configured at a given account.

- Listrak
 - Scheduled campaign delivery is not supported
 - The Purpose property has no effect at delivered emails
- Mailchimp
 - Maximum number of characters in a text field limited to 255
 - Maximum number of merge or custom fields 30
 - Table smart assets not supported
 - Attribute formatting not supported
 - Smart asset inclusion in Subject line not supported
 - Dynamic sender details not supported
- Paubox
 - No unsubscribe option is available.
 - Link tracking is not supported.
 - Personalized content is generated by RPI on a recipient-by-recipient basis, which has the potential to detrimentally impact performance.
 - A known issue exists, where Open events are raised incorrectly in respect of unopened emails delivered to Gmail addresses.

- Cordial
 - If a Cordial channel's Account list setting is blank, a new list will be created with the following name format:

'RPI_<Channel Name>_<ChannelExecutionID>'

Uploaded contacts will be grouped within this list.

If the setting is not blank, contacts will be grouped within the account list matching the provided name.
 - The following retryable error codes are supported:
 - Timeout
 - ConnectFailure
 - SecureChannelFailure
 - ConnectionClosed
 - ProtocolError
 - ReceiveFailure
 - NameResolutionFailure
 - SendFailure
 - ServerProtocolViolation
 - KeepAliveFailure
 - GatewayTimeout
 - BadGateway
 - ExpectationFailed
 - RequestTimeout
 - NotFound
 - ServiceUnavailable
 - TooManyRequest
 - If the Cordial channel's Custom subscriber key property is configured, Cordial sends emails using the supplied key. Deduplication has no effect on the same. Execution will fail if the Custom subscriber key's name does not exactly match that configured in Cordial.
 - Text merge data fields' lengths are defined in accordance with RPI Catalog settings.

- Records are batched in accordance with Batch export and Max export batch size channel configuration settings.
- LuxSci
 - Unsubscribe is not supported at the LuxSci email channel. The following states are added automatically to the email suppression table:
 - Failed (unsubscribe method = Failed)
 - Hard Fail (unsubscribe method = Failed)
 - Soft Bounce (unsubscribe method = Bounce)
 - Spam (unsubscribe method = Spam)
 - Offer execution will only fail when all of a batch of emails fails to send.
 - A tracking record will be inserted into the RPI_LuxSciTracking table when at least 1 email is successfully sent.
 - Luxsci supports execution in 'sandbox mode'. Sandbox mode is enabled in the Execution Service configuration file (Resonance.ExecutionService.exe.config) as per the following example:

```
<sectionGroup name="applicationSettings"
type="System.Configuration.ApplicationSettingsGroup, System, Version=4.0.0.0,
Culture=neutral, PublicKeyToken=b77a5c561934e089" >
  <section
name="RedPoint.Resonance.ChannelPlugins.LuxSci.LuxsciSilentSettings"
type="System.Configuration.ClientSettingsSection, System, Version=4.0.0.0,
Culture=neutral, PublicKeyToken=b77a5c561934e089" requirePermission="false" />
</sectionGroup>

<applicationSettings>
  <RedPoint.Resonance.ChannelPlugins.LuxSci.LuxsciSilentSettings>
    <setting name="EnableSandBoxMode" serializeAs="String">
      <value>True</value>
    </setting>
  </RedPoint.Resonance.ChannelPlugins.LuxSci.LuxsciSilentSettings>
</applicationSettings>
```

When enabled, messages are validated, accepted, and queued for sending within LuxSci but are not sent to recipients.

- Amazon Simple Email Service (SES)
 - When an email offer's purpose is set to 'Operational', AWS SES sends emails using the Bulk method.
 - When an email offer's purpose is set to 'Marketing':
 - If no contact list is available, AWS SES creates a contact list with the selected Topic. Only one contact list is allowed per account.

- If a contact list is available, but the supplied topic name is not available, the topic is added to the contact list (the contact list is required so AWS can determine recipients' opt-in or opt-out status by topic).
- AWS SES send emails using Serial Sends. Serial sends are used to facilitate the insertion of unsubscribe links (AWS SES doesn't support unsubscribe links when using the bulk method). Performance is likely to be slow when using serial sends (a single API call is made per send).
- When 20 topics already exist, and the provided topic does not, a runtime validation error advises to use an existing topic instead.
- BCC is not supported.
- The following states are added automatically to the email suppression table:
 - Bounced (unsubscribe method = Bounce)
 - Complaint (unsubscribe method = Complaint)
- Web versions of emails are not supported.
- The Facebook Like button is not supported.
- Sharing of email content is not supported.
- Forward to Friend functionality is not supported.
- Image hosting is not supported.
- SES does not publish an 'Unsubscribe' event when a recipient unsubscribes.
- It is not possible to determine the specific email from which a recipient unsubscribed.
- If a reply-to name is enclosed in parentheses, it is not displayed. E.g. '[John] Doe' will be displayed as 'Doe'.
- Amazon Pinpoint Email
 - During execution of an email offer using an Amazon Pinpoint channel, one or more CSV files are uploaded into the specified AWS S3 bucket. Each file contains up to a maximum number of records defined by the channel's Max. recipients per file property. Each file is named 'RPI_[Channel name]_[ChannelExecutionID]_Export_[yyyyMMdd]_[GUID].csv', where [Channel name] is the first 6 characters of the channel's name, and GUID is the first 6 characters of a GUID (excluding hyphens). An Amazon Pinpoint segment is created and named '[Channel name]_[ChannelExecutionID]_Segment'. Segment import jobs are initiated to load files from the defined AWS S3 CSV bucket, with files being deleted once import is complete. An email campaign is created at Amazon Pinpoint, named '[Channel name]_[ChannelExecutionID]_Campaign'. Finally, Amazon Pinpoint sends the emails.
 - A record will be counted as invalid when one or more of its attributes contains a value exceeding 100 characters.

- A maximum of 40 custom attributes can be created.
- Each custom attribute's value must not exceed 100 characters.
- BCC is not supported.
- Dynamic sender address is not supported.
- Reply-to address is not supported.
- Share Content is not supported.
- Forward to Friend is not supported.
- The use of table smart assets in email content is not supported.
- Number formatting withing email content is not supported.
- URL shorteners are not supported.
- URLs are not trackable when personalized.

3.29.37 Offer Activity Execution – Email – Forward to a Friend Button

When viewed in delivered email, a Forward to a Friend button is shown using the image configured via system configuration setting ButtonImageForwardToFriend. Clicking the button displays a Forward to a Friend page, tailored for your organization, in your default web browser.

The page contains the following:

- 'Forward your email to a friend...'
- 'Recipients' Information'
- 8 sets of: Name, Email
- Type your message here, Your name, Your email address ([Email address to which mail originally sent])
- Submit button: invocation sends mail to recipients in list.

On receipt, a forwarded mail contains the following:

'Hello [Recipient Name]

[Sender Name] has forwarded the following email to you with this message:

[Message]

To view this email as a web page, go here.

[Original message content]

3.29.38 Offer Activity Execution – Email – Facebook Like Button

On receipt of an email containing a Facebook Like button, the button displayed is as per system configuration setting ButtonImageFacebookLike.

Clicking the button displays a web page in which is shown the content defined by the button's Share property. The recipient may choose to Like the content at this point.

3.29.39 Offer Activity Execution – Email – Facebook Page Button

On receipt of an email containing a Facebook Page button, the button displayed is as per system configuration setting ButtonImageFacebookVisit.

Clicking the button displays the Facebook page with which it is configured in the recipient's default browser. He or she may then choose to Like or Comment as they see fit.

3.29.40 Offer Activity Execution – Email – LINE Button

On receipt of an email containing a LINE button, the image displayed is accordant with the element's configuration.

When the button is clicked, if the LINE application is not installed, the LINE website is opened in the default browser. If the application is installed, it is launched.

The content defined at the LINE button's configuration (LINE text and Link URL) are then available for sending to friends or publishing to the email recipient's timeline.

3.29.41 Offer Activity Execution – Email – Reddit Button

On receipt of an email containing a Reddit button, the button displayed is as per system configuration setting ButtonImageReddit.

Clicking the button displays the subreddit with which the button was configured in your default web browser.

3.29.42 Offer Activity Execution – Email – Quora Button

On receipt of an email containing a Quora button, you can click the name of the Quora user with which the button was configured to view his or her Quora page in your default web browser. You can also click the Quora link to navigate to the Quora home page.

3.29.43 Offer Activity Execution – Email – SurveyMonkey Page Button

On receipt of an email containing a SurveyMonkey page button, the button displayed is as per system configuration setting ButtonImageSurveyMonkey.

Clicking the button displays the survey with which the button was configured in your default web browser.

3.29.44 Offer Activity Execution – Email – Alchemer Page Button

On receipt of an email containing an Alchemer page button, the button displayed is as per system configuration setting ButtonImageAlchemer.

Clicking the button displays the survey with which the button was configured in your default web browser.

3.29.45 Offer Activity Execution – Email – Twitter Follow Page Button

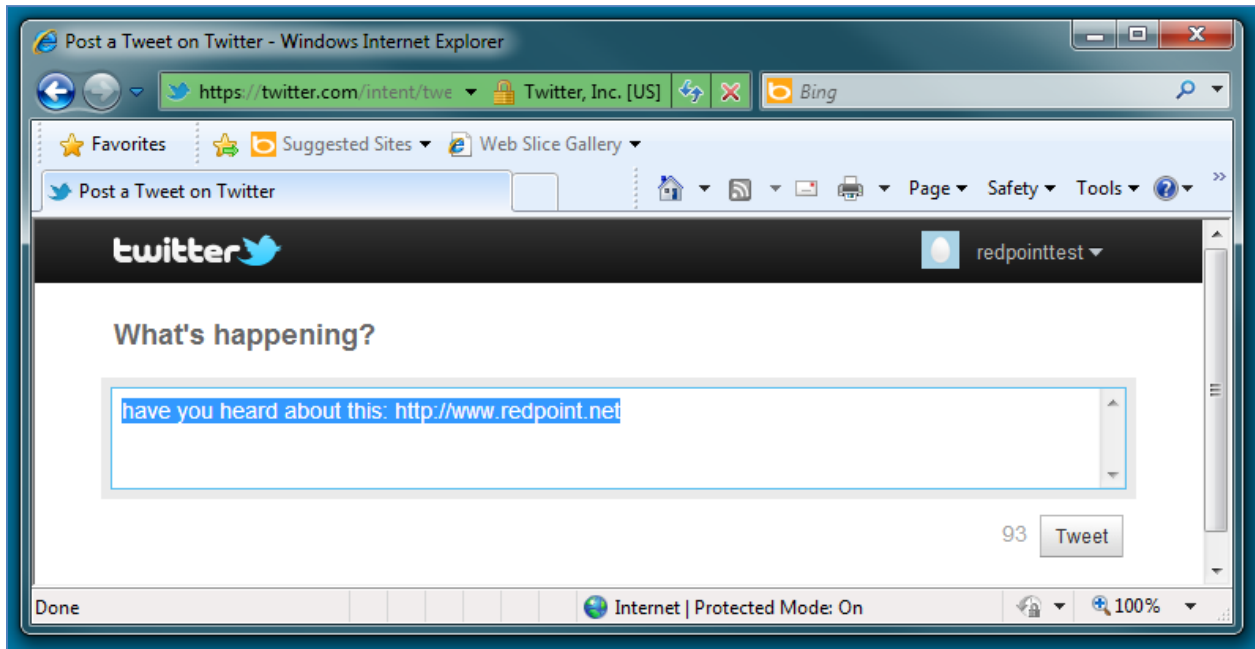
On receipt of an email containing a Twitter Follow Page button, the button displayed is as per system configuration setting ButtonImageTwitterFollow.

Clicking the button displays the Twitter feed with which it is configured in the recipient's default browser. He or she may then choose to Follow the Twitter user in question.

3.29.46 Offer Activity Execution – Email – Twitter Tweet Button

On receipt of an email containing a Twitter Tweet Page button, the button displayed is as per system configuration setting ButtonImageTwitterFollow.

Clicking the button displays a Twitter login page in the recipient's default browser. Having successfully provided credentials, a Post a Tweet on Twitter page, configured with the button's tweet message and link URL, is displayed.



The recipient can click Tweet to post the tweet in question to his or her Twitter followers.

3.29.47 Offer Activity Execution – Email – Facebook Share Button

On receipt of an email containing a Facebook Share button, the button displayed is provided by Salesforce Marketing Cloud.

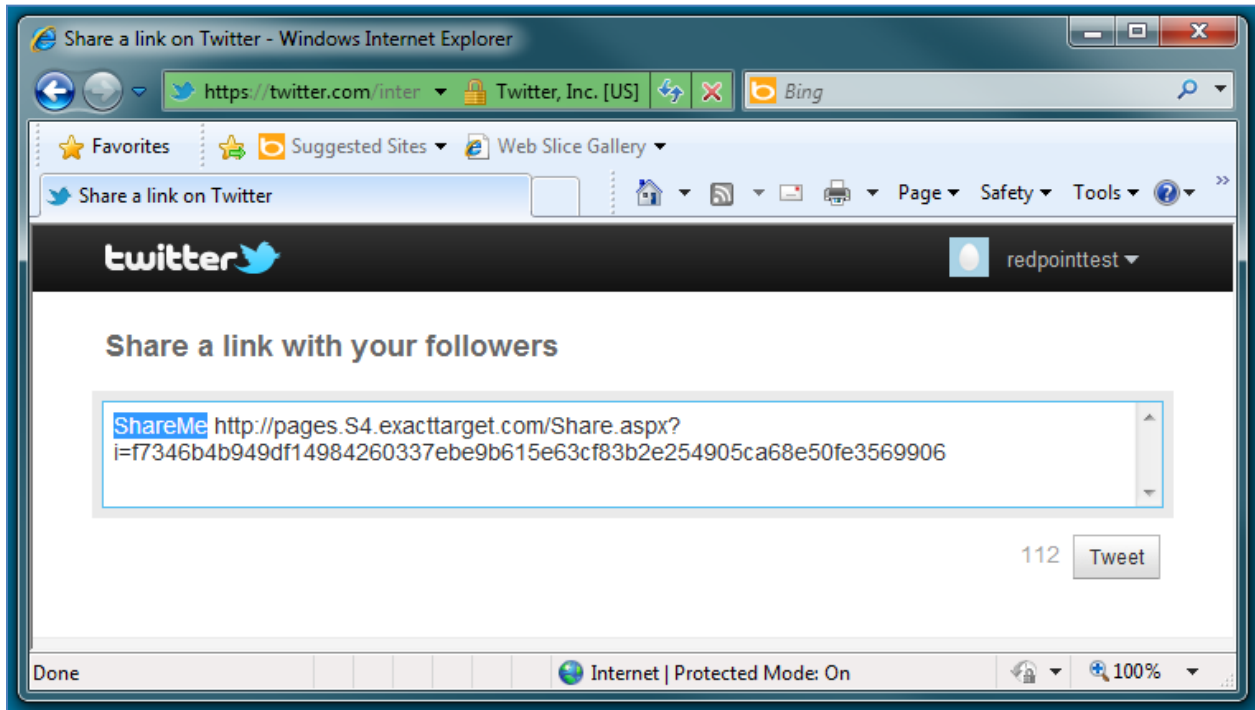
Clicking the button displays a Facebook login page in the recipient's default browser; having successfully provided credentials, a Share on Facebook page is displayed, allowing you to share the email content with your Facebook friends.



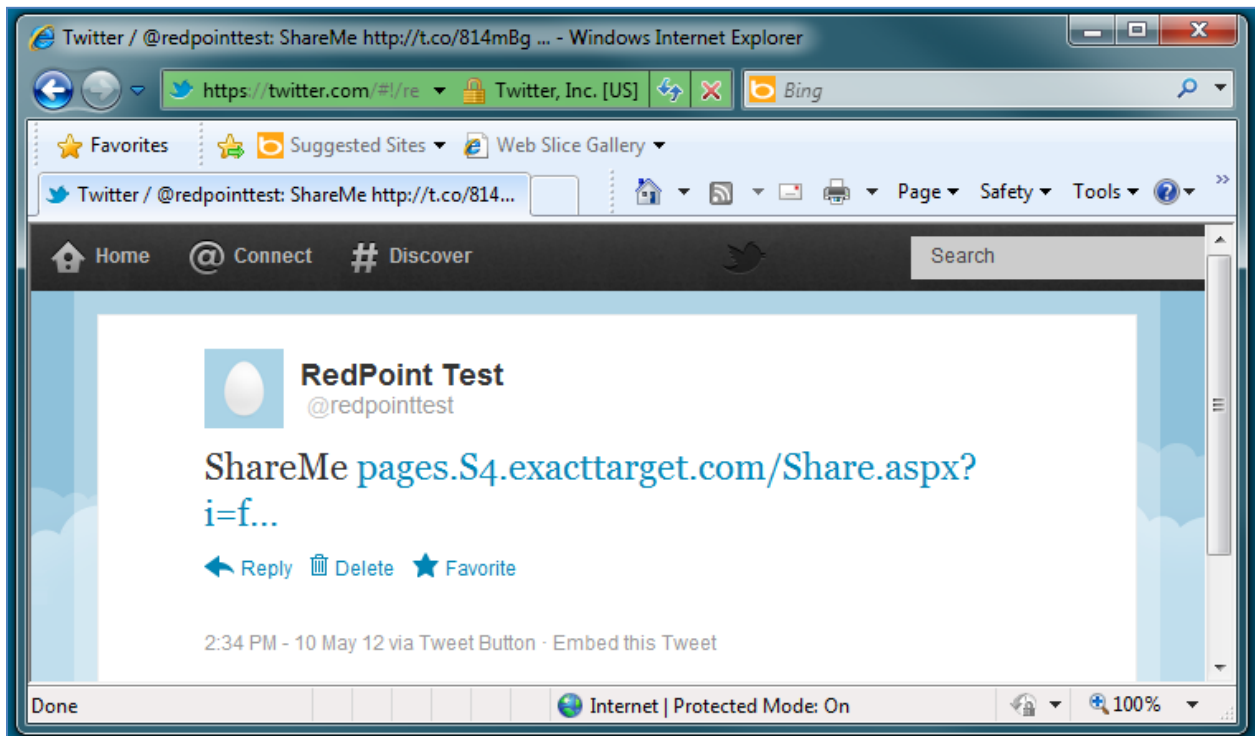
3.29.48 Offer Activity Execution – Email – Twitter Share Button

On receipt of an email containing a Twitter Share button, the button displayed is provided by Salesforce Marketing Cloud.

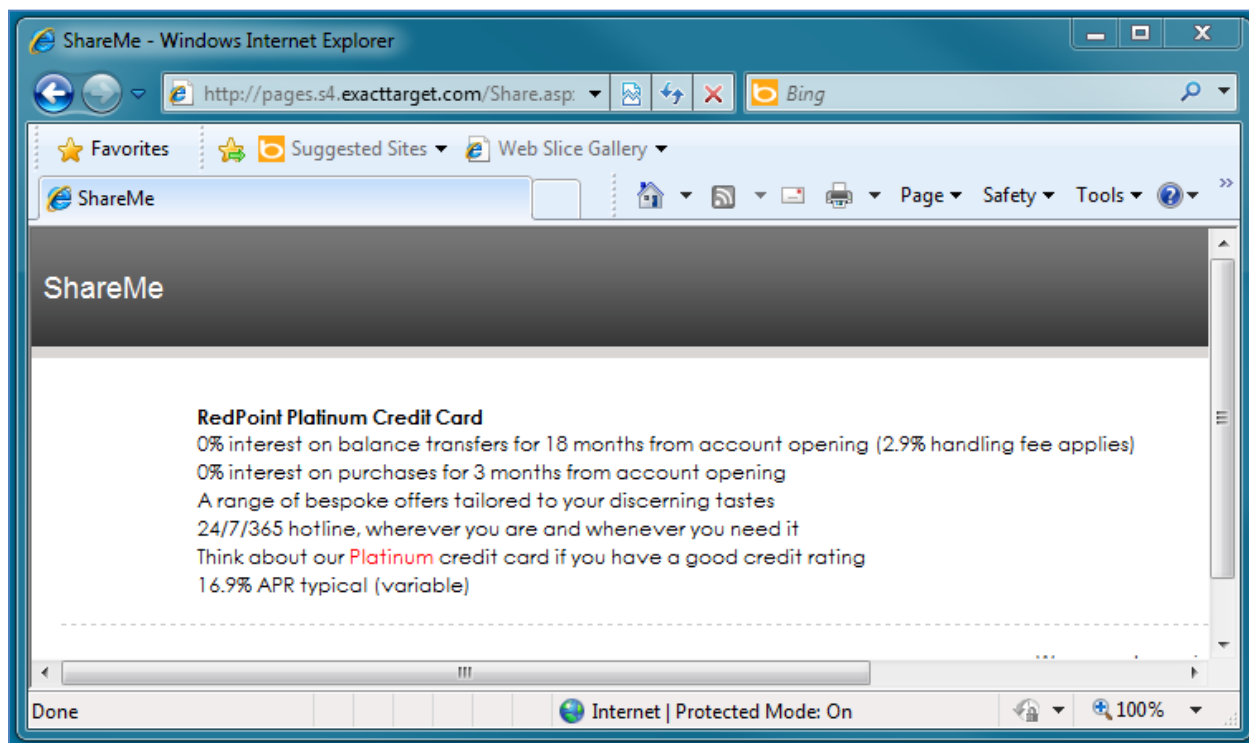
Clicking the button displays a Twitter login page; having successfully provided login credentials, a Share a link on Twitter page is shown.



The tweet contents are set to a Salesforce Marketing Cloud URL; on clicking Tweet, a message advises that your tweet has been posted, and provides the opportunity to view it on Twitter.



Clicking the Salesforce Marketing Cloud link displays the shared cell or entire email in a separate browser instance.



3.29.49 Offer Activity Execution – Salesforce Marketing Cloud Data Transfer

At execution of a Salesforce Marketing Cloud data transfer offer, details of the individuals selected in upstream audiences are passed to Salesforce Marketing Cloud. For each such contact, the attributes configured at the Email Data Transfer offer are transferred.

If Append to existing was not checked at the offer, a new data extension, named as per the offer, is created at Salesforce Marketing Cloud. If the offer is executed within a recurring workflow, an incrementing integer is appended to the data extension's name, ensuring its uniqueness.

If Append to existing was checked at the offer, behavior is dependent on the offer's Update type setting:

- Add only – only adds new records and does not update the data of existing records.
- Add and update – add new records and updates data of existing records.
- Update only – updates data of existing records, does not add new records.
- Overwrite – deletes any existing records and then adds new records.

If Encrypt exported file was checked at the channel used by a Salesforce Marketing Cloud Data Transfer offer, the exported file will be encrypted using the specified public key, using the selected encryption type. If the specified public key is not valid, the workflow will fail.

If encryption is successful, the encrypted file is uploaded into the Enhanced FTP location with the following file naming convention:

'{guid}.csv.pgp/gpg'

If the Salesforce File transfer activity is valid, the file decryption process is initiated, and data imported data into the data extension specified in the Salesforce Marketing Cloud Data Transfer offer. Otherwise, the workflow fails.

You can then log into the Salesforce Marketing Cloud user interface in order to execute a campaign using the data provided by RPI.

At channel synchronization task execution, if the channel's Decrypt imported file option was checked, the value supplied at Tracking extract activity name is used generate disposition data. The channel's File transfer activity name is used to encrypt disposition data and save into SFTP Export directory. Files available therein will be downloaded and decrypted using the specified Encryption private key, in accordance with the selected Encryption type. If the supplied key isn't valid, the file import process will fail.

Please note the following limitations:

- No option exists to create the automation via the SFMC API so it will need to be created manually (it will be called using the external key).
- No option exists to override the date range on the data extract activity using an automation, so it will need to default to a set period. Data will thereafter be deduplicated at insert.

3.29.50 Offer Activity Execution – SMS – Realtime in Outbound

If configured, Realtime in Outbound can be used to vary delivered content served by an SMS channel.

Use of the RPI Realtime service to personalize outbound messages is supported at the following SMS providers:

- Salesforce Marketing Cloud
- Messente
- Twilio
- Salesforce Marketing Cloud Mobile Connect

3.29.51 Offer Activity Execution – Salesforce Marketing Cloud MobileConnect SMS

The SMS message as defined within an SMS offer is sent to recipients when executed in production mode. SMS messages are not sent in Test mode.

SMS messages are delivered by the Salesforce Marketing Cloud MobileConnect provider.

Post-execution, SMS results are displayed at the offer's results bubble and are available at the Results Window. The fulfillment states supported by the channel are:

- Targeted: targeted prior to de-duplication
- Delivered: SMS message delivered successfully
- Failed: SMS could not be delivered

The result shown at the offer's bubble and in the Count column in the Results Window reflects the count of records prior to de-duplication (duplicate numbers are not sent to Salesforce Marketing Cloud MobileConnect).

If the connection to the Salesforce Marketing Cloud MobileConnect service cannot be made, RPI repeats its attempt to connect every minute for 10 minutes before failing.

SMS results reflect the number of records sent to Salesforce Marketing Cloud MobileConnect, rather than the number of SMS messages that are ultimately sent successfully. Records with null phone numbers are not sent to Salesforce Marketing Cloud MobileConnect. SMS messages are not sent to phone numbers in the SMS suppression table.

If a URL shortener web adapter is associated with the SMS offer or channel, any URLs in offer content are shortened appropriately.

Messages that exceed the 160-character maximum length limit are split into 160-character chunks, with a separate SMS message being delivered for each chunk.

3.29.52 Offer Activity Execution – Messente SMS

The SMS message as defined within an SMS offer is sent to recipients when executed in production mode. SMS messages are not sent in Test mode.

SMS messages are delivered by the Messente SMS provider.

Post-execution, SMS results are displayed at the offer's results bubble and are available at the Results Window. The fulfillment states supported by the channel are:

- Targeted: targeted prior to de-duplication
- Delivered: SMS message delivered successfully
- Failed: SMS could not be delivered

The result shown at the offer's bubble and in the Count column in the Results Window reflects the count of records prior to de-duplication (duplicate numbers are not sent to Messente).

If the connection to the Messente SMS service cannot be made, RPI repeats its attempt to connect every minute for 10 minutes before failing.

SMS results reflect the number of records sent to Messente, rather than the number of SMS messages that are ultimately sent successfully. Records with null phone numbers are not sent to Messente. SMS messages are not sent to phone numbers in the SMS suppression table.

If a URL shortener web adapter is associated with the SMS offer or channel, any URLs in offer content are shortened appropriately.

Messages that exceed the 160-character maximum length limit are split into 160-character chunks, with a separate SMS message being delivered for each chunk.

3.29.53 Offer Activity Execution –Vibes SMS

The SMS message as defined within an SMS offer is sent to recipients when executed in production mode. SMS messages are not sent in Test mode.

SMS messages are sent in batches of 100 per call to the Vibes API.

3.29.54 Offer Activity Execution –Amazon Pinpoint SMS

During execution of an SMS offer using an Amazon Pinpoint channel, one or more CSV files are uploaded into the specified AWS S3 bucket. Each file contains up to a maximum number of records defined by the channel's Max. recipients per file property. Each file is named 'RPI_[Channel name]_[ChannelExecutionID]_Export_[yyyyMMdd]_[GUID].csv', where [Channel name] is the first 6 characters of the channel's name, and GUID is the first 8 characters of a GUID (excluding hyphens). An Amazon Pinpoint segment is created and named 'RPI_[Channel name]_[ChannelExecutionID]_[Channel ID]_Segment', where [Channel name] is the first 6 characters of the channel name, and [Channel ID] the first 5 characters of the channel ID. Segment import jobs are initiated to load files from the defined AWS S3 CSV bucket, with files being deleted once import is complete. An SMS campaign is created at Amazon Pinpoint, named 'RPI_[Channel name]_[ChannelExecutionID]_[Channel Id]_Campaign'. An SMS message template is created at Amazon Pinpoint, named 'RPI_[SMS Offer name]_[ChannelExecutionID]_[SMS Offer ID]_SMS'. Finally, Amazon Pinpoint sends the SMS messages.

Note the following:

- A record will be counted as invalid when its recipient phone number is null or empty.
- A maximum number of 40 custom attributes are supported.
- If the SMS offer's Use URL shortener property is checked, a runtime validation error is raised when SMS content contains one or more links with configured with database column attributes.

3.29.55 Offer Activity Execution – Twitter Direct

When you execute a Twitter Direct offer, the message content configured in the Twitter offer is sent directly to those Twitter users with screen names matching the values for the attribute

defined at Recipient screen name at the Twitter Direct channel. Note that recipients of Twitter Direct messages must be followers of the account with which the channel has been configured.

If the offer was configured with a Picture, the same is included in the message delivered to its recipient(s).

Note also that an additional parameter – rpid (RPCContactID) – is appended to any appropriate URL content if a Matomo adapter is attached to a Twitter Direct channel.

3.29.56 Offer Activity Execution – Salesforce.com

When you execute an offer activity based on an offer that supports the Salesforce.com delivery method, the actions undertaken at Salesforce.com largely depend on whether the offer was defined as creating a new Salesforce campaign.

If the offer was configured to create a new campaign, a new Salesforce campaign is created using the Salesforce credentials defined at the channel. Its default properties are as follows:

- Campaign Name: the campaign's name is as defined at the offer. If an identically-named campaign already exists at Salesforce.com, a new one with the same name is created alongside the original.
- Active: checked
- Type: 'Other'
- Status: as per the offer
- Start Date as per the offer
- End Date: as per the offer

The campaign's other properties are not set.

The leads or contacts targeted by the offer are uploaded to the new Salesforce campaign.

RPI checks as to whether the targeted leads/contacts already exists in Salesforce using the lookup keys configured at the Salesforce channel. Any records that do not match are created as new leads/contacts at Salesforce.

Lead/contact properties are accordant with the Field parameters mapped at the Salesforce.com channel. Note that raw database values only, and not translated values, are uploaded. Note also that Lead status and Lead source values are provided by offer content, not by the channel.

If the offer was configured to upload leads or contacts in respect of an existing Salesforce campaign, they are uploaded to the campaign selected at the offer.

A system pulse is generated on successful execution of a Salesforce.com offer:

'[n] lead(s)/contact(s) has | have been uploaded via channel [Channel Name] as part of offer 'Offer Name' by activity 'Activity Name' in interaction 'Interaction Name'

If Allow updates is checked at the channel, behavior at execution of the channel's synchronization system task is accordant with the channel's Update behavior setting.

- If set to Sync from Salesforce to RPI Data Warehouse, at every channel synchronization, RPI updates the data warehouse using data from the Salesforce lead/contact records.
- If set to Sync from RPI Data Warehouse to Salesforce, at every synchronization, RPI updates Salesforce Lead/Contact records with data from the data warehouse.

If Salesforce data to sync was set to 'Leads', a system-generated table is created for leads with the naming convention RPI_SFLEAD[Lead_table_name][ChannelID], and new Salesforce leads' details are stored therein.

If Salesforce data to sync was set to 'Contacts', a system-generated table is created for contacts with the naming convention RPI_SFCONTACT[Contact_table_name][ChannelID], and new Salesforce contacts' details are stored therein.

Column definitions are based on the channel's Field parameters mapping configuration.

If, when synchronizing Salesforce changes back to RPI, data truncation occurs (for example, if a value entered into a field in Salesforce.com is of such an excessive length that it will not fit in its mapped field in the data warehouse), the data in question is not written to the data warehouse, and a server error is raised.

Also at channel synchronization occurs the writing of RPI contact history data to Salesforce.com. Initial invocation of the task post-execution of a Salesforce offer writes details of all other contacts made with leads since the initial Salesforce channel execution to Salesforce.com. Subsequent invocation writes any new contact history to Salesforce.com. Contact history records are visible at Salesforce as Activity History. Note that this applies to email, SMS and data extract offer execution only.

When a Salesforce activity history record is created in this way, it has the following properties:

- Subject: 'Email', 'SMS' or 'Data Extract'
- Email: the lead or contact's email address (if fulfillment occurred via an email channel and the Email field parameter was mapped and also configured at the Salesforce.com user interface).
- Phone: the lead or contact's cellphone number (if fulfillment occurred via an SMS channel and the MobilePhone field parameter was mapped and also configured at the Salesforce.com user interface).
- Comments: '[OfferName] via Channel [OfferChannelSubName] on [TimeStamp]'
- Status: 'Completed'

3.29.57 Offer Activity Execution – Salesforce.com – Accounts

When a Salesforce.com offer is executed using a channel at which the Data to Synchronize property is set to Accounts, the following apply:

- One or more Accounts are added as Campaign members.
- Salesforce data fields are created at the following Salesforce objects:
 - Account
 - AddressKey__c
 - ChannelExecutionID__c
 - ClientID__c
 - ExecutionID__c
 - RPCContactId__c
 - CampaignMember
 - RPIAcctRefID__c
 - RPIExtID__c
- The following additional offer activity log messages are generated:
 - '{x} Accounts out of {y} in file '{file_name}.xml' have been uploaded as Campaign Members on campaign with ID 'z'"
 - 'Uploading 'Account' Campaign Members'
 - 'Preparing for 'Account' Bulk Upload'
 - 'Setting custom fields default permissions'
 - 'Creating custom fields for 'CampaignMember' object'
 - 'Creating custom fields for 'Account' object'

3.29.58 Offer Activity Execution – Microsoft Dynamics CRM

When you execute an offer activity based on an offer that supports the Microsoft Dynamics CRM delivery method, the actions undertaken at Microsoft Dynamics CRM largely depend on whether the offer was defined as creating a new Microsoft Dynamics CRM campaign.

If the offer was configured to create a new campaign, a new Microsoft Dynamics CRM campaign is created using the Microsoft Dynamics CRM credentials defined at the channel. Its properties are accordant with the offer's settings.

If the offer was configured to use an existing campaign, an existing Microsoft Dynamics CRM campaign is used.

If the Microsoft Dynamics CRM channel's Data to synchronize property is set to Lead, RPI records targeted by the Microsoft Dynamics CRM offer are created as leads in Microsoft Dynamics CRM, and associated with the new campaign.

Additional custom data fields ChannelExecutionID and RPContactID are created in campaign, contact and lead data objects at Microsoft Dynamics CRM only if they do not already exist.

When a new value was specified at an offer's Lead Source, the value is created either at the Lead or Contact lead source lookup at Microsoft Dynamics CRM.

When creating a lead, the offer's Lead Status value will be used in preference to any Lead Status mapping as defined at the channel's Field Parameters.

When campaign members are created, they will be reflected as Lead and Contact data objects at Microsoft Dynamics CRM

For campaign members only raw database, and not translated, values are used.

A system pulse is generated on the successful upload of data to Microsoft Dynamics CRM:

'[n] lead(s) | contact(s) has | have been uploaded via channel [Channel Name] as part of offer 'Offer Name' by activity 'Activity Name' in interaction 'Interaction Name'.

At execution of at Microsoft Dynamics CRM channel synchronization system task:

- A new table called RPI_MSCRM[LD|CT]_<TableName>_<CRM Account hash code> is created on in the client's data warehouse. Its table definition is based on the channel's Field parameters column mapping.
- Only records that were created by Microsoft Dynamics CRM are written to the table.
- Each time the task runs, the table is dropped and re-created if a table with the same name exists. Prior to the original table being dropped, a latest copy of the records from Microsoft Dynamics CRM are downloaded first.
- If Allow update is checked at the channel configuration, only records created via RPI are used to facilitate the write back of updates to the data warehouse.

3.29.59 Offer Activity Execution – Twilio SMS

The SMS message as defined within an SMS offer is sent to recipients when executed in production mode. SMS messages are not sent in Test mode.

SMS messages are delivered by the Twilio SMS provider. Any invalid numbers are ignored.

If a URL shortener web adapter is associated with the SMS offer or channel, any URLs in offer content are shortened appropriately.

Post-execution, SMS results are displayed at the offer's results bubble and are available at the Results Window. The fulfillment states supported by the channel are:

- Duplicates: the number of duplicate records
- Targeted: the number of records sent to Twilio, rather than number of SMS messages sent successfully
- Queued: the number of records that are queued for sending. When all messages have been sent, this value is returned as 0.
- Sending: the number of records dispatched to the nearest upstream carrier in the network. Provision of this metric is dependent on the count being returned by the carrier.
- Sent: the number of records successfully accepted by the nearest upstream carrier. Provision of this metric is dependent on the count being returned by the carrier.
- Delivered: the number of records confirmed as delivered by the upstream carrier. Provision of this metric is dependent on the count being returned by the carrier.
- Undelivered: the number of records not delivered to recipients.
- Failed: the number of records not sent and not charged to the account. Provision of this metric is dependent on the count being returned by the carrier.
- Invalid Numbers: the number of invalid numbers, which were not contacted during SMS offer execution.

The result shown at the offer's bubble and in the Count column in the Results Window reflects the count of records prior to de-duplication (duplicate numbers are not sent to Twilio).

If the connection to the Twilio SMS service cannot be made, RPI repeats its attempt to connect every minute for 10 minutes before failing.

Records with null phone numbers are not sent to Twilio. Records with invalid phone numbers are sent to Twilio but will not be sent to recipients. Note that country codes should be included with phone numbers when sending an SMS offer using a Twilio SMS channel.

Any messages intended for phone numbers in the SMS suppression table are not sent.

Note that Twilio does not support an opt-out capability.

On receipt of an SMS message delivered via Twilio, any attributes in the message are substituted with their appropriate values.

3.29.60 Offer Activity Execution – LiveRamp

At execution of a LiveRamp offer, the exported file will be formatted in accordance with the channel's selected File type. Additional columns are added at the exported file:

- [SEGMENT_NAME]: set to the value '1'
- RPIEXECUTIONID: set to the value '[CLIENTID]_[CHANNELEXECUTIONID]_[YYYYMMDDhhmmss]'.

Channel execution fails if fewer than 25, or more than 500 million, records are exported. Execution also fails if the offer's channel does not match that at the interaction's offer activity.

A 'LiveRampUploadTracking' table is used to track segment data distributed to destination account(s).

Segment data is distributed to the selected destination accounts at channel synchronization.

Note that segments may only become available at the selected destination(s) upon successful completion of the data onboarding by LiveRamp, typically 3 to 5 days post file upload.

When PGP encryption is configured at a LiveRamp channel, export files generated using the channel are encrypted.

3.29.61 Offer Activity Execution – Twitter Tailored Audience

On execution of a Twitter Tailored Audience offer, if the offer's Mode of operation was set to one of Update or Delete, the specified action is performed in respect of the Tailored Audience selected at the offer. A runtime validation error is raised in the event of attempting to execute using a channel other than the channel specified at the offer.

If the offer's Mode of operation was set to Add, a new Twitter Tailored Audience is created. The new Tailored Audience's name is accordant with the offer's Tailored audience custom name property. Users, sourced from RPI, are uploaded to the new Twitter Tailored Audience.

3.29.62 Offer Activity Execution – Realtime Cache

When you execute a realtime cache offer in Test mode, data is not posted to the RPI realtime cache.

When you do so in Production mode, the data output by the offer is stored as cached attributes in the realtime cache. If multiple data values are returned for an attribute, only one value is persisted in the cache. NULL values are not persisted in the cache. Any attributes that appear more than once in the offer are ignored. If an attribute already has a value in the cache, it is refreshed with the latest value.

The realtime cache channel's Key attribute is used as a lookup to a visitor's ID. If a visitor was identified at the time of the offer's execution, cached attribute values are merged into the existing visitor profile. If the visitor was not identified, cached attribute values are written to a new profile. This profile can be merged with a visitor's existing profile at the point of their being identified by RPI.

You can execute a realtime cache offer in a queue activity. When you do so in Production mode, data is posted to realtime cache, with the key being identified either using a parameter attribute with a name matching that of the realtime cache channel's Key attribute being contained within the JSON packet or using the packet's SendAddress property.

Note that, if a realtime cache offer is executed in a queue activity in in Test mode, data is posted to the realtime cache.

Note also that rolling back a production realtime cache offer workflow does not remove its data from the realtime cache.

3.29.63 Offer Activity Execution – Facebook Audience

On execution of a Facebook Audience offer, the activity undertaken depends on the offer's Facebook action setting.

If set to Custom Audience:

- Facebook users are sourced from the RPI data warehouse.
- If the offer's Mode of operation is set to Create new list, users are added to a new custom audience. If the name of the new custom audience already exists, a new audience is not created.
- If the offer's Mode of operation is set to Append to existing list, users are added to the existing custom audience.
- If the offer's Mode of operation is set to Delete from existing list, users are deleted from the existing custom audience.

Note that it may take a number of days for Facebook to complete matching for the uploaded custom audience.

If set to Offline Event:

- On execution of a Facebook Offline Event offer, if Use existing is unchecked at the Facebook Offline Event offer, a new offline event is only created when a matching event does not already exist.
- When Assign to Ad account is checked at the offer, the event is updated to assign tracking and read permissions to the Ad Account specified at channel configuration.
- Users are then added to the specified event.
- Note that a Facebook Offline Event channel's User ID property is not required if executing a Facebook Offline Event offer using a queue activity.
- If using Limited Data Use mode, the following data processing options parameters are added to the event data uploaded to Facebook:
 - "data_processing_options": ["LDU"],
 - "data_processing_options_country": 1,
 - "data_processing_options_state": [Equivalent US states data processing code]

If not, the following parameter is uploaded:

- "data_processing_options": []

Note that any temporary files generated during execution are written to the folder defined by system configuration setting FileOutputDirectory.

Note also that RPI will only hash data when uploading data to Facebook when the channel's Pre-hashed data option is unchecked.

3.29.64 Offer Activity Execution – Azure Direct Push Notification

When an Azure Push Direct Notification offer is executed in production mode, the message as defined within the offer is sent to the Azure Notification Hub for dissemination to recipients' devices. The message is not sent in Test mode. One row is added to Offer History per contact, and messages are de-duplicated by Recipient address. Post-execution, results are displayed at the results bubble and are available in the Results Window.

3.29.65 Offer Activity Execution – Twilio Notify Direct

At production execution of a Twilio Notify Direct offer, its defined content is sent to the Twilio Notification Hub for dissemination to recipients within the current audience with appropriate identities and/or tags.

Overridden content can be substituted if applicable. For non-SMS devices that are offline, Twilio will attempt to resend the notification within the timeframe defined by the offer's Notification lifetime property. Also for non-SMS devices, if High priority is checked at the offer, Twilio will send the notification immediately.

Note that batch send is capped at 20 identities or 5 tags in one single call. Calls to Twilio are made in in batches including a maximum of 20 identities or 5 tags, even if a shared message is to be sent to a greater number of recipients.

3.29.66 Offer Activity Execution – Airship Push Notification

Upon execution of an Airship Push Notification offer within a Production interaction workflow; a push notification is sent to targeted users. Note that devices will only receive notifications when configured at the offer's Targeted devices property.

Note the following Airship Push Notification runtime validation errors:

- 'Windows device is not supported when used with channel id and other targeted devices. Use target All or Windows only': raised when the channel's Audience selector value is 'Channel ID' and the offer is configured to target Windows and other devices.
- 'Windows device is not supported when using named user': raised when the channel's Audience selector value is 'Named user' and the offer is configured to target Windows devices.

- 'Notification exceeds 4000 characters. Notification message will be truncated': raised when the notification content exceeds 4000 characters (notification content length is the total count of Summary, Title and Notification characters).

3.29.67 Offer Activity Execution – Google Firebase Direct

A runtime validation error is raised for when an offer contains attributes or dynamic text assets, advising that issues might occur at if the total message content exceeds 2000 characters. Otherwise, Firebase Direct notifications are sent to appropriate devices.

3.29.68 Offer Activity Execution – Amazon Pinpoint

Upon execution of an Amazon Pinpoint push direct offer, one or more CSV files is uploaded to the channel's Amazon S3 bucket folder. Each CSV file contains recipient records (up to a number defined by the channel's Max. recipients per file property. Each CSV file name is formatted as follows:

- RPI_[Channel name]_[ChannelExecutionID]_Export_[yyyyMMdd]_[Guid].csv

(Where [Channel name] is the first 6 characters of the channel's configured name, and [Guid] is the first 6 characters of a GUID (excluding hyphens).

An Amazon Pinpoint segment is created with a name formatted as follows:

- [Channel name]_[ChannelExecutionID]_Segment

Segments are imported from the AWS s3 folder, with the files therein being deleted afterwards. A push notification campaign is created at Amazon Pinpoint with the campaign's name formatted as follows:

- [Channel name]_[ChannelExecutionID]_Campaign. Finally, push notifications are sent to the intended recipients.

The following considerations apply when executing an Amazon Pinpoint push direct offer:

- SMS and Facebook Messenger overrides are not supported.
- The following message actions are not supported:
 - Home
 - Landing page
 - Share

Other Push Direct offer features are supported.

- A runtime validation is raised when the offer's message body contains one or more rule smart assets, or when the message's body exceeds more than 200 characters when Send message as JSON payload is unchecked at the channel.
- A record is counted as invalid when:
 - One or more attributes contains a value more than 100 characters in length.
 - The channel type does not contain the values 'APNS'/'GCM'.
 - Registration token is null or empty.
- If the channel's Send message as JSON payload property is checked, the message body is as JSON. If unchecked, it is sent as text.
- Up to 40 custom attributes can be created. Each custom attribute's value must not exceed 100 characters long.

3.29.69 Offer Activity Execution – Google Ads Customer Match

At Google Ads Customer Match offer execution, if the offer's Mode of operation is set to 'Create new list', a new audience list with the specified name is created in the Google Ads account. If a list with the same name already exists, it is used instead of creating a new one. Records are then added to the list. When Mode of operation is set to 'Append to existing list', records are added to the audience list specified at the offer. Google Ads ignores records that are already in the list. When Mode of operation is set to 'Delete from existing list', records are removed from the audience list specified at the offer. Google Ads ignores records that are not in the list.

Successful uploads will add rows to the OfferHistory_GoogleAdsCustomerMatchTracking data warehouse table. Its structure is as follows:

- Audience List ID: the ID of the audience list where the record was inserted/removed
- Channel Execution ID
- Date Sent
- Channel ID
- Contact Info: pre-hashed value of the email or phone number, or non-pre-hashed value of third-party ID or mobile device ID
- First Name
- Last Name
- Country Code
- Postal Code
- City

- State

3.29.70 Offer Activity Execution – Control

When an individual is targeted via a Control channel, records are created in offer history tables, but no fulfillment action occurs.

3.29.71 Decision Offer Activity Execution

When a decision offer is executed, the rules configured therein are used to determine which of its test offers is the winning offer.

It is important to note that it is not the raw number of records matching a given fulfillment state that determines the winning test offer. Rather, the number of records in a given state as a proportion of the records targeted by the test offer is used to decide which is the winner. This allows you to target test offers at data sets of differing sizes and use their relative efficacy as the medium through which to determine the winner.

Having determined the winning test offer, a decision offer then fulfills that offer to its own input data set (which must differ from the data sets at which its test offers were targeted).

If it was not possible to determine a winning test offer (e.g. in the event of a tie), the default test offer, as defined at the decision offer's configuration panel, is fulfilled by the decision offer. If a default offer was not specified, a test offer is picked at random.

3.29.72 Seeds Execution

When a channel is configured with seed groups, seeds are applied to the channel output where seed column names match the output's attribute names. How this comparison is made is dependent upon the context:

- Offer data extract channel: compared against export template attributes and attributes defined at the offer.
- Offer Email: compared against email address and attributes embedded in offer content.
- Offer Control: seeds not supported
- Broadcast: seeds not supported
- Export: seeds not supported
- Subscription group: seeds not supported
- Control: seeds not supported

Note that matches are not case sensitive. Where an attribute name contains a character that is not database compatible, that character is replaced by an underscore when performing the comparison against the seed column name.

Seeds are inserted at regular intervals in data extract export files in accordance with the number of seeds and the number of export records.

If no records are targeted by the activity, no seed fulfillment occurs.

Seeds can also be appended at audience execution, if configured at a batch audience or interactive activity configured with an audience . Note that audience-appended seeds are overridden by any downstream fulfillment activity seed assignment.

3.29.73 Subscription Group Activity Execution

When you add a subscription group to an interaction you need not place it downstream from an audience to ensure the interaction's validity. Also, no restrictions apply regarding upstream or downstream activity connectivity.

When you execute a subscription group activity in test mode, its status is set to Activated and no results are displayed.

Activated subscription groups remain in this state thereafter, with results data collated for a period of time accordant with the channel's No. of days fulfillment active property.

3.29.74 Subscription Group Activity Execution – SurveyMonkey

When you execute a SurveyMonkey subscription group in production mode, it enters an Activated state. Its bubble count represents the total number of respondents to the related survey.

If the channel was configured to import survey data, on retrieval of the same when executing the channel's synchronization task, survey data is imported into the following database tables (which are created at initial data import):

- RPI_SM_[Survey table name]_Survey
 - SurveyID
 - Title
 - DateCreated
 - QuestionCount
 - ResponseCount
- RPI_[Survey table name]_SMQuestion
 - SurveyID
 - QuestionID
 - Question
- RPI_[Survey table name]_SMAnswer
 - SurveyID

- QuestionID
- AnswerID
- Answer

If the channel's Survey table name is changed, existing tables are retained and a new set of tables are created.

If the channel was configured to import respondent data, the same stipulations around table creation apply, with data being imported into the following set of tables:

- RPI_[Respondent table name]_SMRespondent
 - SurveyID
 - RespondentID
 - Email
 - Firstname
 - Lastname
 - CustomID
- RPI_[Respondent table name]_SMResponse
 - SurveyID
 - RespondentID
 - QuestionID
 - AnswerID
 - Answer

If the channel was not configured to import survey and/or respondent data, the related steps are not performed at channel synchronization task execution.

3.29.75 Subscription Group Activity Execution – Alchemer

When you execute an Alchemer subscription group in production mode, it enters an Activated state. Its bubble count represents the total number of respondents to the related survey.

If the channel was configured to import survey data, on retrieval of the same when executing the channel's synchronization task, survey data is imported into the following database tables (which are created at initial data import):

- RPI_SGSurvey_{Survey table name}

- SurveyID
- Title
- Status
- DateCreated
- DateModified
- ResponseCount
- TestResponseCount
- RPI_SGSurveyQuestion_{Survey table name}
 - SurveyId
 - QuestionId
 - Question (truncated if > 4000 characters)
- RPI_SGSurveyOption_{Survey table name}
 - SurveyId
 - QuestionId
 - OptionId
 - Option (truncated if > 4000 characters)

If the channel's Survey table name is changed, existing tables are retained and a new set of tables are created.

If the channel was configured to import respondent data, the same stipulations around table creation apply, with data being imported into the following set of tables:

- RPI_SGRespondent_{Respondent table name}
 - ResponselId
 - SurveyId
 - Status
 - RPCContactId
 - ChannelExecutionId
 - DateSubmitted
 - STD_Referer

- STD_UserAgent
- STD_IP
- STD_Long
- STD_Lat
- STD_GeoCountry
- STD_GeoCity
- STD_GeoRegion
- RPI_SGResponse_{Respondent table name}
 - Responseld
 - SurveyId
 - QuestionId
 - OptionId
 - Answer (truncated if > 4000 characters)

If the channel was not configured to import survey and/or respondent data, the related steps are not performed at channel synchronization task execution.

3.29.76 Subscription Group Activity Execution – Twilio Inbound SMS

When you execute a Twilio Inbound SMS subscription group in production mode, it enters an Activated state. Its bubble count represents the total number of messages received by the Twilio Inbound SMS number with which it is configured.

3.29.77 Subscription Group Activity Execution – LiveRamp RampID

At execution of a LiveRamp RampID subscription group, a file is exported in accordance with channel and subscription group settings. The exported file is formatted as RampID data. The following additional columns are available at the exported file:

- [SEGMENT_NAME]: value '1'
- RPIEXECUTIONID: value '[CLIENTID]_[CHANNELEXECUTIONID]_[YYYYMMDDhhmmss]'

Execution fails if the number of records exported is less than 25, or more than 500 million.

Segment records are distributed to the destination accounts selected at the subscription group upon execution of the channel's synchronization task.

Note that segments may only become available at the selected destination(s) upon successful completion of the data onboarding by LiveRamp, typically 3 to 5 days post file upload.

3.29.78 Broadcast Activity Execution - Twitter

If a Twitter channel is configured within a broadcast, its selected offer supports the Twitter delivery method and the offer contains valid Twitter content not posted most recently using Twitter account, the Twitter message is posted using the account credentials defined within the Twitter channel. Any Pictures included in the offer are also posted.

If the Twitter message contains a URL, and the channel is configured with Google Analytics, web events or Matomo adapters, on following the link in the posted message, website activity can be tracked and monitored. This is carried out by the appending of query string parameters to the URL.

The following parameters are appended for a Google Analytics adapter:

- utm_source
- utm_medium
- utm_content
- utm_campaign

The following parameters are appended for a Web Events adapter:

- exid: ChannelExecutionID

The following parameters are appended for a Matomo adapter:

- clid: ClientID
- exid: ChannelExecutionID

The following parameters are appended for a Kissmetrics adapter:

- kme: DeliveryMethod
- km_exid: ChannelExecutionID
- km_campaign: Offer activity name

At Twitter broadcast execution via a channel to which one or more shortener (Bitly or Rebrandly) adapters are attached, each URL in the offer content accordant with the attached shorteners is shortened. If a Web site URL is provided at a shortener adapter, only instances of the URL quoted (and sub-addresses thereof) are shortened. If Web site URL is not provided, all URLs are shortened. All other attached web adapters are applied prior to shortening URLs. If more than one shortener adapter is attached to the channel, all are applied. Previously-shortened URLs are not shortened.

A warning message is displayed at execution of a workflow containing a broadcast if configured with a lengthy Twitter offer that contains a URL such that appending web analytics

parameters in accordance with the channel setting will exceed the 140-character Twitter message limit. You can click OK to proceed with execution; however, the Twitter message posting will fail if too long. Note that shortened URLs are taken into account when determining the message's length, if one or more shortener adapters is attached to the channel.

Having posted a Twitter message, RPI will report the following results, which are accessible in the Results Window:

- Replies
- Retweets

Additionally, if the channel was associated with one or more shortener adapters, the following result is available:

- Click count: if Append execution ID was checked at the shortener adapter, an 'exid' parameter is appended to any shortened link. When this is the case, only clicks of shortened URLs made from the offer content are counted. If exid is not appended, all clicks of shortened URLs are counted.

3.29.79 Broadcast Activity Execution – Facebook

You can post a message via a Facebook app to your company's (or another) Facebook wall via a broadcast activity, using a standard post. You can also post an offer for business, which allows you to post a discount or promotion to a Facebook page. The message is posted in accordance with settings at the Facebook offer and channel.



If you attempt to execute a Facebook broadcast using a Facebook channel that has not been configured with a web publish site, a runtime validation error is raised.

If an incorrect account name is specified in the channel, broadcast execution fails.


A standard post message contains:

- Company image and name
- Message
- Picture
- Link
- Post action

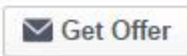
An offer for business message is accordant with the offer's settings.

 **RedPoint Page** posted an offer.
2 hrs · 

Take advantage of our lovely offer!



End of Summer Sale
Expires Sunday, June 14, 2015



If the Facebook post contains a URL (in the message, link or post action), and the channel is configured with Google Analytics, web events or Matomo adapters, on following the link in the posted message, website activity can be tracked and monitored. This is carried out by the appending of query string parameters to the URL.

The following parameters are appended for a Google Analytics adapter:

- utm_source
- utm_medium
- utm_content
- utm_campaign

The following parameters are appended for a Web Events adapter:

- rpcid: RPCContactID
- exid: ChannelExecutionID

The following parameters are appended for a Matomo adapter:

- clid: ClientID
- exid: ChannelExecutionID

The following parameters are appended for a Kissmetrics adapter:

- kme: DeliveryMethod
- kmi: Contact Key
- km_exid: ChannelExecutionID
- km_campaign: Offer activity name

At Facebook broadcast execution via a channel to which one or more Bitly adapters are attached, each URL in the offer content accordant with the attached Bitly adapters is shortened. If a Web site URL is provided at a Bitly adapter, only instances of the URL quoted (and sub-addresses thereof) are shortened. If Web site URL is not provided, all URLs are shortened. All other attached web adapters are applied prior to shortening URLs. If more than one Bitly adapter is attached to the channel, all are applied. Previously-shortened URLs are not shortened.

Having posted a Facebook message, RPI will report the following results, which are accessible in the Results Window:

- Likes
- Comments
- Angrys
- Hahas
- Loves
- Sads
- Wows

Additionally, if the channel was associated with one or more Bitly adapters, the following result is available:

- Click count: if Append execution ID was checked at the Bitly adapter, an 'exid' parameter is appended to any shortened linked. When this is the case, only clicks of shortened URLs made from the offer content are counted. If exid is not appended, all clicks of shortened URLs are counted.

3.29.80 Broadcast Activity Execution – Facebook Marketing

Execution of a Facebook Marketing broadcast allows you to create one or more of the following Facebook entities (based on the Facebook Marketing offer's settings):

- Facebook campaign

- Ad set
- Creative
- Ad

Facebook Marketing objects are created in accordance with the offer's settings, and with the channel's account name. If an incorrect account name is specified at the channel, broadcast execution fails.

The created Facebook Marketing objects can be found at the following locations:

[https://www.facebook.com/ads/manage/home/?account_id=\[Account ID\]](https://www.facebook.com/ads/manage/home/?account_id=[Account ID])

<https://developers.facebook.com> > Tools & Support > Ads Manager

The actual display of ads is controlled by Facebook using their algorithm. post-broadcast execution, their existence can be confirmed using Ads Manager, where ads can be previewed by clicking within the Ad table.

3.29.81 Broadcast Activity Execution – Facebook Lookalike Audience

Upon execution, a Facebook Lookalike Audience is created based on the offer's settings. Execution will fail if there are fewer than 100 seed audiences in a country from the selected Custom Audience.

The created Lookalike Audience objects can be found at the following locations:

[https://www.facebook.com/adsmanager/audiences?act=\[Account ID\]](https://www.facebook.com/adsmanager/audiences?act=[Account ID])

<https://developers.facebook.com> > More > Tools > Ads Manager > All Tools > Audience

3.29.82 Broadcast Activity Execution – LinkedIn

You can post a message using a LinkedIn account via a broadcast activity. The message is posted in accordance with settings at the LinkedIn offer and channel.

The message is shared with all LinkedIn members, or just connections, as per the offer's definition.

The message includes a company image and name, derived from the account with which the channel is configured. Clicking either navigates to the company's information page.

If the message included a link, it is displayed, accordant with offer settings, below the posting.

If the message contains a URL (in the message, link or post action), and the channel is configured with Google Analytics, web events or Matomo adapters, on following the link in the

posted message, website activity can be tracked and monitored. This is carried out by the appending of query string parameters to the URL.

The following parameters are appended for a Google Analytics adapter:

- utm_source
- utm_medium
- utm_content
- utm_campaign

The following parameters are appended for a Web Events adapter:

- rpcid: RPCContactID
- exid: ChannelExecutionID

The following parameters are appended for a Matomo adapter:

- clid: ClientID
- exid: ChannelExecutionID

The following parameters are appended for a Kissmetrics adapter:

- kme: DeliveryMethod
- kmi: Contact Key
- km_exid: ChannelExecutionID
- km_campaign: Offer activity name

Note that only metric, and not state results, are returned by web events adapters in a LinkedIn broadcast.

At LinkedIn broadcast execution via a channel to which one or more Bitly adapters are attached, each URL in the offer content accordant with the attached Bitly adapters is shortened. If a Web site URL is provided at a Bitly adapter, only instances of the URL quoted (and sub-addresses thereof) are shortened. If Web site URL is not provided, all URLs are shortened. All other attached web adapters are applied prior to shortening URLs. If more than one Bitly adapter is attached to the channel, all are applied. Previously-shortened URLs are not shortened.

If the channel was associated with one or more Bitly adapters, the following additional result is available:

- Click count: if Append execution ID was checked at the Bitly adapter, an 'exid' parameter is appended to any shortened linked. When this is the case, only clicks of shortened URLs made from the offer content are counted. If exid is not appended, all clicks of shortened URLs are counted.

3.29.83 Broadcast Activity Execution – YouTube

When you execute a broadcast activity configured with a YouTube offer in production mode, any videos that were added to the offer are uploaded and are available to view at the YouTube account's channel.

Thereafter, metrics pertaining to videos' being viewed are tracked, and are available at the Results Window.

3.29.84 Broadcast Activity Execution – RSS

When you execute a broadcast activity configured with RSS offer in production mode, the RSS feed that it defines is published to its channel's web publish site.

When a new feed is created, you must update its settings in FeedPress to facilitate its push notification to RSS readers, and to track metrics in respect thereof.

Details of how this can be carried out are provided in the RPI External Configuration documentation.

After successful execution of an RSS broadcast, the activity's logs will display

'FeedPress feed URL: [http://feedpress.me/\[FEED_ALIAS\]](http://feedpress.me/[FEED_ALIAS])'

This URL must be used by subscribers wishing to subscribe to the RSS feed. The links in the RSS content in the URL will have already been marked up by FeedPress to track subscribes and reads; this information is used by RPI to update the Subscribers and Reads metrics, which are displayed in the Results Window.

Note that FeedPress is used to track the count of the subscriptions to and reads of the RSS document. This is done by replacing the document's links with tracking links when the original RSS URL is passed to FeedPress. By using the feed alias, RPI can request subscriber and read counts from FeedPress.

3.29.85 Broadcast Activity Execution – Azure Notification

When you execute a broadcast activity configured with an Azure Notification offer in production mode, the message therein is pushed to all devices (Apple iOS, Windows and Android) registered with the channel's Azure notification hub via a custom app.

If the offer is configured with one or more tags, and devices registered using a tag from the list will receive the notification. If a device is not registered with a tag, it does not receive the notification.

The set-up of custom mobile applications to support the receipt of Azure Notification push messages is beyond the scope of this documentation. For further guidance, please contact Redpoint Support.

3.29.86 Broadcast Activity Execution – Twilio Notify

Upon activating a Twilio Notify broadcast in Production mode, Twilio broadcasts a notification using the selected channel to recipients associated with the offer's specified identities, and/or tags. Overridden content can be substituted if applicable

3.29.87 Broadcast Activity Execution – Google Firebase

A runtime validation error is raised for when an offer contains attributes or dynamic text assets, advising that issues might occur at if the total message content exceeds 2000 characters. Otherwise, Firebase notifications are sent to appropriate devices.

3.29.88 Broadcast Activity Execution – Above The Line

To collate Above The Line channel results using a fulfillment state flow, add a broadcast to your interaction and configure it using an Above The Line channel. Note that configuration of the broadcast's offer property is not required in this context. Note also that results are collated in Production mode only.

3.29.89 Downstream Post-Fulfillment Activity Execution

During execution of an activity that is downstream from another fulfillment activity, any records output by the preceding activity that match the inputs selected in the current activity are targeted. These include records in the following states:

- Targeted state: selected by default when configuring the downstream activity, Targeted represents all records output by the upstream activity.
- Email service provider-supplied states (e.g. Click Through). Note that, when a recipient clicks multiple URLs within an email, this counts as single Click Through.
- Any custom fulfillment states defined for the channel.
- Any combination of the above

Note that, if you select multiple states, the downstream activity will occur where records satisfy state A OR state B. Also, for a record to be counted as in a state, it must also satisfy the cumulative rules associated with all ancestor states (for example, a state flow might define a state of 'Applied', followed by child state 'Accepted'; for record to qualify as Accepted, it must also satisfy the rules that define Applied).

3.29.90 Queue Listener and Activity Execution

On activating a queue listener, it enters an Activated state (following temporary assumption of a Waiting for Trigger state). Its configuration panel's properties are read-only when Activated.

When Activated, a queue listener begins monitoring the listener queue for the arrival of JSON packages that include a reference to its Listener key. Such packages may be placed on the queue by a third party, or via the submission of an RPI web form.

The JSON package format is as per the following example:

```
{
  'TriggerKey': '5df1c3d2-fc20-419c-8462-982e7769524a',
  'SendAddress': 'jim.hinder@Redpoint.net',
  'Parameters':
    {
      'FirstName': 'John',
      'LastName': 'Smith'
    },
  'RepeaterParameters':
    [
      {
        'OrderTitle': 'Purchased',
        'ParamProductName': 'Product X',
        'ParamProductValue': '9.99',
        'ParamProductDate': '04/07/2016 00:00:00'
      },
      {
        'OrderTitle': 'Purchased',
        'ParamProductName': 'Product X',
        'ParamProductValue': '9.99',
        'ParamProductDate': '04/07/2016 00:00:00'
      }
    ]
}
```

Please note the following:

- TriggerKey must be set to the required queue listener's Listener key GUID value.
- If the posting of the JSON package to the queue is to initiate the sending of an email, the recipient's email address must be supplied as the SendAddress.

The Parameters section represents data that is to be substituted at parameter attributes (e.g. contained in email offer content). The names of the passed parameters must match the names of the parameter attributes to be substituted.

The RepeaterParameters section is used to pass details of repeating entities that are to be output in offer content. For example, you might want to send a customer a confirmation email listing the products that they purchased. You can pass the products' details in the RepeaterParameters section, then include parameter assets representing the same in a table asset in the email offer they are to be sent.

Queue listener repeater parameters, as defined at a queue activity's audience definition, are stored in a data warehouse table named '[Queue listener resolution table name]_RP'. For more information, please see the Audience Definition section in the Configuration documentation.

Any packages for the attention of a specific queue listener that are placed on the listener queue when the queue listener is in a Deactivated state are ignored.

The listener queue is checked every second for the arrival of JSON packages. Packages are processed in batches. The maximum number of records that can be processed in the same batch is defined by cluster system configuration setting ListenerQueueMaxBatchSize. For example, if

9 records arrive on the queue, and ListenerQueueMaxBatchSize is set to 5, 2 batches (1 of 5, 1 of 4) are processed.

Upon a queue listener's receipt of a JSON package with a matching Listener key, any downstream queue activities are executed. Such packages may be placed on the listener queue by an external system, or through submission of an RPI web form that has been configured with an interaction and queue listener.

When a queue listener's Realtime Event section has been configured, on the occurrence of a realtime event, and subsequent execution of the Web events importer system task, the queue listener will fire if the type of event matches the listener's configuration, with any Event detail filters applied and all matches at specified event metadata. Any parameters defined in the QueueListenerConfiguration, as sourced from the visitor profile, will be available to the queue listener (these can be used e.g. to personalize content, or can be written to the queue listener resolution table). If a subsequent appropriate event occurs in respect of a specific individual within the duration defined by the Prevent repeat sends for property, the queue listener does not fire.

When you execute a queue activity in Production mode, data from the JSON package's parameters is written to the queue listener resolution table, as defined by the queue activity's audience definition. To be stored in the queue listener resolution table, the name of a passed parameter must match the name of the column in that table (in turn defined by the audience definition's Queue listener attributes. When a column value is not supplied, the parameter attribute's default value is written to the table instead. When the package contains a parameter not in the resolution table, it is ignored. When resolution table structure has been changed, any legacy column values are set to NULL.

If offer content contains a non-parameter attribute with a name matching that of a passed parameter, the parameter value is substituted.

If a queue activity's Generate offer history radio button is selected, a record is written to offer history; If Don't generate... is selected, an offer history record is not written.

If a queue activity is configured with an email offer, an email is sent to the SendAddress recipient using the selected channel's email service provider (note that this takes place after offer history has been written). Any parameter attributes are substituted in email offer content (including any RepeaterParameters to be output within embedded table assets).

If the offer with which a queue activity is configured is edited, its new version is picked up only when the queue activity's queue listener is de- and re-activated.

When you execute a queue activity in Test mode, data is not written to the queue listener resolution table. If the queue activity is configured to write data to offer history, data is written to the offer history sandbox table defined by its audience definition. If configured with an email offer, note that emails are sent when a queue activity is executed in Test mode. If configured with a data extract offer, only the full export file is generated (the channel's Create files in Test mode property being ignored).

On deactivating a queue listener, it once again enters an Inactive state. Any downstream queue activities are also Deactivated. Having deactivated a queue listener that was executing in Production mode, you can re-activate it. You can also make changes to an existing queue activity's properties, including its offer, when Deactivated. Note that you cannot add additional queue activities to a Deactivated queue listener.

If a downstream workflow uses a queue listener workflow as an input workflow, the input workflow must be executed in the same mode. Any activities in the downstream workflow act upon the records sourced from the queue listener workflow. You can execute a downstream workflow irrespective of the current queue listener workflow's status. Note that, if activities in the downstream workflow are to make use of the records gathered by the queue listener, they can make use of the appropriate queue listener resolution level to facilitate their targeting.

On submission of a web form at which a Queue listener interaction and workflow is selected, a JSON package is automatically placed on the listener queue and is picked up by the queue listener with which the web form is submitted. Any queue activities downstream from the queue listener are fulfilled.

If such a queue activity is configured with an email offer, the email is delivered to the email address as submitted in an Email form element. If any web form element parameters are included in the email offer's content, the values submitted in the web form are substituted. If the web form does not contain an Email element, emails are unable to be delivered (the queue activity's Log, as displayed in the Results Window, advises of this fact).

You can execute a Post-channel execution web service following execution of a queue activity offer. HTTP Post/JSON and RPDM Web Service calls can be made. SOAP Web Service calls are not supported in this context, and any such channel settings are ignored.

If configured, Realtime in Outbound can be used to vary delivered content served by a queue activity.

3.29.91 Audit Files

When a fulfillment activity that sources its data from an audience based on an audience definition that is configured to produce audit files is executed, audit files may be generated. One or more audit files are generated if the current mode of execution matches the audience definition's audit export configuration setting. A separate audit file is generated per channel.

Audit files are generated in a subfolder at a location defined by system configuration setting FileExportLocation, within an initial 'WFAI' (workflow instance ID) subfolder.

Each audit file is named as follows:

'[Fulfillment activity name]_[Channel Execution]_[Wave ID].txt'

3.30 The Interaction Designer and NoSQL Databases

The following sections document ramifications for the Interaction Designer when working in a NoSQL database environment:

- The following toolbox activity is not supported:
 - Workflow Builder
- The following file types are available in the Folder search control:
 - Audience
 - Selection rule
 - Export template
 - Offer
 - Subscription group
- All trigger types are supported.

When configuring a database count trigger constraint, a NoSQL selection rule is used as the basis for determining whether the constraint has been satisfied.

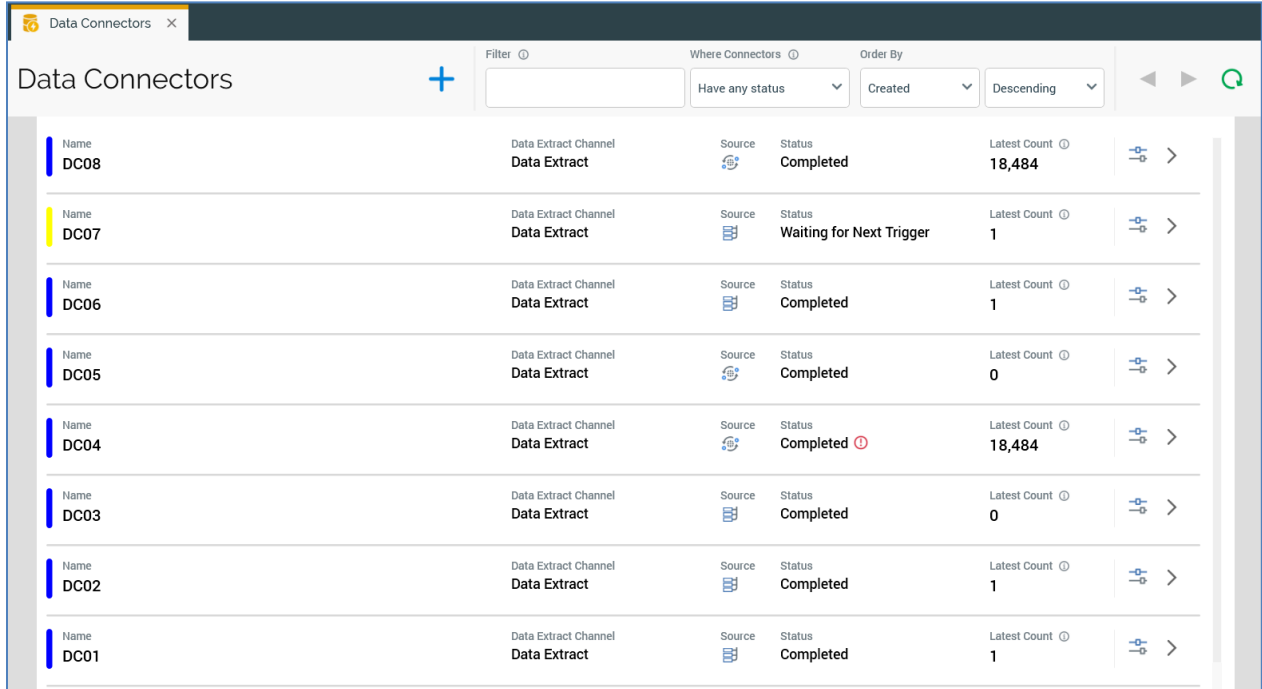
- Queue listeners and activities are supported.
- Batch audiences and interactive activities are supported.
- Alchemer subscription groups only are supported.
- The Data Process activity is supported.
- The following offer types are supported at the Data Transfer activity:
 - Data extract
 - Realtime cache
 - LiveRamp
- The following delivery methods are supported at Broadcast activities:
 - Facebook
 - Push Notification
 - Google Firebase and Twilio Notify only

- The Control activity is supported.
- The Export activity is supported.
- Offer activities are supported.
 - The following delivery methods are supported:
 - Salesforce Marketing Cloud Data Transfer
 - Data Extract
 - Email
 - Outbound Delivery
 - Push Notification Direct
 - Google Firebase and Twilio Notify only
 - SMS
 - When setting the filter property in the Offer Activity Channel Configuration dialog, a NoSQL selection rule is used.
- Decision Offers are supported.
- At workflow execution:
 - Offer history results are written to the offer history collection, as defined by the audience's NoSQL database offer history definition. Test execution results are written to a '_test' equivalence.
 - Metadata is written to a nested AudienceSelection.meta collection.
 - Audiences in the same workflow must share the same offer history definition.NoSQL database collection definition.Collection name.
 - The Fulfillment state flow count updates task must be executed before state flow counts are available. Note that this might impact workflows relying on the presence of such counts to make decisions re. inputs.
 - A runtime validation error is raised if email offer is being executed, and an email address is not present in the collection from which data is being sourced.
- Any unsubscribed customers are persisted in a ChannelSuppression array in the offer history definition's NoSQL collection definition. Each record therein contains the following:
 - Name (equivalent to Table name when running in a SQL context)
 - Reason

- Date

4 Data Connectors

The Data Connectors interface is used to create and manage Data Connectors.



The screenshot shows the 'Data Connectors' interface. At the top, there is a header with a plus sign, a filter input, and dropdown menus for 'Where Connectors' (set to 'Have any status'), 'Order By' (set to 'Created'), and 'Descending'. Below the header is a table with the following columns: Name, Data Extract Channel, Source, Status, Latest Count, and a set of icons for filtering and actions. The table contains eight rows of data:

Name	Data Extract Channel	Source	Status	Latest Count	Actions
DC08	Data Extract	[Source Icon]	Completed	18,484	[Filter] [Action]
DC07	Data Extract	[Source Icon]	Waiting for Next Trigger	1	[Filter] [Action]
DC06	Data Extract	[Source Icon]	Completed	1	[Filter] [Action]
DC05	Data Extract	[Source Icon]	Completed	0	[Filter] [Action]
DC04	Data Extract	[Source Icon]	Completed [Warning]	18,484	[Filter] [Action]
DC03	Data Extract	[Source Icon]	Completed	0	[Filter] [Action]
DC02	Data Extract	[Source Icon]	Completed	1	[Filter] [Action]
DC01	Data Extract	[Source Icon]	Completed	1	[Filter] [Action]

Data Connectors allow you to transfer data, on a repeating basis, to a third party. Data connectors provide a simpler way to effect data integration without the unnecessary overhead inherent in performing this task using an interaction.

The following types of native Data Connector are currently supported:

- Data Extract: facilitates the regular export of data to a file from RPI.
- Realtime Cache: facilitates the regular transfer of RPI data to visitor profiles within the RPI realtime cache.

The following types of data connector facilitate the regular transfer of data from RPI to a provider:

- CRM:
 - Salesforce CRM: facilitates the regular transfer of data from RPI to the provider. In addition, if supported by the channel's configuration, data updates at Salesforce can be synchronized to the RPI Data Warehouse.
- Data Onboarding:
 - LiveRamp

- Facebook Custom Audience
- Google Ads Customer Match
- Twitter Tailored Audience
- Yahoo (currently Yahoo Japan only)
- Email:
 - Cordial
 - MailChimp
 - Salesforce Marketing Cloud
 - SendGrid

The Data Connectors interface is displayed in its own tab in the RPI framework. It contains the following elements:

- Toolbar
- Data Connectors list
- Toolbox

Each of the above is documented separately.

Note that data connectors are supported in both SQL and NoSQL environments.

4.1 Invoking the Data Connectors Interface

You can invoke the Data Connectors Interface in the following ways:

- From the quick access menu's Data Connectors menu option. This can be found in the Orchestration menu.
- From a Tasks widget. Typically, this might be displayed at your Home Page. For more information on widgets, please see the Dashboard Designer documentation.

Note that access to the Data Connectors Interface is controlled via the Data Connectors – Design functional permission. If none of the user groups of which you are a member are associated with this permission, you will not be able to access the Data Connectors Interface.

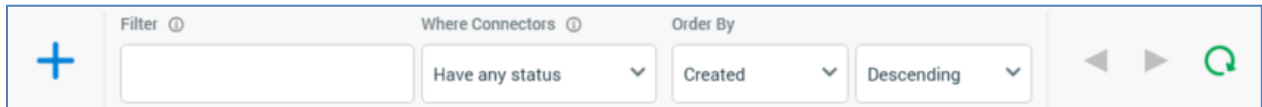
4.2 Closing the Data Connectors Interface

You can close the Data Connectors Interface by closing the tab within which it is displayed, or by shutting down RPI itself. If you do so when the interface contains a data connector with unsaved changes, a dialog is shown, within which you can choose to do the following:

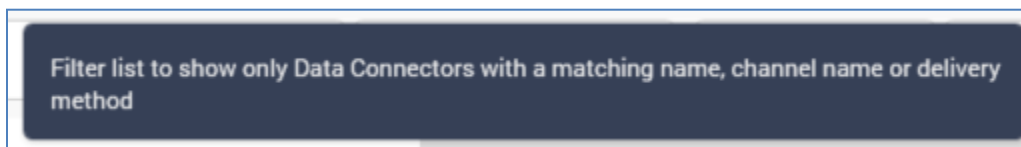
- Save the changes and proceed with closing the Data Connectors Interface
- Abandon the changes and proceed with closing the Data Connectors Interface
- Cancel closing the Data Connectors Interface or RPI.

4.3 Toolbar

The Data Connectors Interface toolbar exposes the following:

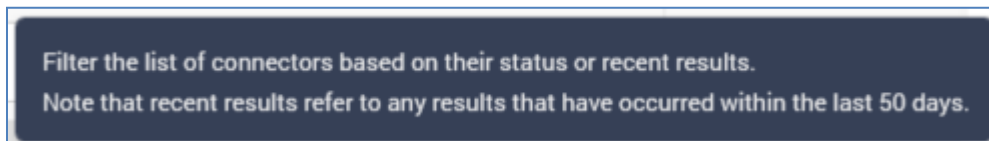


- Add New Data Connector: clicking this button displays the Add New Data Connector overlay, which is documented separately.
- Filter: an information tooltip accompanies this property:



You can enter a text string by which to filter the list of data connectors; only data connectors with a matching name, channel name or delivery method will be displayed when you do so. The filter is applied automatically upon text being entered.

- Where Connectors: an information tooltip accompanies this property:



A dropdown allows you to filter the list of data connectors in accordance with the selected value - where data connectors...

- Have any status
- Have no results
- Have recent failures
- Have no recent failures
- Have no recent results

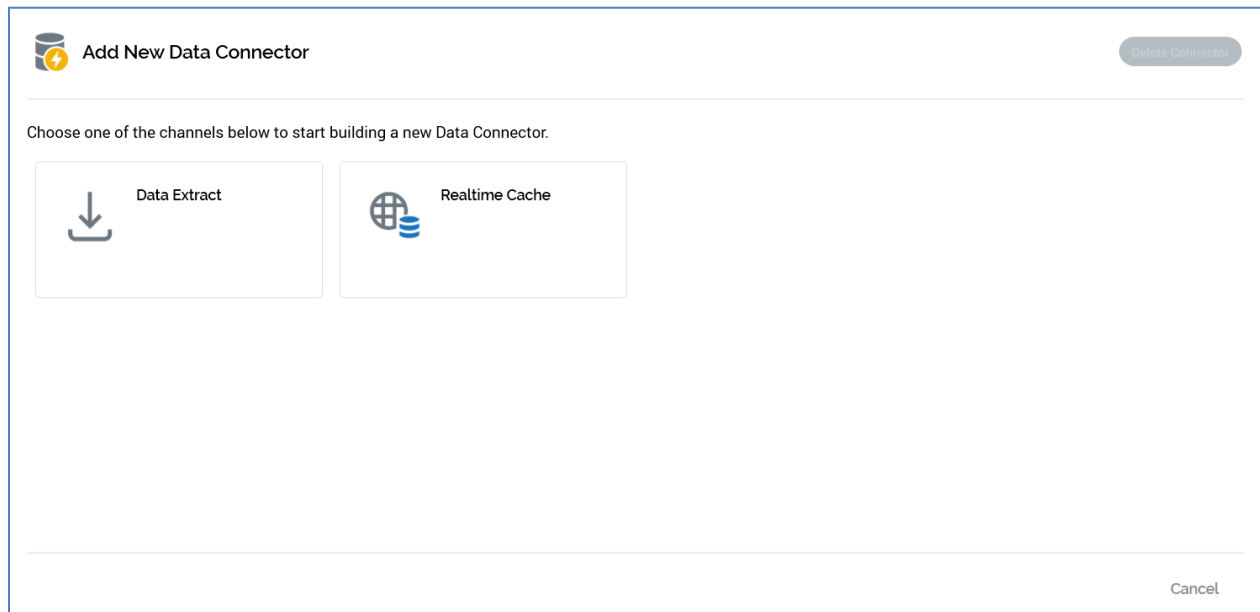
Note that, in the above, 'recent' refers to any occurrence within the last 50 days.

- Order By: this dropdown allows you to order the list of data connectors by name, or by created date (the default).
- Previous/Next Page: these buttons afford access to previous or subsequent pages worth of data connectors.

- Refresh: clicking this button reloads the list of data connectors, and refreshes the statuses of entries displayed therein.

4.4 Add New Data Connector Overlay

On its initial display, the Add New Data Connector overlay contains the following:

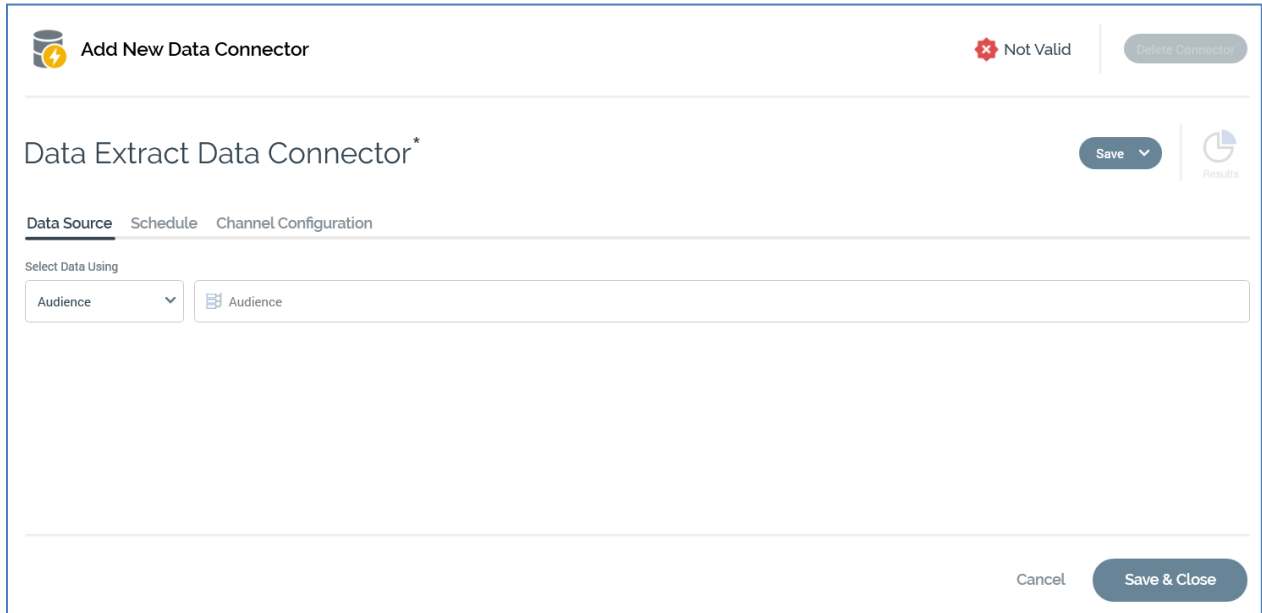


One button is shown for each configured channel of the supported types (data extract, realtime cache, Salesforce CRM and LiveRamp). The selected channel will be leveraged when the new data connector is executed. Choose a channel to continue.

A single button is shown at the bottom of the overlay:

- Cancel: clicking this button removes the overlay from display.

Having selected a channel, the following is shown in the Add New Data Connector overlay:



A validation status indicator is shown at the top of the overlay. When the data connector is invalid, it appears as follows:



Clicking the indicator lists validation errors in a dialog.

When the data connector is valid, the indicator appears as follows:



The data connector's name property is displayed at the top left of the overlay.



Data Extract Data Connector*

Its name defaults to '[Channel Name] Data Connector'. If a data connector with this name exists already, an integer is appended to ensure uniqueness. This value can be incremented.

Provision of a name for the data connector is mandatory, and the value provided can be a maximum of 100 characters in length. The name supplied must be unique across data connectors.

A toolbar exposes a single enabled option:

- Save: clicking this button replaces the New Data Connector overlay with the Manage Data Connector overlay. The Clone and Save menu option, accessed from save, is disabled.

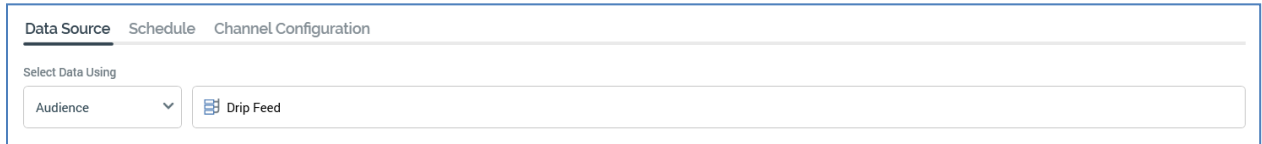
A tabset is shown, exposing Data Source, Schedule and Channel Configuration tabs. Each is documented separately.

Two buttons are shown at the bottom of the overlay:

- Cancel: clicking this button removes the overlay from display. The button is protected by an 'Are You Sure?' dialog.
- Save & Close: clicking this button saves the data connector and removes the overlay from display.

4.4.1 Data Source Tab

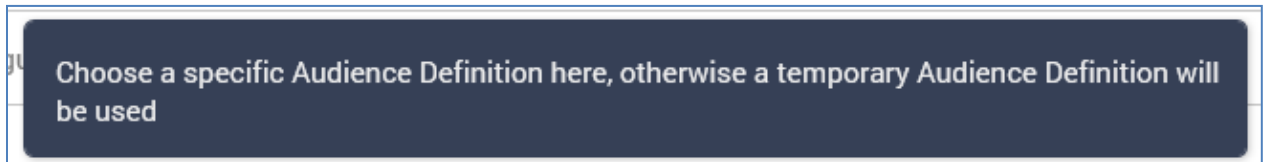
The Add New Data Connector overlay's Data Source tab contains the following:



The screenshot shows a user interface for configuring a data source. At the top, there are three tabs: 'Data Source' (selected), 'Schedule', and 'Channel Configuration'. Below the tabs, there is a section titled 'Select Data Using'. This section contains a dropdown menu currently set to 'Audience' and a button labeled 'Drip Feed' with a small icon to its left.

- **Select Data Using:** this dropdown property allows you to specify whether the data connector will source its data via an audience (the default), or a selection rule.
- **Audience:** this property is displayed if Select Data Using is set to 'Audience'. It is mandatory when shown. Selection of an embedded-only audience is not supported. You can populate the property using browse or drag and drop. You can also initiate the creation of a new item. Having chosen an audience, standard file property functionality is available. You can also clear your selection.
- **Selection Rule:** this property is displayed if Select Data Using is set to 'Rule'. It is mandatory when shown, and you can select a standard, basic or NoSQL selection rule. You can populate the property using browse or drag and drop. You can also initiate the creation of a new item. Having chosen a selection rule, standard file property functionality is available. You can also clear your selection.
- **Audience Definition:** this property is displayed if Select Data Using is set to 'Rule', and a standard or basic selection rule has been chosen. It defaults to the value 'Don't use a configured Audience Definition', and lists all currently-configured audience definitions.

An information tooltip accompanies this property:



You can choose a specific Audience Definition. If you do not, a temporary Audience Definition will be used instead.

4.4.2 Schedule Tab

The Add New Data Connector overlay's Data Schedule tab contains the following:

The screenshot shows the 'Schedule' tab of the 'Add New Data Connector' overlay. It features three main sections: 'Trigger', 'Recurrence', and 'Constraints'. The 'Trigger' section includes a 'Create' dropdown menu set to 'Single workflow instance', a 'Start At' field with a calendar icon showing '17/02/2021 16:12', an 'And' dropdown set to 'end after', a '2' field, and an 'event(s)' button. The 'Recurrence' section has tabs for 'Daily', 'Weekly', 'Monthly', and 'Manual'. Under 'Daily', there are radio buttons for 'Once every' (selected) and 'Every'. Below these are fields for 'Day(s)' (1), 'At' (16 : 12), 'Duration', 'From', and 'To'. A note states 'If firing missed, trigger will fire as soon as able to. Thereafter' with a dropdown menu. The 'Time Zone' section shows a dropdown menu set to '(UTC+00:00) Dublin, Edinburgh, Lisbon, London'. The 'Constraints' section is currently empty.

The tab's contents allow you to specify the cadence at which the data connector will be executed. Its contents mirror the Recurring Trigger, details of which can be found within the Interaction Designer documentation.

4.4.3 Channel Configuration Tab

The Add New Data Connector overlay's Channel Configuration tab contains the following:

This tab allows you to configure channel-specific offer properties, accordant with the selected data connector. These are as per the requisite Offer Designer, unless cited below:

- Cordial:
 - Account list: as sourced from Cordial
 - Data Transfer Attributes
- MailChimp:
 - MailChimp Audience Name: as sourced from MailChimp
 - Data Transfer Attributes
- Salesforce Marketing Cloud:
 - Data Extension: you can select one or more data extension names as sourced from SFMC. A new data extension name will be created on saving the data connector. The newly-created data extension will only be reflected in the SFMC Portal upon initial Data connector execution. If the data extension name is left blank, the system will use the name 'SFMC Email Channel' as a default.
 - Data Transfer Attributes
- SendGrid:

- List name: sourced from SendGrid.
- Data Transfer Attributes

Note that a validation error will be raised at data connector execution if more than 120 fields are used at the channel's configuration.

- Microsoft Dynamics CRM
- Google Ads Customer Match
- Yahoo
 - Audience list: defines the Yahoo audience list to which data will be uploaded from RPI. You can select an existing account list name, as sourced from Yahoo. You can also provide a new account list name; if you do so, it will be created upon saving the data connector. Note that a newly created account list will only be reflected in the Yahoo portal upon initial data connector execution.
 - Data Transfer Attributes: you can define the data to be sent to Yahoo on data connector execution by dragging in attributes, or by dragging in an export template. A warning is raised if duplicate attributes are added. Having added an attribute, you can delete it. You can also re-order attributes.

4.5 Data Connectors List

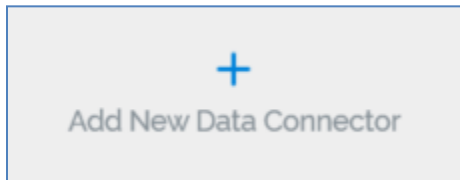
The following message is displayed when no data connectors have been configured at the current RPI client:



No Data Connectors were found that match the current filter

If one or more data connectors has been configured, they are displayed in the list. By default, data connectors' details are hidden. Paging is applied to the list, with a maximum of 20 data connectors being shown per page.

An Add New Data Connector button is displayed at the bottom of the list:



Clicking it displays Add New Data Connector overlay (documented separately).

4.6 Data Connector in List – Details Hidden

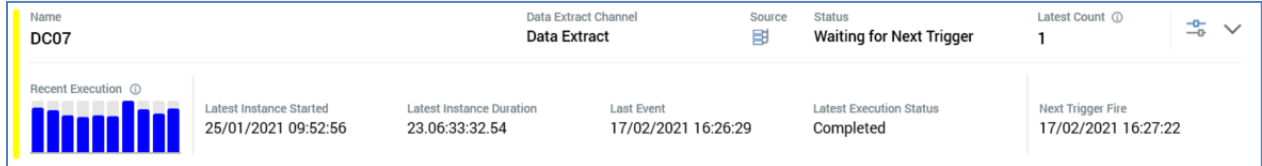
The following read-only details are shown at a data connector within the list when its details are hidden:

	Name DC08	Data Extract Channel Data Extract	Source 	Status Completed	Latest Count ⓘ 18,484	 >
---	--------------	--------------------------------------	---	---------------------	--------------------------	---

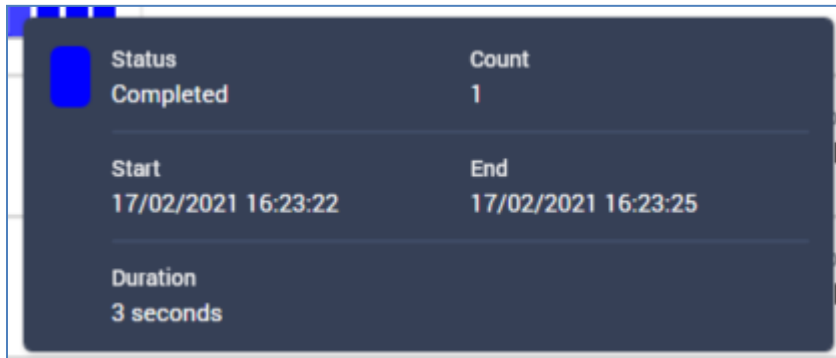
- [Color bar]: the color bar displayed to the left of the connector illustrates its current status:
 - Gray: Not Started, Deactivation Requested, Trigger Deactivated
 - Yellow: Waiting for Trigger
 - Orange: Trigger Requested
 - Green: Playing
 - Blue: Completed
- Name
- Channel
- Source: either a selection rule or audience icon is shown; file details are shown in a tooltip on hover.
- Status
- Latest Count: the count of records targeted in most the data connector's most recent execution. If the connector supports bi-directional data synchronization, Outbound and Inbound counts are displayed separately.
- Options:
 - Manage this Data Connector: selecting this options displays the Manage Data Connector overlay (documented separately).
 - Show/Hide Details: selecting this option shows or hides further details of the data connector (depending on its current state).
- Show/Hide Details

4.7 Data Connector in List – Details Shown

The following additional read-only properties are displayed at a data connector when its details are shown:



- Recent Execution: a bar chart shows the relative durations of up to 10 of the most recent instances of the connector's execution. An information tooltip is shown on hovering over a bar:



- Latest Instance Started
- Latest Instance Duration
- Last Event
- Latest Execution Status
- Next Trigger Fire

4.8 Manage Data Connector Overlay

The contents of the Manage Data Connector overlay, which is displayed on invocation of Manage this Data Connector, are as per the Add New Data Connector overlay, with the following differences:

The screenshot displays the 'Manage Data Connector' overlay for connector 'DC07'. The interface is divided into several sections:

- Header:** 'Manage Data Connector' title, a 'Valid' status indicator, and a 'Delete Connector' button (shown in gray).
- Connector Info:** 'Data Extract Channel: Data Extract', 'Status: Waiting for Next Trigger', and 'Save' button.
- Workflow Instance:** 'Latest Workflow Instance' section showing 'Started: 25/01/2021 09:52:56', 'Duration: 23 days, 6 hours, 34 minutes', 'Last Event: 17/02/2021 16:27:28', and 'Status: Completed'.
- Recent Execution:** A bar chart showing the frequency of recent executions.
- Next Trigger Fire Times:** A list of upcoming trigger times: 17/02/2021 16:28:23, 17/02/2021 16:29:23, 17/02/2021 16:30:23, 17/02/2021 16:31:23, and 17/02/2021 16:32:23.
- Data Connector File Details:** 'Modified: 25/01/2021 09:52:51', 'Modified by: coreuser', and 'Created: 25/01/2021 09:52:51'.
- Schedule Configuration:** 'Data Source: Schedule', 'Trigger: Single workflow instance', 'Start At: 25/01/2021 09:52', 'And: never end', 'Recurrence: Every 1 minute(s)', and 'Time Zone: (UTC+00:00) Dublin, Edinburgh, Lisbon, London'.
- Constraints:** A message stating 'No constraints have been defined'.
- Footer:** A 'Close' button.

- Delete Connector button: this is displayed to the right of the validation status indicator. It is shown in gray, but becomes red when you hover over it.

The button is enabled when a data connector's status is one of Not Started or Completed. Clicking the button, which is protected by an 'Are You Sure?' dialog, permanently deletes the currently-displayed data connector.

- Save: the button is enabled when unsaved changes are present at the displayed data connector.
- Clone and Save: this option, which is available at a menu accessed from the Save button, is enabled when managing an existing data connector. Clicking the button saves the current data connector as a new data connector, appending '1' to its name. The newly-created data connector's properties are identical to those at the data connector from which it was cloned, and its Status is Not Started.

The following toolbar buttons can be displayed to the right of the Save button:

- Activate: this button is displayed when a data connector's Status is one of Not Started or Completed. Access is protected by the Data Connectors – Execute functional permission. Clicking the button initiates activity within the connector.
- Run Now: this button is displayed when a data connector's Status is Waiting for Trigger. Clicking it immediately executes the data connector's next scheduled execution.
- Deactivate: this button is displayed when a data connector's Status is Waiting for Trigger. It ceases activity within the data connector, and sets its Status to Trigger Deactivated.
- Results: clicking this button displays the data connector's results in the Results Window. For more information, please see that interface's documentation.

A read-only summary section is displayed to the left of the Manage Data Connector overlay. It contains the following:

- '[Channel Name] Channel'
- Status
- Latest Count: the count of records targeted in the data connector's most recent execution.
- Latest Workflow Instance section:
 - Started
 - Duration
 - Last Event
 - Status
- Recent Execution: a bar chart shows the relative durations of up to 10 of the most recent instances of the data connector's execution.

- Next Trigger Fire Times: the next 5 times at which the data connector is scheduled to execute are listed.
- Data Connector File Details: these are shown after a data connector has been activated.
 - Modified
 - Modified by
 - Created
 - Created by
 - Version

You can edit all of a data connector's properties when its Status is Not Started or Completed; otherwise properties are read-only.

4.9 Data Connector Execution

Data connectors are always executed in Production mode. A data connector's current Status is always reflected at its display in the Data Connectors interface. The lists therein is regularly refreshed to pick up any status changes.

A data connector is executed in accordance with its defined schedule and its channel settings. A record targeted at data connector execution cannot be retargeted in a subsequent execution cycle.

Note that the execution of a data connector does not generate offer history records.

4.10 Toolbox

The Data Connectors Interface toolbox exposes the standard RPI Folder Search component, which is constrained to display attribute, audience and selection rule files only. Please see the RPI Framework documentation for more information.

5 Interactions Report

The Interactions Report allows you to view a list of interactions that match a series of supplied filter criteria.

Name	Last activity	Status	Targeted
334	25/08/2020 09:10:20	Completed	1
335	25/08/2020 09:09:16	Completed	1
336	25/08/2020 09:19:00	Playing	-
Activities			
11909			
337	26/08/2020 15:38:41	Activated	1
Activities			
Queue Activity			1
338	24/08/2020 09:32:25	No workflows	-
339	21/08/2020 09:44:57	No workflows	-
340	20/08/2020 16:10:04	Completed	1
341	20/08/2020 16:18:47	Stopped	-
342	20/08/2020 13:49:00	Not Started	-
343	19/08/2020 09:33:03	Completed	1
344	19/08/2020 09:31:55	Completed	1
345	19/08/2020 09:29:51	Completed	0
346	19/08/2020 09:27:50	Completed	1
347	19/08/2020 09:21:51	Completed	1

In addition, you can invoke workflow commands such as Stop, Pause and Play from the context of the Interactions Report.

Note that the Interactions Report is supported in all database modes (SQL and NoSQL).

5.1 Invoking the Interactions Report

You can invoke the Interactions Report in the following ways:

- From the Reporting Hub's Native Reports section. Selecting the option displays the Interactions Report in a new tab in the RPI interface. You can open more than one Interactions Report at the same time, if required.
- From the Interactions Report option within a widget.
- From the same option, exposed within the quick access menu's Reporting Hub task.

Note that access to the Interactions Report is controlled via the Interaction – Interactions Report functional permission. If none of the user groups of which you are a member are associated with this permission, you will not be able to access the Interactions Report.

5.2 Closing the Interactions Report

You can close the Interactions Report at any time by closing the tab within which it is displayed, or by shutting down RPI itself.

5.3 Interactions Report Basics

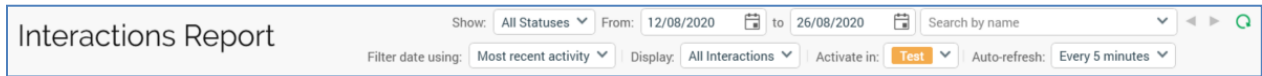
The Interactions Report is displayed in a separate tab in the RPI framework.

It contains the following:

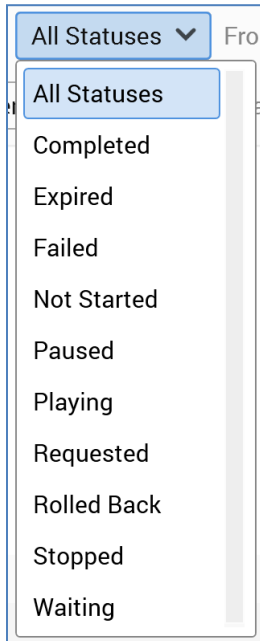
- Header
- Interactions List

5.4 Header

The Interactions Report header exposes the following:



- **Show:** this property allows you to filter the interactions displayed within the Interactions Report by status. You can click it to view a dropdown that allows you to select a status:



By default, the All Statuses value is selected.

- **From:** this date value allows you to specify the lower end of the date range by which interactions are to be filtered. It defaults to today – 2 weeks.
- **To:** this date value allows you to specify the upper end of the date range by which interactions are to be filtered. It defaults to today.
- **Search by name:** this field allows you to filter the list to display only those interactions with names that contain a specified search string. A dropdown list of recent searches is available.
- **Previous Page:** this button is enabled when a page's worth of interactions other than the first is displayed. Clicking it displays the previous page's data.
- **Next Page:** this button is enabled when a page's worth of interactions other than the last is displayed. Clicking it displays the next page's data.
- **Refresh:** clicking this button initiates a manual refresh of the interactions list, displaying those that match the currently-specified filter criteria.

- **Filter date using:** this property allows you to filter interactions by date in accordance with their Most Recent Activity date (the default value) or First Activation Date. If the former is selected, the Last Activity column is shown in the list; if the latter, the First Activated column is displayed. If Filter date using is set to First Activation date, Display becomes read only and set to Only Executed Interactions.
- **Display:** this property allows you to define whether you wish to display All interactions (the default), or Only Executed Interactions. If Filter date using is set to First Activation date, this property is read only and set to Only Executed Interactions.
- **Activate in:** this property allows you to define the mode in which interaction workflows initiated from the Interactions Report will be activated. By default, it is set to Test mode; you can choose to activate in Production mode, should you desire.
- **Auto-Refresh:** this property allows you to define the frequency at which the interactions list will be updated automatically. The following values are available:
 - Off
 - Every 5 Minutes (the default)
 - Every 15 Minutes
 - Every 30 Minutes
 - Every Hour

Your most recent setting is persisted and applied when you next open the Interactions Report.

5.5 Interactions List

The interactions list is displayed below the header and lists all interactions that match the currently-specified filter criteria.

Name	Last activity	Status	Targeted
<input type="checkbox"/> 334	25/08/2020 09:10:20	Completed	1
<input type="checkbox"/> 335	25/08/2020 09:09:16	Completed	1
<input type="checkbox"/> 336	25/08/2020 09:19:00	Playing	-
Activities			
11909			-
<input type="checkbox"/> 337	26/08/2020 15:38:41	Activated	1
Activities			
Queue Activity			1
338	24/08/2020 09:32:25	No workflows	-
339	21/08/2020 09:44:57	No workflows	-
<input type="checkbox"/> 340	20/08/2020 16:10:04	Completed	1

Interactions are displayed in ascending alphanumeric order, and their details are hidden by default. The following are displayed for each interaction:

<input type="checkbox"/> 335	25/08/2020 09:09:16	Completed	1
------------------------------	---------------------	-----------	---

- **Checkbox:** unchecked by default. When one or more checkboxes have been selected, and the selected interactions contain workflows in appropriate states, you can right-click list to show a context menu, exposing options including:
 - Activate selected Interaction's Trigger in [mode]
 - Deactivate selected Interaction's Trigger
 - Rollback Selected Interaction's Trigger
 - Pause selected Interaction's Workflow Instances
 - Play selected Interaction's Workflow Instances
 - Stop selected Interaction's Workflow Instances

On selecting a context menu option, the action is applied to all of the selected interactions at which it is relevant. If the selected option cannot be undertaken at one of the selected workflows, it is ignored in that context.

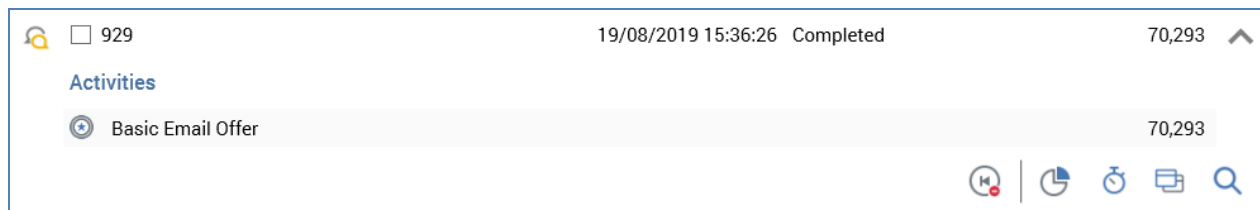
If you attempt to activate workflow(s) in Production mode, an 'Are You Sure?' dialog is shown. If applied to multiple workflows, a single dialog confirms your intent in respect of all of the selected interactions.

If you do not have permission to undertake an action, a standard permissions error is thrown.

If you are unable to undertake an action against any interactions because, for example, they are invalid, a dialog lists the interactions in question.

- Icon: a halo indicates the current workflow status.
- Name
- First Activated/Last Activity: displayed in accordance with the current Filter date using setting
- Status: displays the current status of a single workflow interaction's workflow. If an interaction contains multiple workflows, its current status cannot be reflected at the Interactions List; the text 'Multiple workflows' is shown instead.
- Targeted: reflects the total Targeted count across all activities within the interaction.
- Show/hide details: clicking this buttons shows or hides the interaction's full details, as appropriate. Note that double-clicking an interaction has the same effect.

The following additional properties are displayed when an interaction's details are being shown:



- Activities: the following activities are listed within an interaction:
 - Offers
 - Controls
 - Broadcasts
 - Decision offers
 - Export activities
 - Subscription groups
 - Queue activities

If an interaction contains more than one workflow, activities from all of its workflows are displayed in a flattened list.

The following is displayed at each activity:

- Targeted
- Buttons:
 - Activate in Test/Production: the interaction workflow can be activated in the mode defined at the Execute In property, which is reflected in this button's text. If an interaction is activated in Production mode, an 'Are You Sure?' dialog is displayed.
 - Play current Workflow Instance
 - Pause current Workflow Instance
 - Stop current Workflow Instance
 - Reactivate Trigger
 - Roll back current Workflow Instance
 - View Results
 - View in Realtime Report
 - Open Latest Version
 - View File Information
 - Deactivate Trigger: available at Active queue listener workflow

When an interaction contains multiple workflows, all of the workflows' fulfillment activities are displayed in a flattened list, with no reference to the workflow to which they belong.

Interactions contains rolled back workflows are still displayed at the Interactions Report.

6 Interaction Triggers Report

The Interaction Triggers Report allows you to view a list of interaction triggers that match a series of supplied filter criteria.

The screenshot shows the Redpoint Interaction Client A interface. The main window displays the 'Interaction Triggers Report' for 'Client A'. The report is filtered by 'Test & Production' mode and sorted by 'Activation date' in descending order. The report shows a list of triggers with the following columns: Trigger Name, Interaction Name, Type, Last fired, Last status, Next fire, and Listener. The triggers are listed in a table format, with some triggers having a detailed view expanded below them. The detailed view shows the recurrence pattern, constraints, activation status, last workflow event, next scheduled check, last run instance ID, and test mode for a specific trigger.

Trigger Name	Interaction Name	Type	Last fired	Last status	Next fire	Listener
Queue Listener	337	Queue Listener	-	Activated	-	✓
Queue Listener	351	Queue Listener	-	Activated	-	✓
Recurring	352	Recurring	26/08/2020 14:49:34	Completed	26/08/2020 14:50:34	✗
Recurrence Pattern Constraints Activated Last Workflow Event Next Scheduled Check Last Run Instance ID Test Mode						
Multiple times daily ✗ 11/08/2020 08:16:05 26/08/2020 14:49:40 26/08/2020 14:50:34 3218 ✗						
Queue Listener	353	Queue Listener	-	Activated	-	✓
Recurring 2	354	Recurring	26/08/2020 14:48:24	-	26/08/2020 14:53:24	✗
Recurring	354	Recurring	26/08/2020 14:48:24	Test Completed	26/08/2020 14:53:24	✗
Queue Listener	374	Queue Listener	-	Activated	-	✓
Recurrence Pattern Constraints Activated Last Workflow Event Next Scheduled Check Last Run Instance ID Test Mode						
None ✗ 30/07/2020 10:04:49 30/07/2020 10:04:50 - 2186 ✗						
Recurring	397	Recurring	26/08/2020 13:54:03	Completed	26/08/2020 14:54:03	✗
Queue Listener	409	Queue Listener	-	Activated	-	✓
Recurring	458	Recurring	26/08/2020 14:49:34	Playing	26/08/2020 14:50:34	✗
Recurring	467	Recurring	31/07/2020 10:15:00	Test Completed	04/09/2020 10:15:00	✗
Queue Listener	484	Queue Listener	-	Activated	-	✓

In addition, you can navigate to a trigger's parent interaction, and invoke the viewing of results relating to the trigger from the interface

Note that the Interaction Triggers Report is supported in all database modes (SQL and NoSQL).

6.1 Invoking the Interaction Triggers Report

You can invoke the Interaction Triggers Report in the following ways:

- From the Reporting Hub's Native Reports section. Selecting the option displays the Interaction Triggers Report in a new tab in the RPI interface. You can open more than one Interaction Triggers Report at the same time, if required.
- From the Interaction Triggers Report option within a widget.
- From the same option, exposed within the quick access menu's Reporting Hub task.

Note that access to the Interaction Triggers Report is controlled via the Interaction – Triggers Report functional permission. If none of the user groups of which you are a member are associated with this permission, you will not be able to access the Interaction Triggers Report.

6.2 Closing the Interaction Triggers Report

You can close the Interaction Triggers Report at any time by closing the tab within which it is displayed, or by shutting down RPI itself.

6.3 Interaction Triggers Report Basics

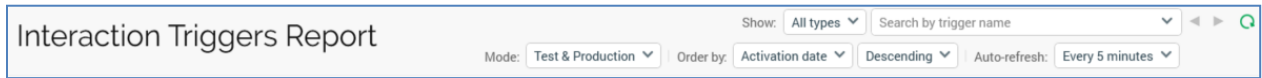
The Interaction Triggers Report is displayed in a separate tab in the RPI framework.

It contains the following:

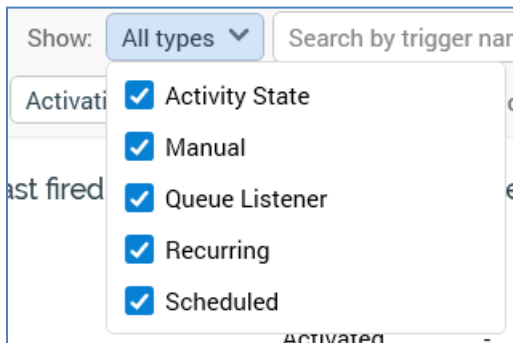
- Header
- Triggers List

6.4 Header

The Interaction Triggers Report header exposes the following:

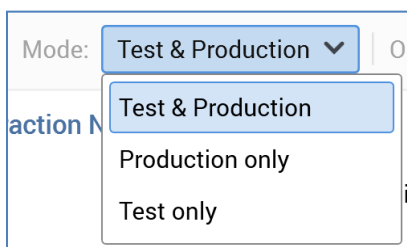


- **Show:** this property allows you to filter the interaction triggers displayed within the Interaction Triggers Report by type. You can click it to view a dropdown that allows you to select from the following:



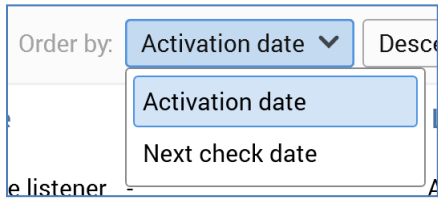
By default, the All Types value is selected (the most recently-selected value is retained when you next invoke the Interaction Triggers Report).

- **Search by trigger name:** you can enter a value into this field to filter the list by trigger name.
- **Previous Page:** this button is enabled when a page's worth of data other than the first is displayed. Clicking it displays the previous page's data.
- **Next Page:** this button is enabled when a page's worth of data other than the last is displayed. Clicking it displays the next page's data.
- **Refresh:** clicking this button initiates a manual refresh of the interaction triggers list, displaying those that match the currently-specified filter criteria.
- **Mode:** this dropdown allows you to limit the list in accordance with triggers' modes of execution. The following values are available:



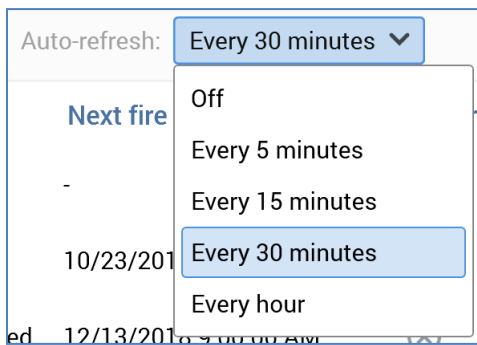
The most recently-used setting is retained when you next invoke the Interaction Triggers Report.

- **Order By:** this dropdown allows you to order the triggers displayed in the list. The following values are available:



The most recently-used setting is retained when you next invoke the Interaction Triggers Report.

- **Ascending/Descending:** this dropdown is used in conjunction with Order By.
- **Auto-Refresh:** this property allows you to define the frequency at which the interaction triggers list will be refreshed automatically. The following values are available:



Your most recent setting is persisted and applied when you next open the Interaction Triggers Report.

6.5 Triggers List

The triggers list is displayed below the header and lists all Active interaction triggers that have yet to fire, and which match the currently-specified filter criteria. Note that manual triggers are only displayed if one or more constraints are attached.

Trigger Name	Interaction Name	Type	Last fired	Last status	Next fire	Listener	
Queue Listener	337	Queue Listener	-	Activated	-		
Queue Listener	351	Queue Listener	-	Activated	-		
Recurring	352	Recurring	26/08/2020 14:49:34	Completed	26/08/2020 14:50:34		
Recurrence Pattern		Constraints	Activated	Last Workflow Event	Next Scheduled Check	Last Run Instance ID	Test Mode
Multiple times daily			11/08/2020 08:16:05	26/08/2020 14:49:40	26/08/2020 14:50:34	3218	
Queue Listener	353	Queue Listener	-	Activated	-		
Recurring 2	354	Recurring	26/08/2020 14:48:24	-	26/08/2020 14:53:24		
Recurring	354	Recurring	26/08/2020 14:48:24	Test Completed	26/08/2020 14:53:24		
Queue Listener	374	Queue Listener	-	Activated	-		
Recurrence Pattern		Constraints	Activated	Last Workflow Event	Next Scheduled Check	Last Run Instance ID	Test Mode
None			30/07/2020 10:04:49	30/07/2020 10:04:50	-	2186	
Recurring	397	Recurring	26/08/2020 13:54:03	Completed	26/08/2020 14:54:03		
Queue Listener	409	Queue Listener	-	Activated	-		
Recurring	458	Recurring	26/08/2020 14:49:34	Playing	26/08/2020 14:50:34		
Recurring	467	Recurring	31/07/2020 10:15:00	Test Completed	04/09/2020 10:15:00		
Queue Listener	484	Queue Listener	-	Activated	-		

Triggers are ordered as per the header settings, and their details are hidden by default, when the following are displayed for each trigger:

Recurring	.952	Recurring	10/23/2018 4:03:32 PM	Playing	10/23/2018 4:05:32 PM	
-----------	------	-----------	-----------------------	---------	-----------------------	--

- Icon: denoting the trigger's type.
- Trigger Name
- Interaction Name
- Type
- Last Fired: the date and time at which the trigger last fired. Not relevant if the trigger is a queue listener.
- Last Status: the status of the most recent workflow to run within the context of the trigger.
- Next Fire: the date and time at which the trigger is next scheduled to fire. Not relevant if the trigger is a queue listener.

- Listener: a tick or cross, demoting whether the trigger is a queue listener.

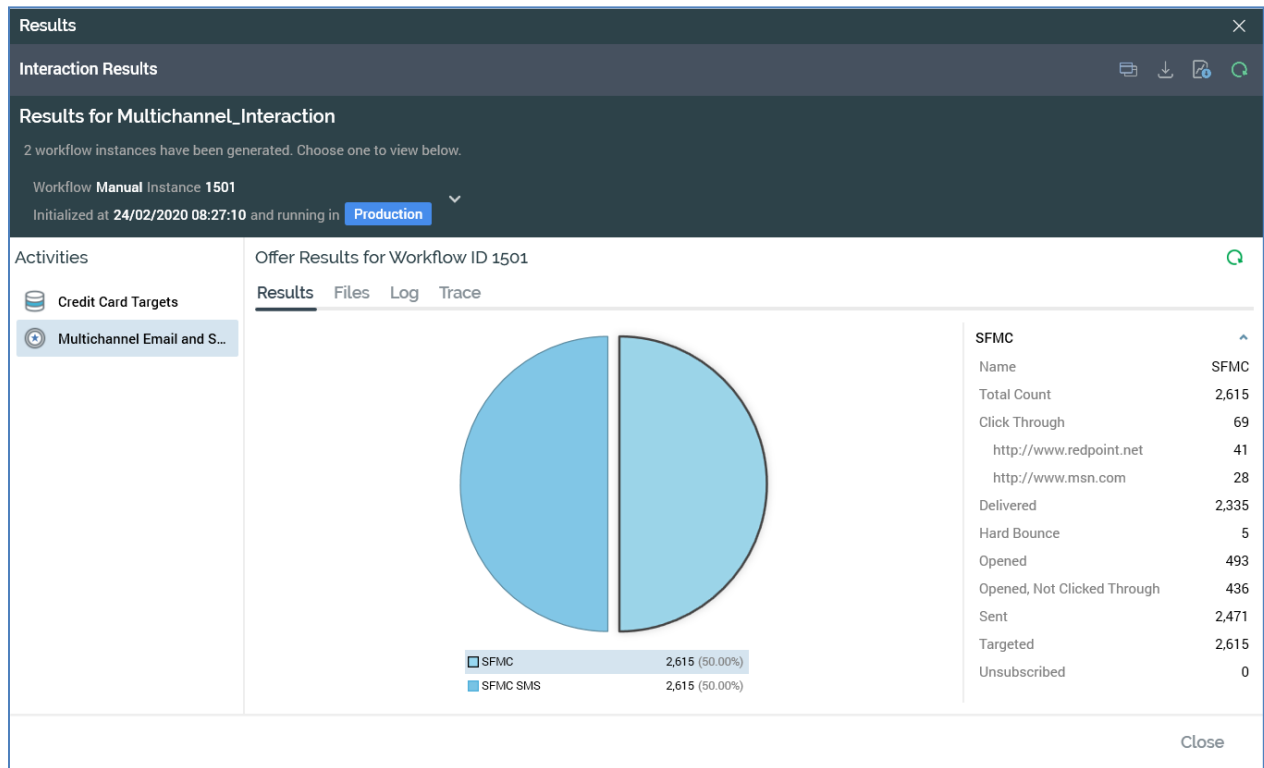
The following additional properties are displayed when a trigger's details are being shown:

Recurring	352	Recurring	26/08/2020 15:34:10	Completed	26/08/2020 15:35:10	⊗	^
Recurrence Pattern	Constraints	Activated	Last Workflow Event	Next Scheduled Check	Last Run Instance ID	Test Mode	
Multiple times daily	⊗	11/08/2020 08:16:05	26/08/2020 15:34:15	26/08/2020 15:35:10	3218	⊗	🔄 📄 🔍

- Recurrence Pattern: one of the following:
 - None
 - Multiple Daily
 - Daily
 - Days Of The Week
 - Day Of The Month
 - Nth Weekday Of The Month
- Constraints: a tick or cross, which indicates as to whether the trigger has any constraints.
- Activated: the date/time at which the trigger was first activated.
- Last Workflow Event: the date/time at which the trigger's most recent workflow event occurred.
- Next Scheduled Check: the date/time at which the Node Manager will next check if the trigger needs to be fired. Not relevant if the trigger is a queue listener.
- Last Run Instance ID: the workflow instance ID assigned when the trigger last ran.
- Test Mode: a tick or cross indicates whether the trigger was activated in Test mode
- Buttons:
 - Open Workflow Results: displays the trigger's workflow results in the Results Window.
 - Open Interaction: opens the trigger's parent interaction in the Interaction Designer.
 - View Interaction Information: displays the trigger's parent interaction's details in the File Information Dialog.

7 Results Window

The RPI Results Window allows you to view an interaction's results.



7.1 Invoking the Results Window

The Results Window is accessed from the Interaction Designer, and the Workflow and Audience Instance Viewers. You can open the Results Window from:

- The toolbar
- Workflow activities, via the View Results button available at the activity's mini toolbar

The contents of the Results Window will vary depending on the context of invocation. The Results Window documentation is written primarily from the perspective of its invocation at the Interaction Designer. Separate addenda describe its invocation from the other contexts of relevance.

7.2 Closing the Results Window

You can close the Results Window by clicking the Close button displayed at its bottom right, or the Close icon displayed to its top right.

7.3 Results Window Basics

The Results Window is an independent, non-modal dialog. You can continue to access other RPI interfaces while the Results Window is displayed. The Results Window also continues to be shown if you change the current RPI tab.

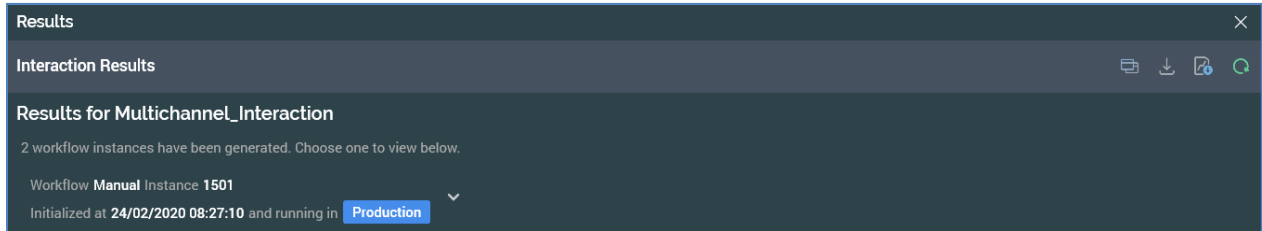
It is composed of the following elements:

- Header
- Activities list
- Activity details

Each of these is discussed in detail separately.

7.4 Header

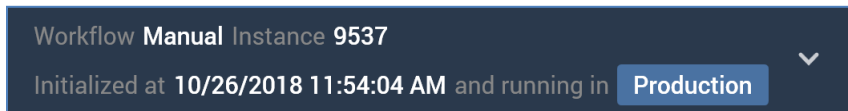
When invoked from the Interaction Designer, the top section of the Results Window contains the following:



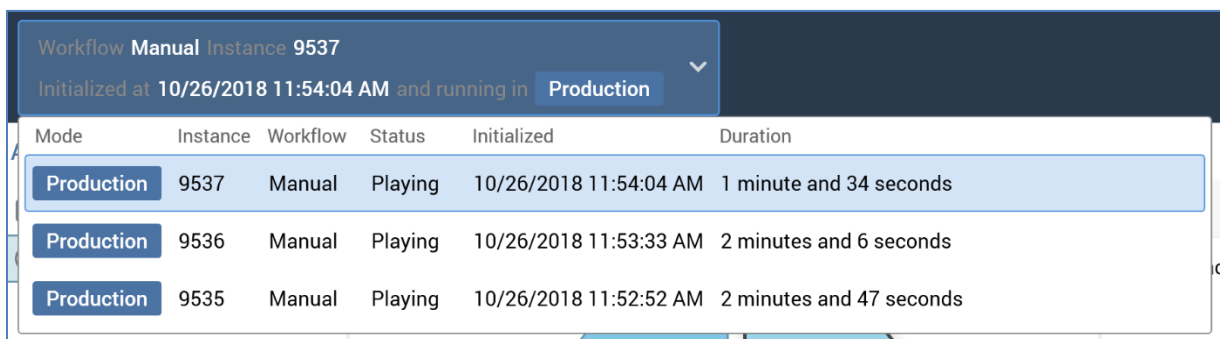
- Title: 'Results for [Interaction Name]'
- '[n] workflow instances have been generated. Choose one to view below'. Only displayed when one or more workflow instance's results exist.

[Workflow instance details]: this section is displayed to the left of the header. When no workflow instances have yet been created within the interaction, an advisory message is shown.

When at least one workflow instance exists within the interaction, the following details of the workflow instance currently being shown in the Results Window are displayed:



Clicking the section displays a dialog-style chooser, which allows you to select the workflow instance you wish to view in the Results Window.



Mode	Instance	Workflow	Status	Initialized	Duration
Production	9537	Manual	Playing	10/26/2018 11:54:04 AM	1 minute and 34 seconds
Production	9536	Manual	Playing	10/26/2018 11:53:33 AM	2 minutes and 6 seconds
Production	9535	Manual	Playing	10/26/2018 11:52:52 AM	2 minutes and 47 seconds

Workflow instances are shown in descending instance ID order, with Test instances shown in yellow text, and Production instances in white. A maximum of 1000 instances are listed. When more than 1000 instances exist, a message is displayed:

Results for 224

Over 1000 workflow instances have been generated. Showing the latest 1000 workflow instances.

- **Toolbar:** a toolbar is shown to the right of the header.

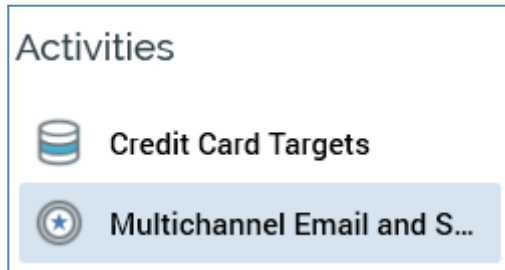


It exposes the following options:

- **View selected Workflow Instance:** this button is available when the Results Window is invoked from the Interaction Designer or Workflow Instance Viewer, and when a workflow instance is selected in the workflow instances panel. Invocation displays its details in the Workflow Instance Viewer.
- **Generate a waterfall report for the selected Workflow Instance:** invocation of this option displays the Save Waterfall Report As... Windows file system dialog. By default, the report's filename is 'Workflow Instance[WFID] Summary.xlsx', and its default file type is Excel (which must be installed for the report to be run). You can locate a folder to which to save the report, and then click Save to generate it. Doing so creates Workflow waterfall report job and displays it in the My Jobs Dialog. Full details of the job and Dialog can be found in the My Jobs documentation.
- **Download diagnostic information for this Workflow Instance:** clicking this button displays the Download Workflow Diagnostics file Windows file system dialog. The default file name is 'Workflow Diagnostics [workflow instance ID]', and default file type is zip. Clicking Save creates and executes a Save workflow diagnostics job (for more information, please see the My Jobs documentation).
- **Roll back selected workflow instance:** this button allows you to remove a specific recurring workflow instance. It is displayed when the currently-selected workflow instance is a Completed recurring Production workflow that is configured to create a new instance at each firing. Its invocation is protected by an 'Are You Sure?' dialog; rolling back the selected workflow instance removes records from the Production offer history and offer history meta tables. Any file assets are also removed. When rolled back, the workflow's status is displayed as such in the Result Window's instances list.
- **Refresh the list of Workflow Instances:** this button allows you to reload the latest state of workflow instance information, as displayed in the header.

7.5 Activities List

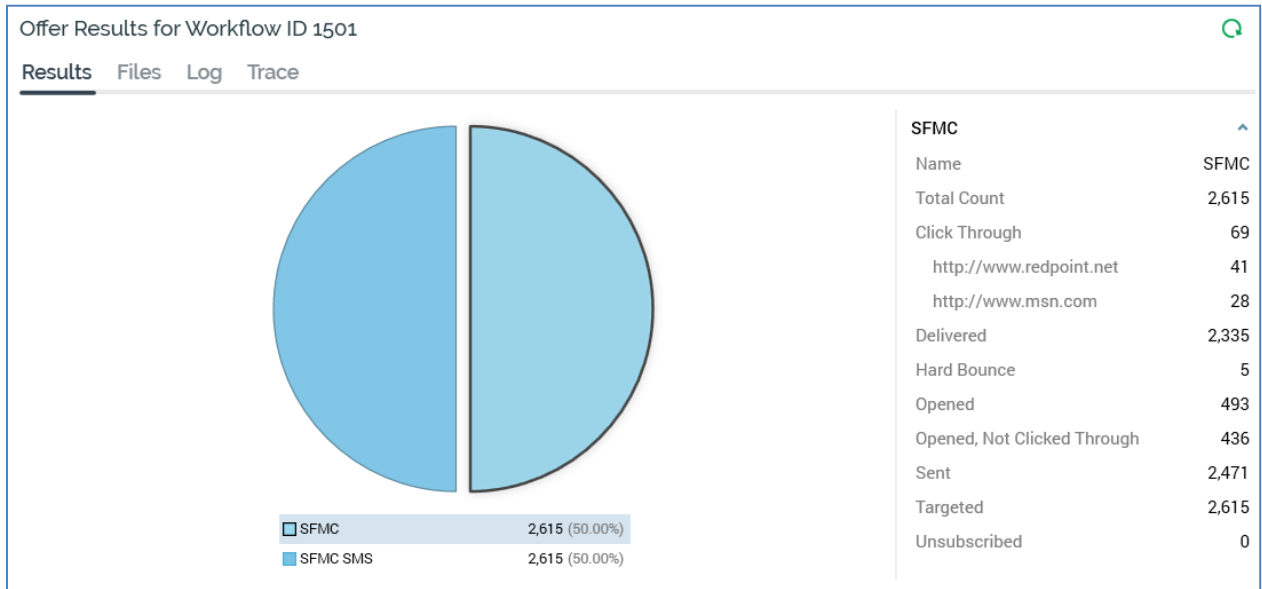
The activities list is shown to the left, below the header.



It lists the activities within the current workflow instance for which results are available. You can select an activity to view its details in the activity details panel.

7.6 Activity Details

The activity details panel is shown to the right of the activities list. It contains the following:



- Title
- Toolbar
- Tabset, containing Results, Files, Log and Trace tabs.

7.6.1 Toolbar

The activity details panel contains a toolbar, which is shown above the tabset. The contents of the toolbar depend upon the activity selected and tab selected and are documented elsewhere.

7.6.2 Results Tab

The results tab displays results for the currently-selected activity. Its contents depend upon the activity type and are discussed separately for each.

7.6.3 Files Tab

The files tab gives you access to any files created by the activity's execution. The tab is only displayed when relevant to the activity – for example, it is shown for offers and exports, but not for broadcasts or controls.

When files are available, the tab displays their read-only details.

Offer Results for Workflow ID 2009 ↻

Results **Files** Log Trace

Export sample 📄 Download

Folder: /users/mkvaternik

File name: RPI_Export_540_sample.txt

Export summary 📄 Download

Folder: /users/mkvaternik

File name: RPI_Export_540.txt_summary.xml

Full export file 📄 Download

Folder: /users/mkvaternik

File name: RPI_Export_540.txt

For each file, the following details are shown:

- Folder: on the FTP server to which the file was transferred.
- Filename

A button is displayed at each file. The button shown depends on the value of configuration setting File Export Location at the time of workflow execution.

- If the setting is set to 0 (SFTP not configured), a Download button is displayed. Access to the button is controlled by the Interaction – Download functional permission.

When you click it, a 'Download file from server' Windows file system dialog is displayed. Files' names default as follows:

- RPI_Export_[ID].txt (full export file)
- RPI_Export_[ID].txt_summary.xml/txt (summary file; XML format unless export in JSON format, in which case also JSON).
- RPI_Export_[ID].txt _sample(sample file)

You can select a location on a local or accessible network file system within which to save the file.

Having initiated the download, a File download job is created and displayed in the My Jobs Dialog. Full details of the job and Dialog can be found in the My Jobs documentation.

- If the setting is 1 (Default FTP location), a Download button is displayed. When you click it, a 'Download file via FTP' Windows file system dialog is displayed. Files' names default as follows:

- RPI_Export_[ID].txt (full export file)
- RPI_Export_[ID].txt_summary.xml/txt (summary file; XML format unless export in JSON format, in which case also JSON).
- RPI_Export_[ID].txt _sample(sample file)

You can select a location on a local or accessible network file system within which to save the file.

Having initiated the download, a File download job is created and displayed in the My Jobs Dialog. Full details of the job and Dialog can be found in the My Jobs documentation.

If an audience waterfall report was generated during audience execution (due to one of settings Generate waterfall report in (Test/Prod) being checked at its audience definition), it can be accessed from the Files tab. The report is detailed separately in the Results Window documentation.

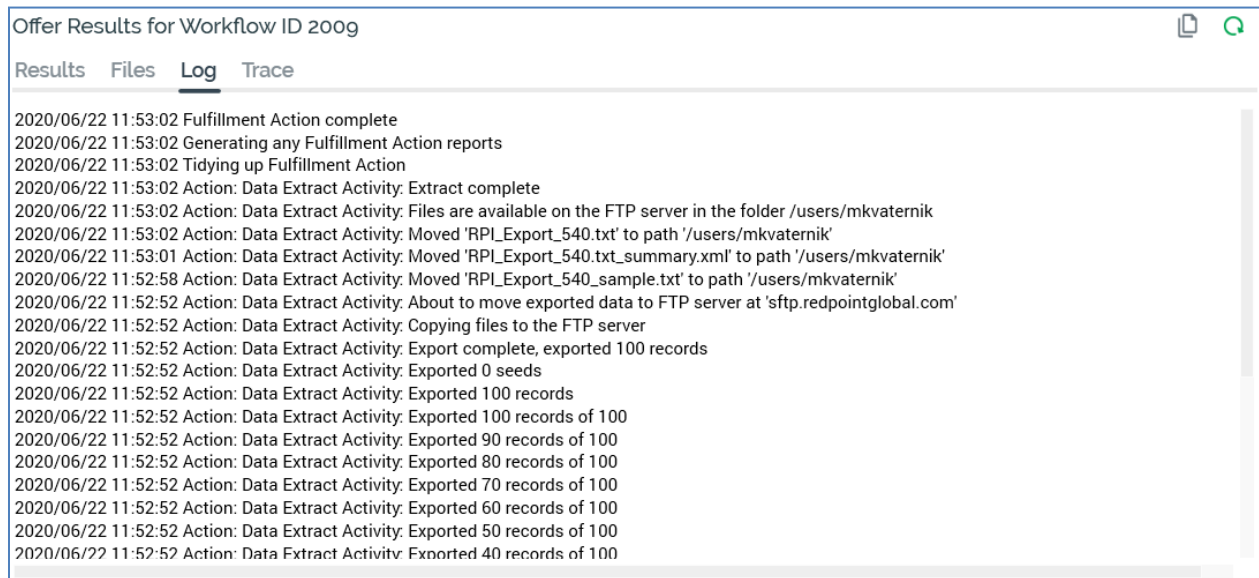
If one or more audit files were generated during fulfillment activity execution, they are available at the Files tab (note that audit files are always written to the default file system location).

When files are not available, through the activity having been executed in Test mode without file creation having been requested, a message is shown:

Files are only available in Test mode when the activity is configured to generate them, and/or when the audience definition used is configured to generate an audit file

7.6.4 Log Tab

The log tab is displayed for all activities and contains a list of log messages written during activity execution, displayed in reverse chronological order.



The screenshot shows a window titled "Offer Results for Workflow ID 2009". At the top, there are four tabs: "Results", "Files", "Log", and "Trace". The "Log" tab is currently selected and underlined. Below the tabs, a list of log messages is displayed in reverse chronological order. The messages include timestamps and descriptions of actions such as "Fulfillment Action complete", "Generating any Fulfillment Action reports", "Tidying up Fulfillment Action", and "Data Extract Activity: Export complete". The export activity messages show a progress of records being exported, from 40 records to 100 records.

```
Offer Results for Workflow ID 2009
Results Files Log Trace
2020/06/22 11:53:02 Fulfillment Action complete
2020/06/22 11:53:02 Generating any Fulfillment Action reports
2020/06/22 11:53:02 Tidying up Fulfillment Action
2020/06/22 11:53:02 Action: Data Extract Activity: Extract complete
2020/06/22 11:53:02 Action: Data Extract Activity: Files are available on the FTP server in the folder /users/mkvaternik
2020/06/22 11:53:01 Action: Data Extract Activity: Moved 'RPI_Export_540.txt' to path '/users/mkvaternik'
2020/06/22 11:53:01 Action: Data Extract Activity: Moved 'RPI_Export_540.txt_summary.xml' to path '/users/mkvaternik'
2020/06/22 11:52:58 Action: Data Extract Activity: Moved 'RPI_Export_540_sample.txt' to path '/users/mkvaternik'
2020/06/22 11:52:52 Action: Data Extract Activity: About to move exported data to FTP server at 'sftp.redpointglobal.com'
2020/06/22 11:52:52 Action: Data Extract Activity: Copying files to the FTP server
2020/06/22 11:52:52 Action: Data Extract Activity: Export complete, exported 100 records
2020/06/22 11:52:52 Action: Data Extract Activity: Exported 0 seeds
2020/06/22 11:52:52 Action: Data Extract Activity: Exported 100 records
2020/06/22 11:52:52 Action: Data Extract Activity: Exported 100 records of 100
2020/06/22 11:52:52 Action: Data Extract Activity: Exported 90 records of 100
2020/06/22 11:52:52 Action: Data Extract Activity: Exported 80 records of 100
2020/06/22 11:52:52 Action: Data Extract Activity: Exported 70 records of 100
2020/06/22 11:52:52 Action: Data Extract Activity: Exported 60 records of 100
2020/06/22 11:52:52 Action: Data Extract Activity: Exported 50 records of 100
2020/06/22 11:52:52 Action: Data Extract Activity: Exported 40 records of 100
```

7.6.5 Trace Tab

The Trace tab provides visibility of the query statements executed during audience or fulfillment activity execution.

Segment Summary Results for Audience ID 1459 in Workflow ID 3247

Results Files Log **Trace**

ID	Execution Type	Context	Started	Ended	Duration	Status
1444369	Audience	Create audience temp tables	27/08/2020 09:51:29	27/08/2020 09:51:29	00:00:00	Completed
1444370	Audience	Filter block	27/08/2020 09:51:30	27/08/2020 09:51:30	00:00:00	Completed
1444371	Audience	Filter block	27/08/2020 09:51:30	27/08/2020 09:51:30	00:00:00	Completed
1444372	Audience	Filter block	27/08/2020 09:51:30	27/08/2020 09:51:30	00:00:00	Completed

```
IF EXISTS (  
  SELECT 1  
  FROM INFORMATION_SCHEMA.TABLES WITH (NOLOCK)  
  WHERE TABLE_SCHEMA = 'dbo'  
        AND TABLE_NAME = 'RPI_BC_1459_1'  
)  
DROP TABLE [dbo].[RPI_BC_1459_1]
```

Query Query (Raw)

It contains the following:

- Trace entries grid: the grid lists the individual statements that were executed when the audience or fulfillment activity ran. The following columns are shown:
 - ID
 - Execution type: one of Audience or Fulfillment
 - Context: describing the scenario in which the query was executed
 - Started: date/time
 - Ended: date/time
 - Duration: hh:mm:ss
 - Status
 - Result

Trace entries are displayed in ascending chronological order, with the earliest statements being shown first.

- Selected trace entry details: this read-only section is displayed below the grid and contains up to three tabs.

- Query: shows the detail of the statement selected currently in the grid. The query is formatted.
- Query (Raw): shows the detail of the statement selected currently in the grid. The query is unformatted.
- Error Message: this tab is only available when errors occurred during execution of the currently-selected trace log entry. Full error details are displayed.

You can copy trace statements to the clipboard using the toolbar button provided. When you do so, two hyphens are added at the beginning of any non-query lines of text. The same applies at any error messages. This makes it easier to execute any resultant SQL immediately in a SQL execution environment (e.g. SQL Server Management Studio).

7.6.6 Batch Audience

When batch audience results are displayed in the Results Window, the following are shown.

- Title: the Results Window's title is set to 'Segment Summary Results for Audience Instance [x] in Workflow Instance [y]'. On hovering over the title, the current Workflow Instance ID is shown in a tooltip.
- Results tab:

Segment Summary Results for Audience ID 1460 in Workflow ID 3248

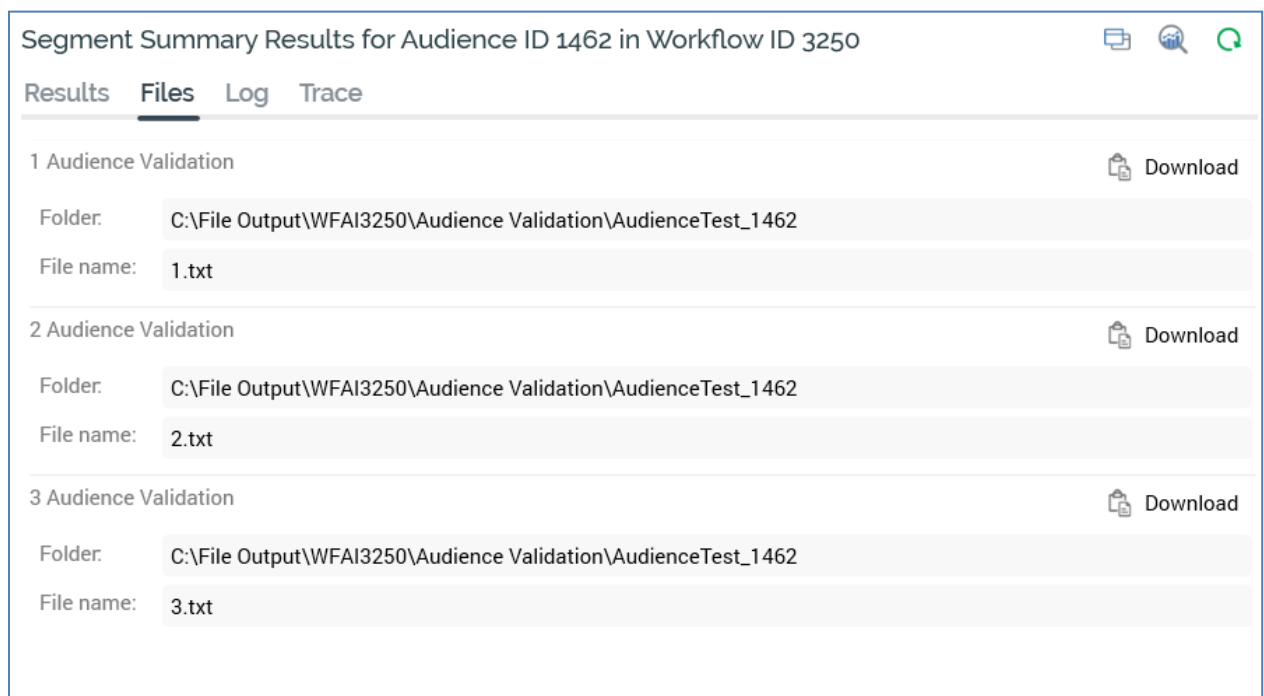
Results Files Log Trace

Name	Count	StringMeta	DateTimeMeta	Decim
1	2,366	NOT SET		
2	7,542	NOT SET		
3	1,220	NOT SET		

18,484 CONTACT UNIVERSE **11,128** TOTAL CONTACTS

- Toolbar contains:
 - Copy these details to the clipboard

- View Audience Instance: displays the audience instance's details in a new tab in the Audience Instance Viewer
- View Insights: views insights relating to the audience in the Insights Window.
- Refresh
- Grid contains:
 - Name: of segment
 - Count: of records in segment
 - Metadata attributes: showing value defined for segment for each metadata attribute defined by audience's audience definition
- Contact universe: total number of records available when using audience's audience definition.
- Total contacts: the total count across all segments.
- Files tab:



- Toolbar contains:
 - View Insights
 - Refresh

- Files: if the batch audience's template's audience definition is defined as producing validation files, one validation file is produced per segment when the audience is executed, irrespective of execution mode (Test or Production).

Given this mode independence, validation files can prove very useful, as you can generate real files containing a sample of your actual segments even when running an interaction workflow in Test mode.

A validation file is named in accordance with the segment name. The file is accessible at the Results Window's Files tab and contains a number of rows in accordance with system configuration setting AudienceOutputValidationSize.

- Log tab: toolbar as Results tab.
- Trace tab: toolbar as Results tab.

7.6.7 Interactive Activity

An interactive activity is only displayed in the Results Window if configured with an audience . When interactive activity results are displayed in the Results Window, the following are shown.

- Title: the Results Window's title is set to 'Segment Summary Results for Audience Instance [x] in Workflow Instance [y]'. On hovering over the title, the current Workflow Instance ID is shown in a tooltip.
- Results tab:

Segment Summary Results for Audience ID 1463 in Workflow ID 3251

Results Log Trace

Name	Count	StringMeta	DateTimeMeta	Decim
Drip	17	NOT SET		

17
TOTAL CONTACTS

- Toolbar contains:

- Copy these details to the clipboard
- View Audience Instance: displays the audience instance's details in a new tab in the Audience Instance Viewer
- Refresh
- Grid contains:
 - Name: of segment
 - Count: of records in segment
 - Metadata attributes: listing the values defined for each segment for each metadata attribute as defined by the audience's audience definition
- Total contacts: the total count across all segments.
- Log tab: the contents of the log tab depend on the current state of the interactive activity.
 - Toolbar contains:
 - Copy these details to the clipboard
 - View Audience Instance: displays the audience instance's details in a new tab in the Audience Instance Viewer
 - Refresh
 - If the activity has yet to execute, the following are shown:

'The activity is currently waiting for the scheduled trigger

The activity will next fire at [time] on [date]'
 - If the activity has previously executed, the following are shown:

'The activity is currently waiting for the scheduled trigger

The activity last fired at [time] on [date]

The activity will next fire at [time] on [date]

The previous activity log is shown below:-

[Log details]'
 - If the activity is currently executing, the following are shown:

'The activity is currently executing

The latest activity log is shown below:-

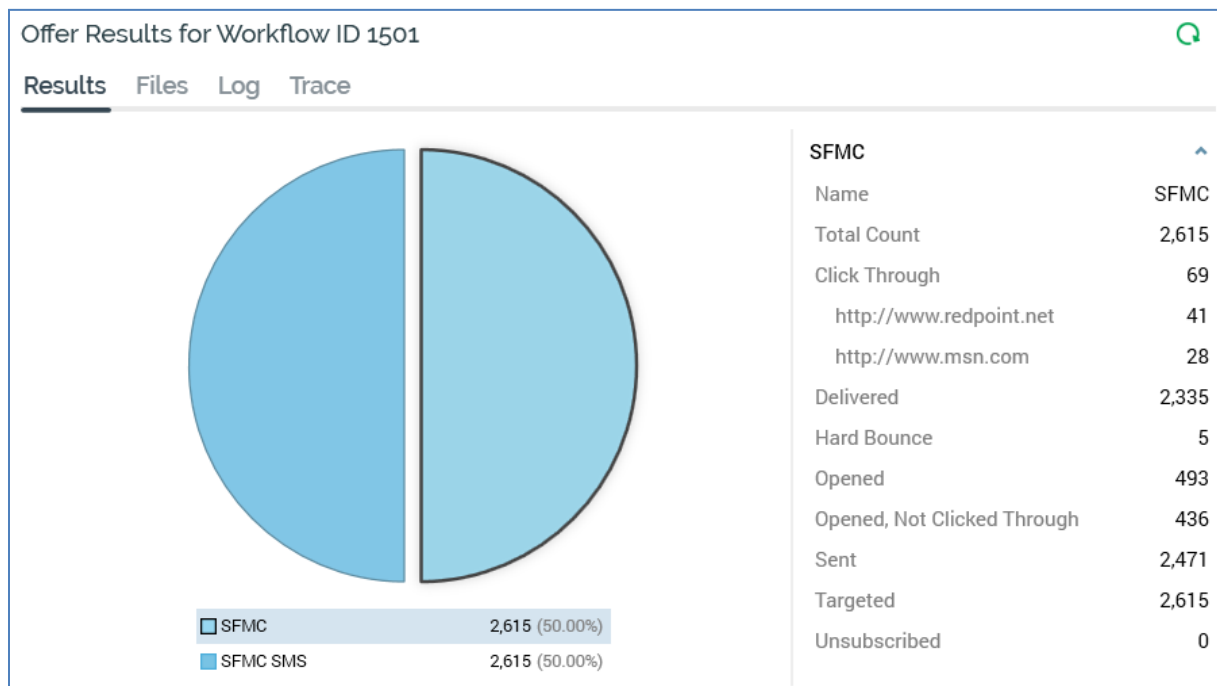
[Log details]

- If the activity's status is Completed or Terminated, the last execution instance's log details are shown.
- Trace tab: toolbar as Results tab.

7.6.8 Offer Activity

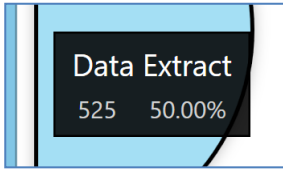
When offer activity results are displayed in the Results Window, the following are shown.

- Title: the Results Window's title is set to 'Offer Results for Workflow ID [x]'. On hovering over the title, the current Workflow Instance ID and Offer Execution ID are shown in a tooltip.
- Results tab:

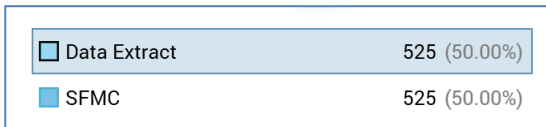


- Toolbar contains:
 - View Dynamic Content Results: this button is only available when an email or SMS channel is selected. Invocation displays the Dynamic Content Results dialog (documented separately).
 - Refresh
- Channel breakdown: this section is shown to the left, only when a multichannel offer's results are being viewed. A proportional representation of the offer's channel mix is shown in a pie chart.

You can hover over the pie chart to view a tooltip containing the channel name, count and percentage.



A legend is displayed below the pie chart.



For each channel, a color indicator, the channel name, count and percentage of the offer total are displayed. You can select a channel by clicking on a pie slice or legend entry. Doing so populates additional results details, which are shown to the right.

- Additional results: shown to the left of the offer Results tab when a single channel offer's results are being viewed, and to the right of the channel breakdown pie chart when a multichannel offer is selected, this section is populated with all relevant additional results.

A table with a header "Data Extract" and a dropdown arrow. It contains three rows of data: Name, Total Count, and Targeted.

Data Extract	
Name	Data Extract
Total Count	525
Targeted	412

Each set of results – for example, as provided by a channel, or by a web analytics adapter – is contained within a category heading. Headings are displayed in alphabetical order. You can double-click a heading to roll it up or expand it as required.

Each category contains channel-specific results. Each result's name and value are displayed.

The following categories and results are displayed in accordance with their relevance to the currently-selected channel:

- Data Extract:
 - Targeted
- Outbound Delivery
 - Targeted

- Delivery states as defined at the channel (if configured)

Note that all changes of state associated with outbound delivery offer execution are persisted in the offer history states data warehouse table.

- Salesforce Marketing Cloud Email:
 - Click Through
 - Delivered (Sent – Bounces)
 - Duplicates
 - Forwarded
 - Hard Bounce
 - Invalid Addresses
 - Opened
 - Opened, Not Clicked Through
 - Not Opened
 - Other Bounce
 - Sent
 - Specific Link Clicks: a list of the link URLs clicked within received emails is displayed, along with the count of unique recipients who clicked the same at each. URLs are listed in descending link click count order, and up to a maximum of 100 links can be presented in this context.
 - Soft Bounce
 - Targeted
 - Total Errors
 - Unsubscribed
 - SFMC Existing Unsubscribes
 - SFMC Existing Undeliverables
 - Forward to Social
 - Facebook
 - Twitter
- SendGrid Email:

- Bounced (note that the SendGrid email server rejects email due to seemingly temporary conditions, such as a full inbox or bad email address)
- Soft Bounce (bounced/blocked; recipient will not be suppressed)
- Deferred
- Delivered
- Dropped
- Duplicates
- Opened (note that a 'True' value in the SgMachineOpen column within the SendGridEvents data warehouse table indicates that an 'Open' event was caused by a machine; 'False' indicates the event was initiated by a human)
- Opened, Not Clicked Through
- Not Opened
- Processed
- Targeted
- Unsubscribed
- Click Through
- Reported As Spam
- Invalid Addresses
- Invalid Sender Addresses
- Specific Link Clicks: please see Salesforce Marketing Cloud email for further information.
- CheetahMail Email
 - Duplicates
 - Targeted
 - Delivered
 - Opened
 - Opened, Not Clicked Through
 - Not Opened
 - Hard Bounce

- Soft Bounce
- Click Through
- Unsubscribed
- Specific Link Clicks: please see Salesforce Marketing Cloud email for further information.

Note that a delay of up to a day can occur prior to the availability of CheetahMail results.

- Acoustic Email
 - Click Through
 - Duplicates
 - Hard Bounce
 - Opened
 - Opened, Not Clicked Through
 - Not Opened
 - Opted Out
 - Sent
 - Soft Bounce
 - Targeted
 - Reply Abuse (contacts who complained through their ISP)
 - Reply Change Address (replies from contacts requesting an email address change. Tracked but not acted upon)
 - Reply Mail Block (messages blocked by an ISP)
 - Reply Mail Restriction (the number of mail restriction replies for contacts of the domain)
 - Reply Other (reply categorized as something other than one of the following: out of office reply, opt out request, abuse complaint, or change of address request)
 - Suppressed
 - Specific Link Clicks: please see Salesforce Marketing Cloud email for further information.
- SparkPost Email

- Targeted
- Bounce
 - Bounce reason
- Delivered
- Injection
- Spam Complaints
- Out of Band
- Policy Rejection
- Delay
- Click Through
- Open
- Initial Open
- Amp Click
- Amp Open
- Amp Initial Open
- Generation Failure
- Generation Rejection
- List Unsubscribe
- Link Unsubscribe
- Device Opened: one or more device names listed as sub-states (e.g. Chrome Windows, Firefox Linux).
- Instiller Email
 - Sent
 - Processing
 - Delivered
 - Hard Bounce (email address does not exist or domain is unreachable)
 - Soft Bounce (the message is believed to be unsolicited or the recipient mail server is throttling the number of emails allowed through)

- Returned Mail (either automated responses such as out of office replies, or an asynchronous bounce)
- Targeted
- Opened
- Click Through
- Unsubscribed
- Complaints
- Not Opened
- Opened, Not Clicked Through
- Specific Link Clicks: please see Salesforce Marketing Cloud email for further information.
- Responsys Email
 - Soft Bounce
 - Hard Bounce (email address does not exist or domain is unreachable)
 - Click Through
 - Complaints
 - Failed (no response from any of number MTAs (optionally SMTP Server Busy on Failover))
 - Opened
 - Sent
 - Skipped (email domain or address is suppressed at the pod level, the account level, or at the campaign level; email address is invalid; missing data for \$replacementField\$; personalization errors, including problems with <Format Type> message or missing data for <Dynamic Values> such as Variable, Data Field, or Document)
 - Unsubscribed
 - Targeted
 - Not Opened
 - Opened, Not Clicked Through

Note that Responsys results are reported to RPI up to 6 times per day.

- Dotdigital Email
 - Soft Bounce
 - Hard Bounce (email address does not exist or domain is unreachable)
 - Click Through
 - ISP Complaints
 - Mail Blocked
 - Opened
 - Sent
 - Delivered
 - Page Viewed (need to attach Dotdigital script to public website for tracking)
 - Unsubscribed
 - Targeted
 - Not Opened
 - Opened, Not Clicked Through
- Listrak Email
 - Bounce (email address does not exist or domain is unreachable)
 - Click Through
 - Opened
 - Sent
 - Delivered
 - Unsubscribed
 - Targeted
 - Not Opened
- Mailchimp Email
 - Click Through
 - Opened
 - Unsubscribed

- Soft Bounced
- Hard Bounced
- Targeted
- Not Opened
- Opened, Not Clicked Through
- Cordial Email
 - Sent
 - Opened
 - Click Through
 - Page View
 - Unsubscribed
 - Bounced
 - Complaint
 - Targeted
 - Not Opened
 - Opened, Not Clicked Through
- Luxsci Email
 - Sent
 - Click Through
 - Specific Link Clicks
 - Spam (message was marked as spam by a recipient)
 - Anonymous Spam (count of Spam complaints in which the ISP of the recipient does not publish who is complaining)
 - In Queue (currently in queue trying to be or waiting to be delivered)
 - Soft Bounce
 - Hard Fail (the message was accepted by the recipient servers successfully, but LuxSci later received a bounce back email containing a hard failure delivery status (e.g. user does not exist))
 - Delivered

- Failed (permanently failed to be delivered)
- Targeted
- Not Opened
- Opened, Not Clicked Through
- Paubox Email
 - Delivered (message delivered when Secure message unchecked)
 - Delivered via Secure Portal (message delivered when Secure message checked)
 - Opened
 - Soft Bounced
 - Hard Bounced
 - Targeted
 - Not Opened
- Amazon Simple Email Service (SES) Email
 - Bounced
 - Complaint
 - Delivery
 - Send
 - Rejected
 - Opened
 - Click Through
 - Targeted
 - Not Opened
 - Opened, Not Clicked Through
- Amazon Pinpoint Email
 - Targeted
 - Sent
 - Invalid Addresses

- Delivered
- Opened
- Soft Bounced (unable to be sent after a couple of re-tries)
- Hard Bounced (unable to be sent)
- Click Through
- Complaint (recipients that reported email as spam)
- Rejected (AWS determined that message contained malware and didn't attempt to send it)
- Rendering Failure (content rendering failed)
- Unsubscribe
- Salesforce Marketing Cloud Email Data Transfer
 - As Salesforce Marketing Cloud email
- Salesforce Marketing Cloud MobileConnect SMS
 - Duplicates
 - Targeted
 - Delivered
 - Failed
- Messente SMS:
 - Duplicates
 - Targeted
 - Delivered
 - Failed
- Vibes SMS:
 - Sent
 - Failed
 - Targeted
- Salesforce.com:
 - Invalid Leads

- Processed
- Targeted
- Total Errors
- Uploaded
- Microsoft Dynamics CRM
 - Disqualified
 - Errors
 - Open
 - Processed
 - Qualified
 - Successes
- Twitter Direct:
 - Targeted
 - Sent
- Twilio SMS:
 - Duplicates
 - Targeted
 - Queued
 - Sending
 - Sent
 - Delivered
 - Undelivered
 - Failed
 - Stop
 - Stop All
 - Unsubscribe
 - Cancel

- End
- Quit
- Opt-Out (sum of Stop, Stop All, Unsubscribe, Cancel, End and Quit)
- Start
- Yes
- Unstop
- Opt-Back-In (sum of Start, Yes and Unstop)
- Custom Survey Response: only displayed if the offer channel's Enable survey responses field was checked. The count of how many unique survey respondents replied with a specific response, as defined by the offer's Primary and Additional keywords, is shown for each such response.
- Help (count of inbound messages with body 'HELP' sent to the Twilio number)
- Info (count of inbound messages with body 'INFO' sent to the Twilio number)
- Invalid Numbers

Note that the OfferHistory_States table's EventName column is populated for Failed and Undelivered results with '<Error Code> : <Error Message>' (as supplied by Twilio), to a maximum of 255 characters.

- Twilio Notify Direct
 - Targeted
 - Sent
 - Failed
- LiveRamp
 - Targeted
- Twitter Tailored Audience
 - Processed
 - Success
 - Targeted
- Realtime Cache
 - Targeted

- Facebook Custom Audience
 - Received (the number of users received by Facebook in order to process the matching of customer data)
 - Invalid entries (the number of users tagged by Facebook as invalid to use when processing the matching of customer data)
 - Targeted
- Facebook Offline Event
 - Processed Entries (the number of processed entries after data was uploaded)
 - Matched Entries (the number of entries determined by Facebook to have a record match)
 - Valid Entries (the number of entries accepted by Facebook for match processing)
 - Add Payment Info (the number of uploaded Add Payment Info events)
 - Add To Cart (the number of uploaded Add To Cart events)
 - Add To Wishlist (the number of uploaded Add To Wishlist events)
 - Complete Registration (the number of uploaded Complete Registration events)
 - Initiate Checkout (the number of uploaded Initiate Checkout events)
 - Lead (the number of uploaded Lead events)
 - Other (the number of uploaded events identified as Others)
 - Purchase (the number of uploaded Purchase events)
 - Search (the number of uploaded Search events)
 - View Content (the number of uploaded View Content events)
 - Contact (the number of uploaded Contact events)
 - Customize Product (the number of uploaded Customize Product events)
 - Donate (the number of uploaded Donate events)
 - Find Location (the number of uploaded Find Location events)
 - Schedule (the number of uploaded Location events)
 - Start Trial (the number of uploaded Start Trial events)
 - Submit Application (the number of uploaded Submit Application events)
 - Subscribe (the number of uploaded Subscribe events)

- Targeted
- Invalid Event: valid Event Names are per the following list:
 - ViewContent
 - Search
 - AddToCart
 - AddToWishlist
 - InitiateCheckout
 - AddPaymentInfo
 - Purchase
 - Lead
 - CompleteRegistration
 - Other
 - Contact
 - CustomizeProduct
 - Donate
 - FindLocation
 - Schedule
 - StartTrial
 - SubmitApplication
 - Subscribe
- Azure Push Direct Notification
 - Targeted
 - Sent
 - Failed
- Airship Push Direct
 - Sends (the number of pushes sent)
 - Direct (the number of direct responses to the notification)
 - Targeted

- Google Firebase Direct
 - Sent
 - Failed
- Amazon Pinpoint Push
 - Targeted
 - Sent
 - Invalid Addresses (total number of subscribers with invalid registration token/channel type)
 - Undelivered
- Google Ads Customer Match
 - Received (the number of targets received by Google Ads)
 - Invalid entries (the number of targets tagged by Google Ads as invalid entries)
 - Targeted
- Amazon Pinpoint SMS
 - Targeted
 - Sent
 - Invalid Phone Numbers
 - Undelivered (Targeted - Sent)

In addition, results in the following categories are displayed if appropriate:

- Custom state flows
- Web analytics adapters:
 - Google analytics adapters: shown for channels associated with a Google Analytics adapter. Each Google Analytics metric, as defined at the web analytics adapter, is shown, along with its result. In addition, three additional metrics are provided for each goal defined at the web analytics provider. [GoalName] starts: this metric represents the number of website visitors attracted by the email offer who commenced the sales funnel. [GoalName] completions: this metric represents the number of website visitors attracted by the email offer who completed the sales funnel. [GoalName] value: a pecuniary amount, calculated as the number of completions x a (sale) value configured at the website.

Note that Google Analytics results are aggregated and anonymized...it is not possible to target further communications to specific individuals counted within Google Analytics results.

- Kissmetrics adapters: results from metrics defined at Kissmetrics adapters are displayed. One row per Kissmetrics metric is shown. Note that provision of Kissmetrics results may take several hours.
- Web Events adapters: results are collated for all web events adapters attached to a given channel. The results consist of standard web events state results, and custom web events metric and state results.

The following standard web events states are available:

- Page Visit
- Form Submission
- Link Click: a page visitor clicked on a link in the web page to which directed by an offer URL.

Custom metric results are used to show transactional values – e.g. Total Sales Amount. These are cumulative across website visitors and sessions. You can only utilize a website-provided parameter for a metric if it returns transactional data. Custom state results are used to count individuals undertaking an action at website – e.g. Made a Purchase. These are counted on an individual website visitor basis. You can respond to individual's assuming a given state in a downstream activity – for example, you might want to send an email upon a visitor's requesting information. You can use website-provided parameter for a state irrespective of whether it returns transactional data. In both cases, results are sourced from all Web Events adapters associated with the channel.

Note also that availability of additional results is not necessarily immediate, being subject to delay while waiting for provision of data from external providers such as Salesforce Marketing Cloud and Google Analytics, and also update by the RPI Execution service. In particular, it can take several hours for Google Analytics results to be made available.

- Files tab: this provides access to any files generated if the offer supported a data extract channel, and/or if one or more audit files was/were generated. The toolbar is as the Results tab.
- Log tab: toolbar contains:
 - Copy these details to the clipboard
 - View Dynamic Content Results
 - Refresh
- Trace tab: toolbar as Log tab.

7.6.9 Decision Offer Activity

Following Production decision offer activity execution, and determination of a winning offer, the following are shown:

- Title: the Results Window's title is set to 'Winning Offer Results for Workflow ID [x]'. On hovering over the title, the current Workflow Instance ID and Offer Execution ID are shown in a tooltip.
- Results tab: containing a toolbar and State Results section.
 - Toolbar contains:
 - Refresh
 - State Results section: displays state results relevant to fulfillment undertaken by the decision offer activity are displayed.
 - Test Offer Results: this section contains a grid containing the following read-only columns:
 - Winner: indicated by tick
 - Offer
 - Targeted Count
 - [State] Count
 - Percentage

If the default offer was selected, due to no winning offer being determined, results shown are as described above.

If an offer was chosen arbitrarily (due to no winning offer being determined and no default offer having been defined, or decision offer execution having occurred prior to availability of the results upon which the decision was to be made), results are also shown as above.

If the decision offer activity was executed in Test mode, a message ('No information to display, as run in test mode') is shown instead of results details.

- Files tab: this provides access to any files generated by the decision offer activity.
 - Toolbar contains:
 - Refresh
- Log tab
 - Toolbar contains:
 - Copy these details to the clipboard

- Refresh

Details of the offer fulfilled by the decision offer activity may be found in the Log tab. If a default or arbitrary offer was fulfilled, this fact also appears in the Log.

- Trace Log tab: toolbar as Log tab.

7.6.10 Export

When export results are displayed in the Results Window, the following are shown.

- Title: the Results Window's title is set to 'Export Results for Workflow ID [x]'. On hovering over the title, the current Workflow Instance ID and Offer Execution ID are shown in a tooltip.
- Results tab:

General	^
Name	Standard
Total Count	100
File Export	^
Targeted	100

- Toolbar contains:
 - Copy these details to the clipboard
 - Refresh
- Export results are shown below the toolbar.
- Files tab: this provides access to any files generated by the export.
 - Toolbar contains:
 - Refresh
- Log tab
 - Toolbar contains:
 - Copy these details to the clipboard
 - Refresh
- Trace tab: toolbar as Log tab.

7.6.11 Queue Activity

When queue activity results are displayed in the Results Window, the following are shown.

- Title: the Results Window's title is set to '[Activity Type] Results for Workflow ID [x]'
- Results tab: containing a toolbar and channel results.
 - Toolbar contains:
 - Refresh
 - Channel Results: results for the current offer's channel are displayed. A pie chart is used to display the breakdown between the successful offer execution count, and any errors that may have occurred when processing records received from the listener queue.

The following channel-specific consideration applies:

- Salesforce Marketing Cloud Email: the following channel results are not available in the context of a queue activity:
 - Delivered
 - Invalid Addresses
 - Total Errors
 - SFMC Existing Unsubscribes
 - SFMC Existing Undeliverables

All results are shown for one Test and one Production instance. The activity's Duration reflects its most recent period of activation.

- Files tab
- Log tab: log entries are available for the most recent execution of the queue activity.

7.6.12 Broadcast

When broadcast results are displayed in the Results Window, the following are shown.

- Title: the Results Window's title is set to 'Broadcast Results for Workflow ID [x]'
- Results tab:
 - Toolbar contains:
 - Refresh
 - Channels treeview: shown to the left and above the channel results bar chart.

The treeview lists all channels through which the broadcast was executed. You can highlight a channel to view its results, which are displayed in the Channel results bar chart below the treeview. Additional results are also shown to the right.

You can also expand a channel when Comments (for Facebook) or Replies (for Twitter) are available. Highlighting either displays the relevant information in the additional results section.

- Channel results: a bar chart, shown below the channels treeview.

The following results are shown for a Facebook channel:

- Angrys
- Comments
- Hahas
- Likes
- Loves
- Sads
- Wows
- Cares

These apply at standard Facebook and Facebook Marketing broadcasts.

Results are not returned at Offer for Business broadcasts, and Facebook Marketing broadcasts where the Objective is set to Offer Claims.

The following results are shown for a Twitter channel:

- Replies
- Retweets

The following additional results are available if using v2 of the Twitter API:

- Impressions
- Likes
- URL Link Clicks
- User Profile Clicks
- Quote Tweets
- Promoted Impressions
- Promoted Likes
- Promoted Replies
- Promoted Retweets
- Promoted URL Link Clicks
- Promoted User Profile Clicks

The following results are shown for a YouTube channel:

- Annotation click through rate
- Annotation close rate
- Average view duration
- Average view percentage
- Comments
- Dislikes
- Estimated minutes watched
- Favorites added
- Favorites removed
- Likes
- Shares

- Subscribers gained
- Subscribers lost
- Views

The following results are shown for an Azure Notification channel (each representing the number of subscribed app users by platform):

- Android
- iOS
- Windows Phone

The following results are shown for a Facebook Marketing channel:

- Clicks
- Impressions
- Social Clicks
- Social Impressions
- Social Spent
- Social Unique Clicks
- Social Unique Impressions
- Spent
- Unique Clicks
- Unique Impressions

The following results are shown for an RSS channel:

- Subscribers: the total number of subscribers to a feed
- Reads: the number of times a post within a feed has been read

The following results are shown for a Twilio Notify channel:

- Number of identities
- Number of tags

The following results are shown for a Google Firebase channel:

- Sent

- Failed

Clicking on a bar also highlights its accompanying legend. Similarly, the bar is selected when you click on the matching legend.

Additional results: these are shown to the right. The results are the same as shown within the channel results bar chart.

In addition, if any web analytics adapters are associated with the channel, any relevant results are displayed in appropriate categories. See the offer results documentation for full details.

If you highlight a Facebook channel's Comments or a Twitter channel's Replies in the channels treeview, the display within the additional results section is refreshed to show details of individual messages posted by Facebook or Twitter visitors.

Note that provision of broadcast results may not be instantaneous, depending on the timeliness of the Task Manager service's execution of the relevant channel synchronization task.

- Log tab
 - Toolbar contains:
 - Copy these details to the clipboard
 - Refresh

7.6.13 Control

When control results are displayed in the Results Window, the following are shown.

- Title: the Results Window's title is set to 'Control results for Workflow ID [x]'. On hovering over the title, the current Workflow Instance ID and Offer Execution ID are shown in a tooltip.
- Results tab: containing a toolbar and a grid.
 - Toolbar contains:
 - Copy these details to the clipboard
 - Refresh
 - Grid
 - [Untitled]: 'Records targeted'
 - Count: of records targeted

Custom state flow counts are also provided (if appropriate).

- Files tab: displayed if the control's execution resulted in the creation of an audit file.
- tab: toolbar as Results tab
- Trace tab: toolbar as Results tab

7.6.14 Subscription Group

When subscription group results are displayed in the Results Window, the following are shown.

- Title: the Results Window's title is set to 'Subscription Group Results for Workflow ID [x]'.
- Results tab:
 - Toolbar contains:
 - Refresh
 - Channels treeview: shown to the left and above the channel results bar chart.

The treeview contains a single entry (SurveyMonkey, Alchemer or Twilio Inbound SMS).

On highlighting a subscription group, you can view related results in the channel results bar chart, displayed below the treeview, and in the additional details section shown to the right.

- Channel results: a bar chart, shown below the channels treeview.

Clicking on a bar also highlights its accompanying legend. Similarly, the bar is selected when you click on the matching legend.

Additional results: these are shown to the right. The results are the same as shown within the channel results bar chart.

The following results are available at a SurveyMonkey subscription group:

- Total Respondents

The following results are available at an Alchemer subscription group:

- Total Respondents

The following results are available at a Twilio Inbound SMS subscription group:

- Accepted
- Queued
- Sending

- Sent
- Failed
- Delivered
- Undelivered
- Receiving
- Received
- Log tab
 - Toolbar contains:
 - Copy these details to the clipboard
 - Refresh

7.6.15 Data Process Activity

When data process activity results are displayed in the Results Window, the following are shown.

- Title: the Results Window's title is set to 'Data Process Results for Workflow ID [x]'.
- Results tab:
 - Toolbar contains:
 - Copy these details to the clipboard
 - Refresh
 - Grid: displays the count of Records processed by the Redpoint Data Management project.
- Log tab
 - Toolbar contains:
 - Copy these details to the clipboard
 - Refresh
- Trace tab
 - Toolbar contains:
 - Copy the Trace Log details to the clipboard
 - Refresh

7.6.16 Data Transfer Activity

When data transfer activity results are displayed in the Results Window, the following are shown.

- Title: the Results Window's title is set to 'Data Transfer Results for Workflow ID [x]'.
- Results tab:
 - Toolbar contains:
 - Copy these details to the clipboard
 - Refresh
 - Grid: displays the count of Records targeted by the activity.
- Files tab: providing the ability to access any files generated by execution of the offer with which the activity is configured.
- Log tab:
 - Toolbar contains:
 - Copy these details to the clipboard
 - Refresh
- Trace tab
 - Toolbar contains:
 - Copy the Trace Log details to the clipboard
 - Refresh

7.7 Audience Waterfall Report

The Audience Waterfall report is presented as an Excel workbook. Microsoft Excel must be installed on your client machine if you wish to view an audience waterfall report.

Block Name	Block Type	Input Name	Output Name	Count	Drop Off	Final Output
Audience Name: Credit Card Targets Resolution Name: Customer Mode: Test Audience ID: 827 Workflow ID: 425 Universe Count: 18,484 Audience Count: 18,297						
Initial Credit Card Audience	Filter					
Suppressions	Suppression	Initial Credit Card Audience	Suppressions	18,297		
Data Process	Data processing	Suppressions		18,297	0	
			Low	9,086		
			Medium	8,680		X
			High	531		X
Split	Split rule	Low		9,086	0	
			High Model Score	1,607		
			Medium Model Score	3,062		X
			Low Model Score	1,591		X
			Tier 2 Applicants	2,826		X
Tier 2 Breakdown	Cell list	High Model Score		1,607	0	
			Low-M	529		X
			Low-F	7		X
			Medium-M	649		X
			Medium-F	7		X
			High-M	411		X
			High-F	4		X

The workbook is entitled '[Audience name] Audience Waterfall Report'. Its filename is 'Audience Waterfall [Audience name] ([Audience instance ID]).xlsx', and its description in the Files tab is '[Audience name] Audience waterfall report'.

The report contains a single tab, called Audience Waterfall. The report's header displays the following information:

- Audience Name
- Resolution Name
- Mode
- Interaction Name
- Audience ID
- Workflow ID
- Universe count
- Audience Count

Each block in the audience is displayed as a separate section in the report. For each, the following are shown:

Block Name	Block Type	Input Name	Output Name	Count	Drop Off	Final Output
Filter	Filter					

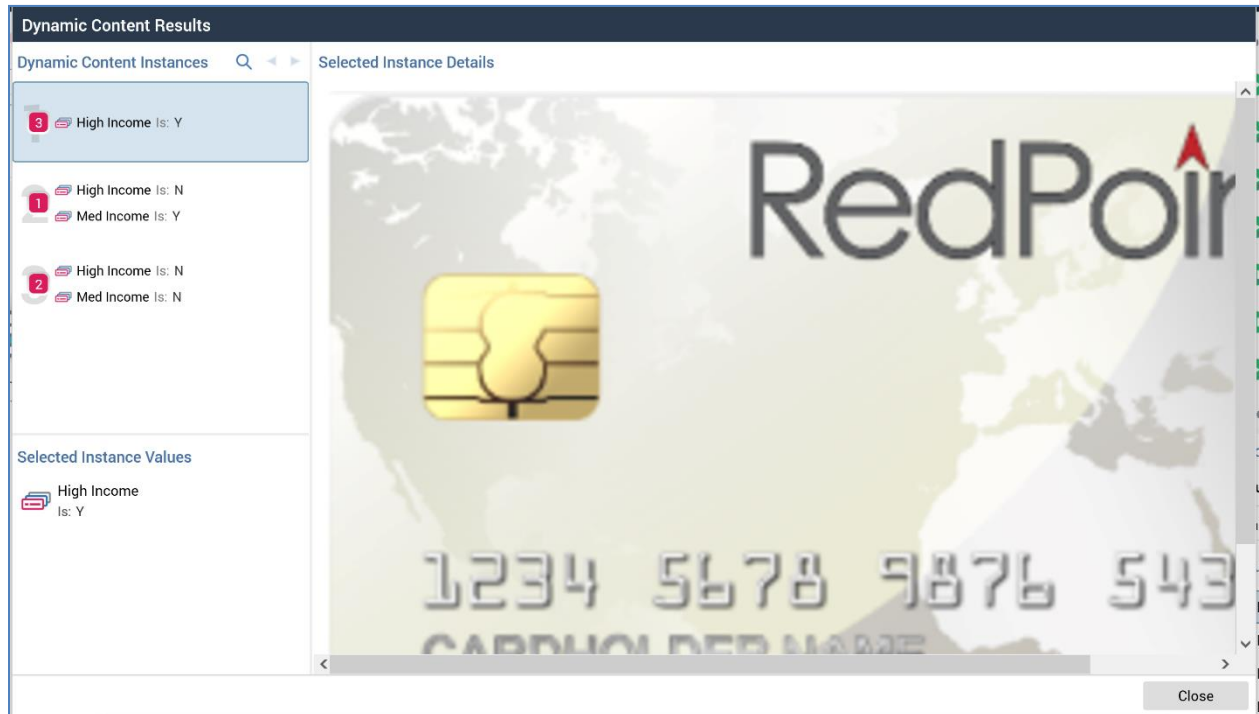
- Block name
- Block type
- Input Name
- Output Name: shown in bold if a final output.
- Count: shown in bold if a final output.
- Drop Off
- Final Output: an 'X' is shown if a final output.

You can expand each block to view more detail using the left-hand '+'/ '-' buttons. This can be repeated to view increasing amounts of detail (displaying details of e.g. selection criteria, suppressions, splits, etc.).

Suppressions	Suppression Filter	Suppressions	Count	Drop Off
		Suppression 1	98	1
		Suppression 1		
		Criterion	Count	Drop Off
		include <i>Initial target filt</i>	100	18,384
		> Initial target Table: DimCustomer		
		include <i>Filter SR</i>	100	18,384
		>> Filter SR Table: DimCustomer		
		include <i>100 Records</i>	100	18,384
		and include <i>New list</i>	100	0
		and exclude <i>Suppression 'Su</i>	99	1
		Suppression 2	1	

7.8 Dynamic Content Results Dialog

The Dynamic Content Results Dialog is displayed when the View Dynamic Content Results button is clicked when viewing an email or SMS offer's Results tab.



The dialog contains the following:

- Dynamic Content Instances section, containing in turn:
 - Toolbar, exposing the following options:
 - Search: invocation displays the Search Dynamic Content Instances dialog. Functionally it is identical to the Preview Dynamic Content dialog initiated at the Offer Designer (please see that interface's documentation for further information).
 - Previous page
 - Next page
 - [Permutations]: each permutation as targeted by email or SMS execution is listed. Permutations are displayed as at the Preview Dynamic Content dialog initiated at the Offer Designer, with the exception that a result count is displayed in a 'bubble' style over the permutation number. A tooltip ('Targeted count: [n]') is shown on hovering over the result count. You can highlight a permutation to view Selected Instance Details and Values.
- Selected Instance Details: this section displays rendered content for the currently-selected permutation.

- Selected Instance Values: this section lists the currently-selected permutation's determinants' values.

7.9 Invocation from Workflow Instance Viewer Toolbar

When invoked from the Workflow Instance Viewer toolbar, the Results Window displays 'Results for [Interaction Name] (Instance ID [x])'. Details of the workflow instance in respect of which the Results Window was invoked are displayed therein.

The currently-selected workflow instance's related activities appear in the workflow activities list. Note that you cannot navigate to the Workflow Instance Viewer from a Results Window that was invoked from the same context.

7.10 Invocation from Audience Instance Viewer Toolbar

When invoked from the Audience Instance Viewer toolbar's Results button, the following tabs are available:

- Results:
 - Toolbar:
 - Copy these details to the clipboard
 - View Insights
 - Refresh
 - Activity details panel: this occupies the whole of the tab and is entitled 'Segment Summary Results for Audience ID [x] in Workflow ID [y]'.

The panel displays details of the current audience instance (batch, or interactive activity configured with audience). For each audience segment, the following are shown:

- Name
 - Count
 - For each metadata attribute, its value
- Files:
 - Toolbar:
 - Refresh
 - Files: displayed if the audience's audience definition is configured to produce validation files.

A validation file is produced for each audience segment. Validation files can be accessed either via FTP download or on the RPI server and provide you with an opportunity to gain a preview of the segments that will be generated by the audience during interaction execution.

An audience waterfall report is also made available if the audience definition was configured to produce such.

- Log: toolbar as per Results tab.
- Trace log: toolbar as per Results tab.

7.11 Invocation from a Specific Activity

When invoked from a specific workflow activity, the Results Window's contents depend on the context of its invocation:

- Manual, scheduled or activity state trigger: the instance in question is selected in the workflow instances panel.
- Recurring trigger: the trigger's most recent instance is selected in the workflow instances panel.
- Batch audience, interactive activity, offer, export, control or broadcast: the workflow instance within which the activity is sited is selected in the workflow instances panel, and the activity is selected in the workflow activities list.

7.12 Invocation from Data Connectors Interface

When invoked from the Data Connectors Interface, the following are displayed at the Results Window:

Results

Data Connector Results

Results for DC07

1 workflow instance has been generated

Workflow **DC07** Instance **6526**

Initialized at **25/01/2021 09:52:56** and ran for **23 days, 5 hours, 20 minutes and 36 seconds** in **Production**

Activities

- Audience selection for connector '...
- DC07

Segment Summary Results for Audience ID 1824 in Workfl...

Results Files Log Trace

Name	Count	StringMeta	DateTimeMeta
Drip	13,800	NOT SET	

18,484 **13,800**

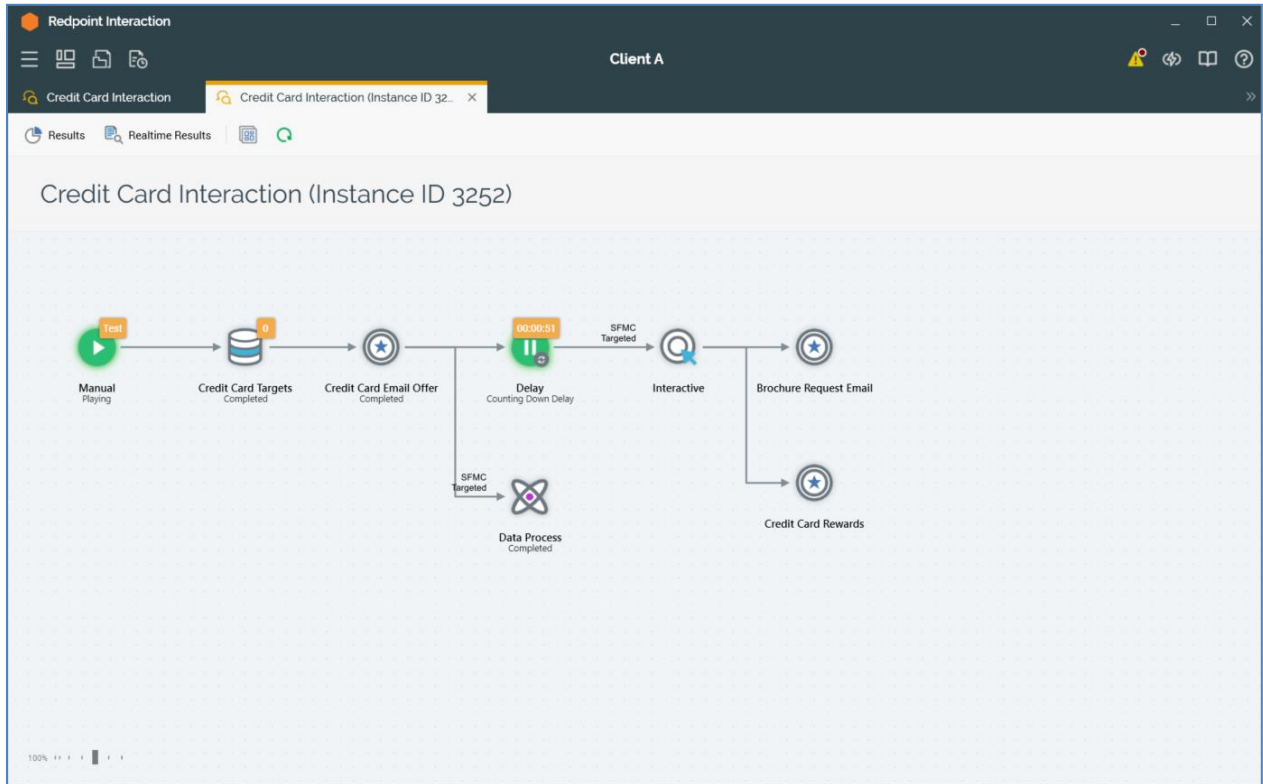
CONTACT UNIVERSE TOTAL CONTACTS

Close

- Batch Audience: named 'Audience selection for connector [Data Connector Name]'. When the data connector is configured with an audience, you can open the audience instance in the Audience Instance Viewer, and view audience insights in the Insights Window. These are not supported when the data connector is configured with a selection rule
- Data Transfer activity: named as per the data connector's name.

8 Workflow Instance Viewer

The Workflow Instance Viewer is used to display read-only information relating to a specific workflow instance. The workflow instance may be either running currently or may be a previous instance that has now completed.



Note that the Workflow Instance Viewer is supported in all database modes (SQL and NoSQL).

8.1 Invoking the Workflow Instance Viewer

The Workflow Instance Viewer may be invoked from the Results Window in the Interaction Designer having selected a workflow in the navigation treeview.

8.2 Workflow Instance Viewer Basics

The Workflow Instance Viewer is displayed in a separate tab.

It is based on the Interaction Designer; however, it is read-only, and displays details of a single workflow instance (be that instance executing currently or Completed).

The Workflow Instance Viewer contains:

- Toolbar
- Workspace

8.3 Toolbar

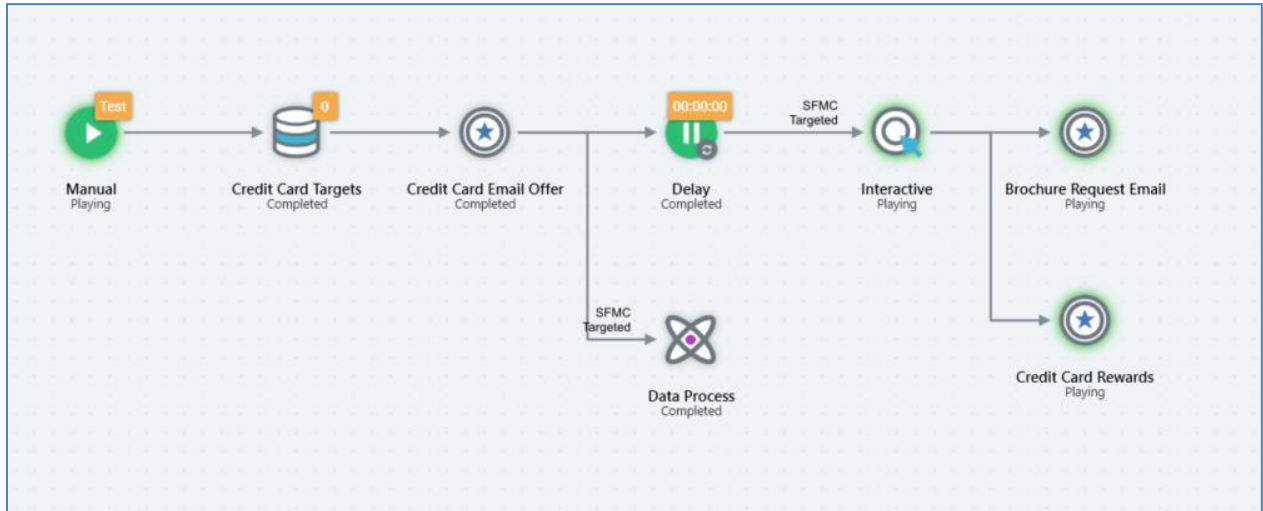
The Workflow Instance Viewer toolbar exposes the following options:



- Results: displays the workflow instance's results in the Results Window.
- Realtime Results: displays the workflow instance's results in the Realtime Details report.
- Copy image to Clipboard: Clicking this button copies the contents of the workspace to the clipboard (even if its full contents are not currently visible).
- Refresh: refreshes the status if this workflow instance

8.4 Workspace

The Workflow Instance Viewer's workspace displays the workflow instance you are currently viewing. It is displayed exactly shown within the Interaction Designer but is placed at the top left of the workspace.



Similarly to the Interaction Designer, the Workflow Instance Viewer also contains a watermark (Interaction [name] Workflow instance ID [n], [Interaction description]).

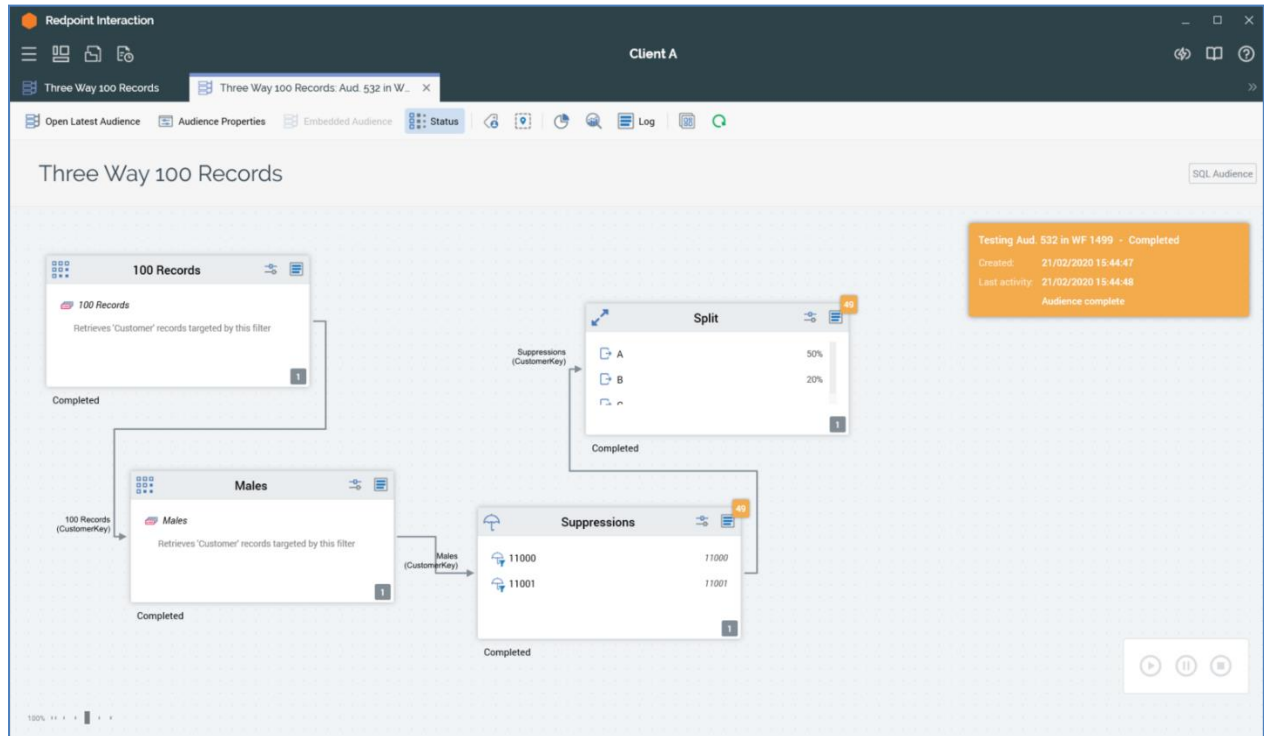
The workflow instance's activities' statuses are shown as in the Interaction Designer. If the workflow instance is currently executing, you may observe status changes in near-time by refreshing the Workflow Instance Viewer manually or automatically.

All activities are read-only in the Workflow Instance Viewer. You may view activities' configuration panels, but you may not make changes. You may invoke certain functionality (see below for details). You can navigate to a selection rule associated with a trigger criterion or a channel. You can also move activities in the workspace.

Mini toolbars are available as appropriate in the Workflow Instance Viewer.

9 Audience Instance Viewer

The Audience Instance Viewer is used to display read-only information relating to a specific audience instance.



The audience instance may be either running currently or may be a previous instance that has now completed.

9.1 Invoking the Audience Instance Viewer

The Audience Instance Viewer may be invoked from the Results Window in the Interaction Designer or Workflow Instance Viewer, having selected an audience in the navigation treeview.

9.2 Audience Instance Viewer Basics

The name of the audience of which an instance is displayed is shown in the tab containing the Audience Instance Viewer as follows:

[Audience Name]: Aud. [x] in WF [y]

Where [x] is the audience instance ID and [y] the ID of the workflow instance in which the test was executed.

If invoked in respect of an audience test, the name of the template can be augmented to document the fact that the test was executed against a sample of the available universe, e.g.:

- Percent of universe: 'March 2013 Travel (60% of universe)'
- Maximum volume of universe: 'March 2013 Travel (5,000 of universe)']

Display of an audience instance in the Audience Instance Viewer is based upon the visual representation of the audience upon which it is based in the Audience Designer. However, the Audience Instance Viewer shows a read-only representation of the current state of an audience instance.

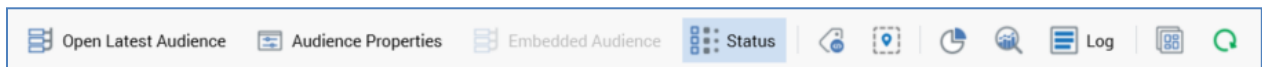
Unlike the Audience Designer, no toolbox is displayed within the Audience Instance Viewer. Rather, the Viewer is based on the Designer's workspace.

The audience's name, version and description are displayed as a watermark within the Audience Instance Viewer.

Within the Viewer, you are able to resize and move blocks. However, you cannot remove blocks or block connections; nor can you save any changes you make within the Audience Instance Viewer workspace.

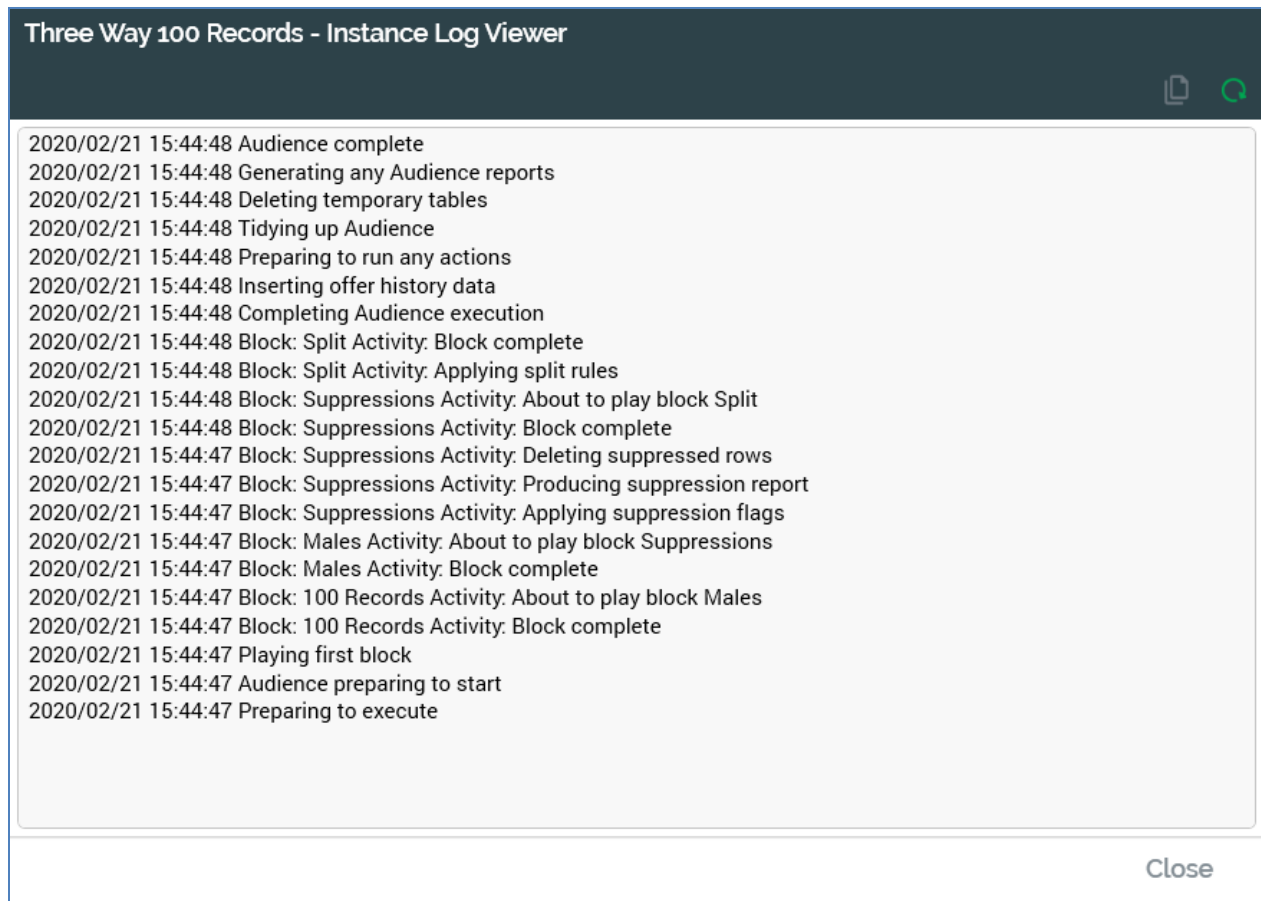
9.3 Toolbar

A toolbar is provided within the Audience Instance Viewer.



The toolbar gives access to the following functionality:

- Open Latest Audience : displays the most up-to-date version of the audience upon which the current audience instance is based, in the Audience Designer.
- Audience Properties: displays a read-only representation of the instance's audience's properties.
- Status: this toggle button controls display of the Audience Instance Viewer's status summary panel. If the panel is on display, toggling this button removes it. If it is hidden, the panel is shown. The button is selected by default when the Audience Instance Viewer is opened.
- Audience Metadata: displays a read-only representation of the instance's metadata.
- Audience Placeholders: displays a read-only representation of the instance's placeholders.
- Segment Summary Results: invokes the Results Window to show details of segment metadata assignment and counts (if available).
- View Insights: displays insights for the audience in the Insights Window.
- Log: displays the current state of the log for the audience instance as a whole. Log entries are displayed in descending chronological order within the Instance Log Viewer dialog.



- Copy image to Clipboard: Clicking this button copies the contents of the workspace to the clipboard (even if its full contents are not currently visible).
- Refresh: reloads the contents of the Audience Instance Viewer.

9.4 Block Properties

Within the Audience Instance Viewer, the following properties are visible directly within each displayed block:

- Name
- If a suppressions block, suppressions.
- If a filter, the selected selection rule's name.
- If a filter, cell list block or audience block, an Open this version button. Invocation displays a version of the file with which the block was configured within its relevant designer. If a selection rule, the file is named '[filename] (copy)'.
- If a split rule, outputs.
- If an audience block, the selected audience.
- Status: displayed immediately beneath the block and left-aligned. Note that a block's status is shown as Not Started if no rows are targeted by the block.
- If the block's status is Failed, Failure details are displayed.

In addition, you may gain an understanding of a block's current state by the halo that surrounds it:

- If the halo is green, the block is currently executing.
- If the halo is orange, the block is paused.
- If the halo is red, the block failed.

Bubble counts are displayed at blocks as they become available. Note that bubble counts are not displayed for filters that do not create temporary tables.

9.5 Viewing Results and Log Details

You may view block results and log details using the View results and log button displayed to the top right of a block.

Results and log details are displayed within the same interface, which is shown as a static panel to a block's right hand side (note that, if there is insufficient room to show the panel, it is displayed to the left).

You can view results for each block if they exist. Results are displayed as a list of outputs, with a count for each. If no results are available, a message advises that no counts exist. Note that, due to the manner in which RPI executes filters, a filter block may not produce any results. Log messages are also shown in the same context.

If the block is a suppressions block, you can toggle between standard output results and suppression results using the Show Suppression Results button. The button is only available if the suppression block's Provide drop-off counts property was checked within its audience.

Suppression results shows the results of successive application of suppressions within a suppressions block. Result details commence with the total before the application of suppressions. Thereafter, for each suppression, the suppression's Name, Count and Remainder are displayed.

9.6 Viewing a Block's Configuration

You can view a block's configuration by clicking the block's View configuration button. Doing so displays the Audience Block Builder in read-only mode.

9.7 Viewing a Related Selection Rule

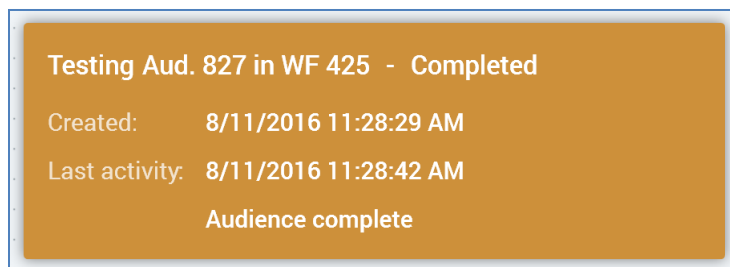
You can view a selection rule linked to a filter, split rule or suppressions block. You can view a filter's linked selection rule via a right mouse context menu invoked at the block in the workspace; viewing the others' linked selection rules is carried out in the relevant Audience Block Builder. In all cases tooltips read 'Open this version'.

The related selection rule is displayed within the Rule Designer. If the Designer is already open, the rule is shown there; if not, the rule is shown within a new instance.

The rule is shown as it was at the time of the audience's execution, even if changes to the rule have been saved since this time. To help identify the rule as such, the suffix '(copy)' is appended to the rule's name in the Rule Designer. The copy rule is not related to the original; you can only invoke Save as..., rather than Save, to persist changes you make to it.

9.8 Audience Instance Status Panel

Overall details of the status of an audience instance within the Audience Instance Viewer are displayed in the audience instance status panel, which is displayed to the interface's top right.



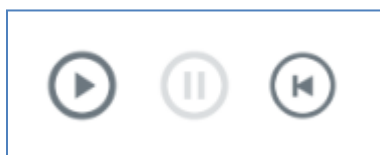
You can move the panel within the displayed visible area of the Audience Instance Viewer's workspace.

The panel contains the following details:

- ID: this is shown as 'A [x] in WF [y]' (where A = 'Audience' and WF = 'Workflow'). Note that a temporary workflow instance is created during an audience test, and this workflow's ID is shown in that context.
- Status: the current status of the audience instance is shown. If the audience instance failed:
 - Details of the failure are shown.
 - An icon is displayed next to the status text
 - The panel's background is displayed in a shade of red.
- Created: the date and time of creation of the audience instance is displayed within the status summary
- Last activity: the date and time at which activity occurred most recently within the audience instance are shown.

9.9 Play, Pause and Stop and Rewind Buttons

When appropriate to do so (i.e. when the audience instance is not yet Completed), RPI displays Play, Pause and Stop and Rewind buttons at the bottom right-hand corner of the Audience Instance Viewer.

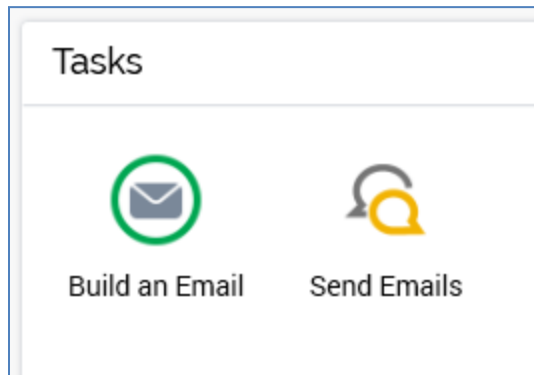


You can use these controls to Play, Pause or Stop and Rewind the audience instance as required.

10 Training Aids

RPI training aids have been provided to introduce novice users to concepts underpinning the tool, whilst facilitating productive work at the same time.

Two training aids can be initialized from a Tasks widget:



Training aids can also be invoked contextually from the Rule, Audience and email Offer Designers.

Training aids take a guided “wizard” approach to undertaking tasks within RPI, at the same time imparting knowledge to the user through use of a context-sensitive glossary.

10.1 Types Of Training Aid

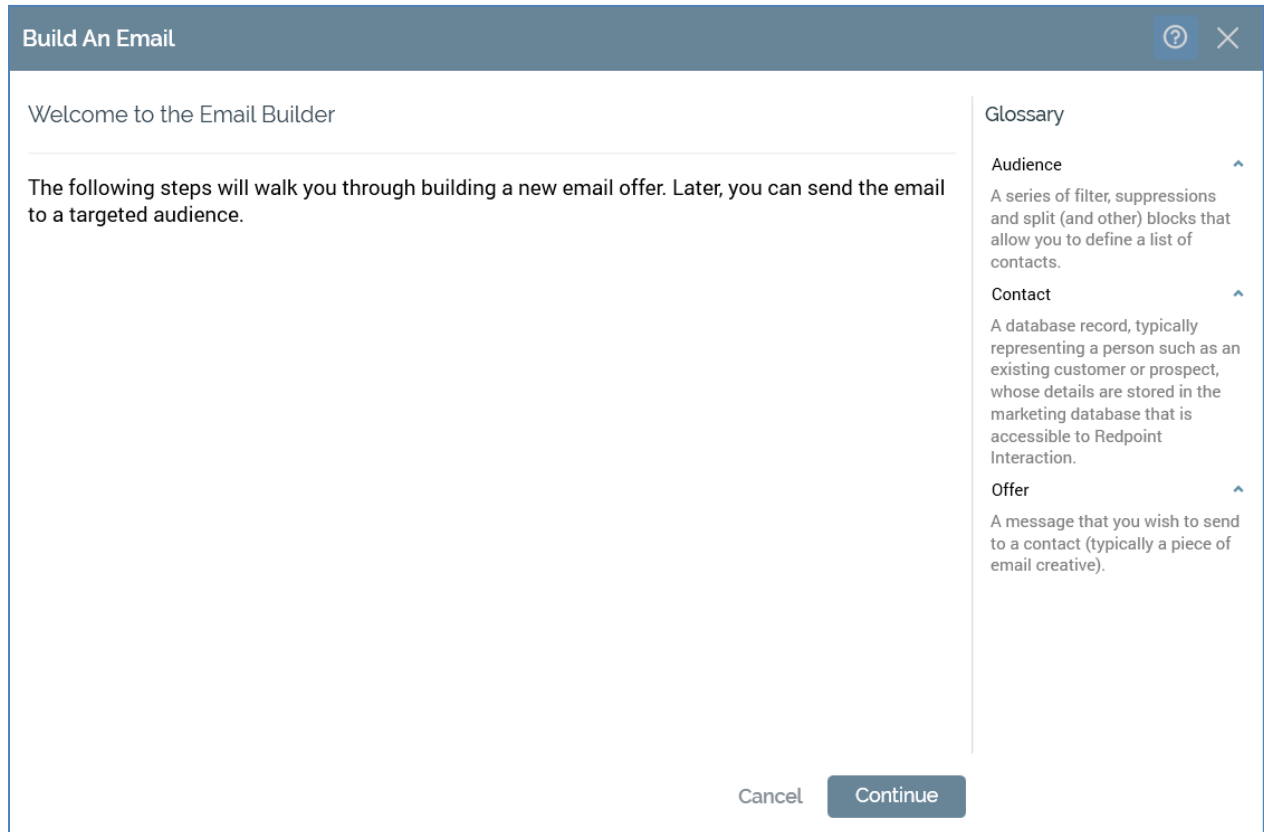
Two training aids are available in RPI:

- **Build an Email:** allows you to construct email creative to send as an offer to an audience.
- **Send Emails:** allows you to initiate the sending of a previously-created email offer to an identified audience.

Each of these is discussed in detail separately.

10.2 Common Training Aid Features

When you invoke a training aid, the current context of invocation (e.g. the Home Page) is disabled, and a wizard-style interface is displayed.



All training aids share the following features:

- Header: containing the following:
 - Window title
 - Help: this toggle button is selected by default (your most recent setting is persisted in your user profile and is applied at next training aid invocation). When Help is selected, a Glossary is displayed to the right of the training aid.
 - Cancel: this button removes the training aid from display. It is disabled at the final training aid interfaces.
- Interface: each training aid consists of a linear sequence of interfaces, each of which imparts or requests information to or from the user.
 - Interface title: displayed at the top of each training aid interface.
 - Description: providing more detail as to the purpose of the training aid interface.

- Contents: tailored by interface
- Glossary: this is displayed to the right of the training aid and is shown when Help is selected. A series of entries are listed, each relevant to the current interface. Topics are rolled up by default, and can be expanded as required
- Buttons: these are displayed at the bottom right of a training aid.
 - Go Back: not displayed at a training aid's initial interface. Clicking the button returns to the previous interface.
 - Continue: not displayed at a training aid's final interface. Clicking the button moves to the next interface.
 - Cancel: replaces the Go Back button in an initial interface. Clicking the button removes the training aid from display.
 - Finish: only displayed at a final interface. Clicking the button removes the training aid from display, its task having been successfully completed.

Note that training aids are only available to users with the following functional permissions:

- Build Email: Offer – Design
- Send Emails: Interaction – Design

If a user has none of the above functional permissions, and training aids are intended to be shown, a message advises that access to the training aids is not allowed.

10.3 Build An Email

Invocation of the Build an Email training aid allows you to create a new email offer, ready for your provision of its content.

The following interfaces are displayed within the Build an Email training aid:

10.3.1 Welcome to the Email Builder

This interface serves as an introduction to the Build an Email training aid.

Welcome to the Email Builder

The following steps will walk you through building a new email offer. Later, you can send the email to a targeted audience.

The following buttons are available:

- Cancel: removes the training aid from display.
- Continue: shows the Configure your Email Offer interface.

10.3.2 Configure your Email Offer

This interface allows you to provide some basic properties for the email offer:

Configure your Email Offer

An email offer requires some basic configuration before it can be sent.

Sender name:

Specify the sender's name

Sender email address:

Specify the sender's email address

Email subject:

Specify the email's subject line

The following properties can be configured:

- Sender name: defaults to 'Sender name', maximum length 100 characters.

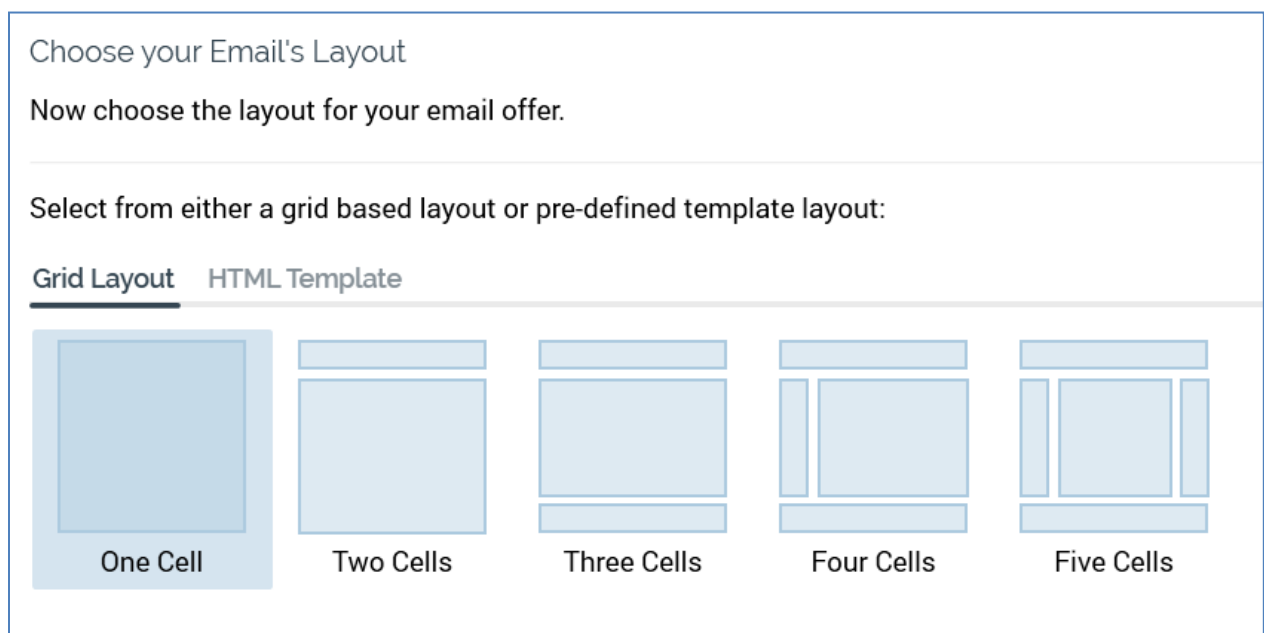
- Sender email address: defaults to 'sender@company.com', maximum length 100 characters.
- Email subject: defaults to 'Subject', maximum length 256 characters.

The following buttons are available:

- Go Back: returns to the Welcome to the Email Builder interface.
- Continue: shows the Choose your Email's Layout interface.

10.3.3 Choose your Email's Layout

This interface allows you to select a pre-defined layout for your new email offer.



You can select from a Grid layout or choose a previously-created HTML template to serve as the email offer's layout.

The following buttons are available:

- Go Back: returns to the Configure your Email Offer interface.
- Continue: shows the Configure your Offer interface.

10.3.4 Configure your Offer

This interface allows you to provide a name and optional description for your new email offer.

Configure your Offer

Before your Email Offer is created, you must give it a name. You can also optionally give it a description.

Offer name:

Offer description:

Provision of an Offer name, which defaults to 'New email offer' is mandatory. The value supplied cannot exceed 100 characters in length.

Provision of an Offer description is optional. The value supplied cannot exceed 1000 characters in length.

The following buttons are available:

- Go Back: returns to the Choose your Email's Layout interface.
- Continue: shows the Email Created interface.

10.3.5 Email Created

This interface serves to confirm that your email offer has been created successfully.

Email Created

A new email offer has been created for you.

Now you need to provide both HTML and Text content for the email. When you're happy, you can send it to an audience that you've already built.

A single button is available:

- Finish: clicking this button closes the training aid and displays your new email offer in the Offer Designer, with relevant properties set in accordance with the information provided while working through the training aid.

10.4 Send Emails

Invocation of the Send Offers training aid from the Home Page allows you to send a pre-built email offer to a pre-defined selection rule or audience.

The following interfaces are displayed within the Send Emails training aid, when invoked from the Home Page:

10.4.1 Ready to send some emails?

This interface serves as an introduction to the Send Emails training aid.

Ready to send some Emails?

The following steps will walk you through selecting a pre-built audience, and choosing an email offer to send to them.

The following buttons are available:

- Cancel: removes the training aid from display.
- Continue: shows the Choose an Existing Audience interface.


10.4.2 Choose an existing Audience


This interface allows you to select a pre-built selection rule or audience to which emails are to be sent.

Choose an existing Audience

Your audience can be defined using an Audience or a Selection Rule

Choose your audience:

Using an Audience:  Audience
Use an existing Audience as your audience.

Using a Selection Rule:  Selection Rule
Use an existing Selection Rule as your audience.

I don't know yet, so let me decide later
A placeholder Audience will be added to your Interaction. You can configure it later.

Three radio buttons are displayed:

- Using an Audience: if selected, this option's accompanying Audience property must be configured with a file of that type, for which you can browse using the File System Dialog. Having chosen an audience, you can open its latest version, view audience insights in the Insights Window, or clear the property.
- Using a Selection Rule: this option is selected by default. If selected, its accompanying Selection rule property must be configured with a standard or basic selection rule, for which you can browse using the File System Dialog. NoSQL selection rules are not supported. Having chosen a selection rule, you can open its latest version, view selection rule insights in the Insights Window, or clear the property.

You cannot use an anonymous auxiliary database-resolving selection rule in the Send Emails training aid.

- I don't know yet, so let me decide later: if you choose this option, a placeholder audience will be added to the interaction that will be created at completion of the Send Emails training aid. The placeholder audience can be configured at a later time.

The following buttons are available:

- Go Back: returns to the Ready to send some Emails? interface.

- Continue: shows the Choose an existing Email interface.

10.4.3 Choose an existing Email

This interface allows you to choose an existing email offer to send to the audience you selected in the previous step.

Choose an existing Email

Now choose an email Offer that you want to send to the audience you selected in the previous step.

Choose your email:

Existing email offer. Email offer

Send an existing email Offer that has already been built.

I don't know yet, so let me decide later

A placeholder Offer will be added to your Interaction. You can configure it later.

Two radio buttons are displayed

- Existing email offer: this option is selected by default. If selected, its accompanying Email offer property must be configured with a file of that type, for which you can browse using the File System Dialog. Having chosen an offer, if the offer doesn't support the Email delivery method, a message ('Offer does not support email is shown'). If the offer is invalid, 'Offer is not valid' is displayed. You can also open the offer's latest version or clear the property.

I don't know yet, so let me decide later: if you choose this option, a placeholder offer will be added to the interaction that will be created at completion of the Send Emails training aid. The placeholder offer can be configured at a later time.

The following buttons are available:

- Go Back: returns to the Choose an existing Audience interface.
- Continue: shows the Configure your Interaction interface.

10.4.4 Configure your Interaction

This interface allows you to provide a name and optional description for the interaction that will be used to send the email offer to the audience you selected.

Configure your Interaction

Before your Interaction is created, you must give it a name. You can also optionally give it a description.

Enter the Interaction's name:

Enter the Interaction's description:

Provision of an Interaction name, which defaults to 'New Interaction' is mandatory. The value supplied cannot exceed 100 characters in length.

Provision of an Interaction description is optional. The value supplied cannot exceed 1000 characters in length.

The following buttons are available:

- Go Back: returns to the Choose an existing Email interface.
- Continue: if you selected an audience and email offer, invocation of Continue displays the Running your Interaction interface. Otherwise, the Interaction Created interface is displayed.

10.4.5 Running your Interaction

This interface allows you to choose whether to execute a test send of the interaction created using the Send Email training aid immediately, or whether to simply create it and allow it to be executed later.

Running your Interaction

To send the email you've selected to your audience, you need to run your Interaction.

Choose what you want to do next:

Run the Interaction in Test mode
Creates and allows you to save the Interaction, then runs it in Test mode. Emails are NOT sent in Test mode.

Just create the Interaction, I'll run it later
Creates the Interaction, but doesn't save or run it, letting you make changes as required.

Two radio buttons are displayed:

- Run the Interaction in 'Test' Mode: this option is selected by default. When selected, on completing the training aid, the new interaction will be created and saved, and then run in Test mode (note that emails are NOT sent in Test mode).
- Just create the interaction, I'll run it later: when this option is selected, on completing the training aid, the new interaction will be created, but not saved or run.

The following buttons are available:

- Go Back: returns to the Configure your Interaction interface.
- Continue: if Run the Interaction in 'Test' mode was selected, a Save Interaction As... File System Dialog is displayed, allowing you to save the interaction before its execution. Irrespective of radio button selection, Continue navigates to the Interaction Created interface.

10.4.6 Interaction Created

This interface serves to confirm that your interaction has been created successfully, following completion of the Send Emails training aid.

Its contents depend on the choices made earlier. If both an audience and email offer were selected, and the user chose to execute the interaction in Test mode, the following is displayed:


Interaction Created

Your Interaction has been created as you instructed.

You will now be prompted to save your Interaction. Once saved, it will begin executing in Test mode.

When complete, you can click Results to view the number of contacts within your audience to whom emails will be sent when you run it in Production mode.

If you chose not to save the Interaction, you will need to save it before execution.

 If there is a problem with the Interaction it will not start automatically.

[Finish](#)

If both an audience and email offer were selected, and the user chose not to execute the interaction, or an audience and/or an email offer were not selected, the following is displayed:

Interaction Created

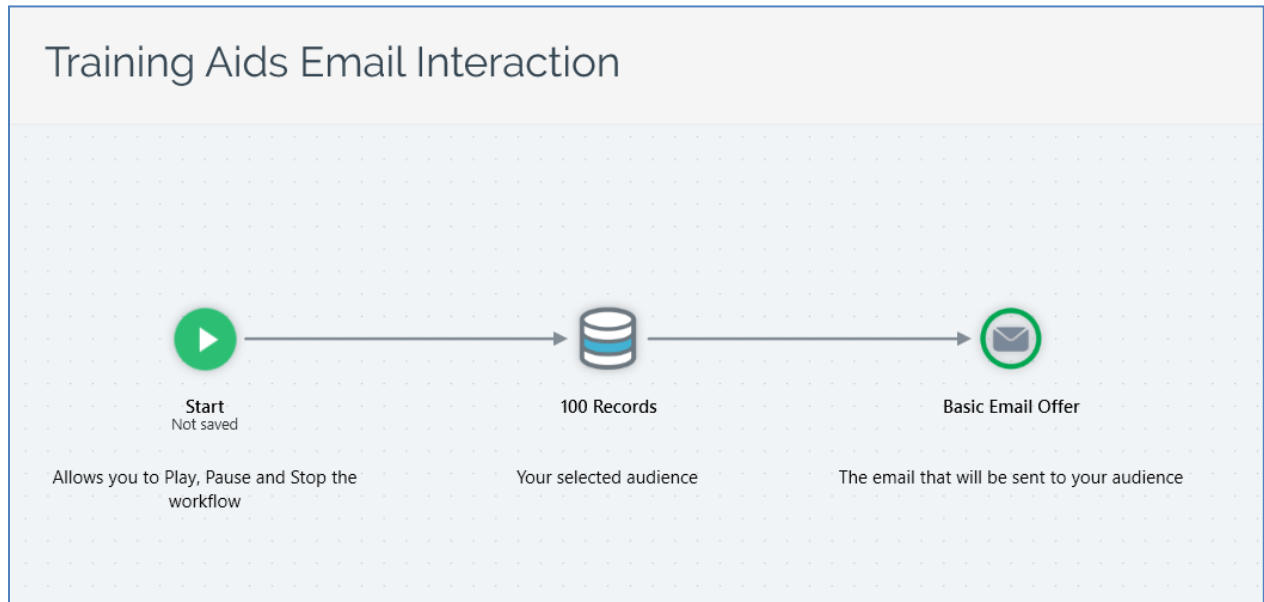
Your Interaction has been created as you instructed.

You can now change it as required, then save it and execute it in Test or Production mode.

A single button is available:

- Finish: clicking this button closes the training aid and displays your new email offer in the Interaction Designer.

An interaction created using the Send Emails training aid has the following characteristics:



Its Name and Description are as provided in the training aid.

It contains a single workflow, which in turn contains the following:

- Manual trigger, named Start. Accompanied by a note, which reads Allows you to Play, Pause and Stop the workflow.
- Batch audience, named as per the chosen selection rule or audience's name, or 'Get Audience' if none selected.

If a selection rule was chosen in the training aid, it must be included in a filter in a wrapper audience (as selection rules cannot be added directly to an interaction workflow). The wrapper audience is named '[selection rule name] + Wrapper Audience' and is saved to a hidden folder. Its audience definition is set to the first audience definition that matches the selection rule's resolution level. Note that multiple instances of the same file name can be saved concurrently to the hidden folder. You can open a wrapper audience in the Audience Designer, where you can Save As... to save it to an accessible folder in the RPI file system. Note that you cannot open a wrapper audience's file location – an attempt to do so results in a warning.

A note accompanies the batch audience.

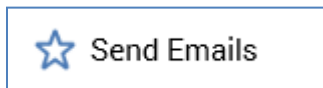
- Offer activity, named as per the selected offer name, or 'Send Emails' if none selected. It is accompanied by a note, which reads The email that will be sent to your audience. If a single, default email channel exists, the offer is configured with the same. If more than one default email channel, or if no default email channel exists, the first channel (alphabetically) is selected.

10.5 Send Emails – Contextual Invocation

The Send Emails training aid can also be invoked directly from a selection rule, audience or email offer.

10.5.1 Invocation at Selection Rule

A Send Emails option is available in the Options section, at the top of a selection rule's toolbox:



If clicked when the current selection rule contains unsaved changes, or is invalid, a warning message is displayed.

Clicking the button at a valid, saved selection rule displays the Send Emails training aid, in which the following interfaces are shown in sequence:

- Ready to send some emails?
- Choose an existing Email
- Configure your Interaction
- Running your Interaction
- Interaction Created

10.5.2 Invocation at Audience

The Send Emails button is displayed in the Audience Designer toolbar:



If clicked when the current Audience Designer contains unsaved changes, or when the audience therein is invalid, a warning message is displayed.

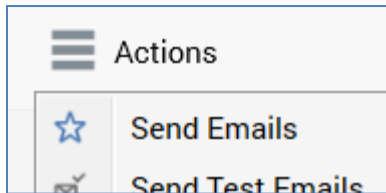
Clicking the button at a valid, saved audience displays the Send Emails training aid, in which the following interfaces are shown in sequence:

- Ready to send some emails?
- Choose an existing Email
- Configure your Interaction
- Running your Interaction

- Interaction Created

10.5.3 Invocation at Email Offer

A Send Emails option is available within the menu displayed on clicking the Actions button in the Offer Designer toolbar:



If clicked when the current Offer Designer contains unsaved changes, or when the offer therein is invalid, a warning message is displayed.

Clicking the button at a valid, saved offer displays the Send Emails training aid, in which the following interfaces are shown in sequence:

- Ready to send some emails?
- Choose an existing Audience
- Configure your Interaction
- Running your Interaction
- Interaction Created

10.6 Glossary

The following list represents all entries displayed in the training aids' combined glossaries:

- **Attribute:** a criterion is based on an attribute. In the Gender is female example criterion, Gender is the attribute on which the criterion is based.
- **Audience:** A series of filter, suppressions and split (and other) blocks that allow you to define a list of contacts.
- **Contact:** A database record, typically representing a person such as an existing customer or prospect, whose details are stored in the marketing database that is accessible to RPI.
- **Criteria:** statements within a selection rule that help identify a segment e.g. Gender is female or Has made a recent purchase (singular of criteria is criterion).
- **Audience Designer:** the RPI interface in which an audience is created and edited.
- **File System:** the RPI file system allows you to save audience definitions as selection rule and audience files.
- **Interaction:** an email is sent to an audience by executing a workflow in an interaction.
- **Offer:** a message that you wish to send to a contact (typically a piece of email creative).
- **Production Mode:** when an interaction workflow containing an email Offer is run in Production mode, emails are sent to the specified audience.
- **Segment:** a subset of the contacts stored in your marketing database, all of whom share characteristics or qualities as defined by a selection rule.
- **Selection Rule:** a series of criteria that allow you to identify contacts that share the same qualities; a selection rule defines a segment.
- **Selection Rule Count:** having added criteria to a selection rule, you can refresh its count to see the number of contacts that share the same combination of attribute values. This lets you know how big your segment is, and the size of your audience.
- **Test Mode:** when an interaction workflow containing an email Offer is run in Test mode, emails are not sent. However, you can check whether the correct number of contacts were targeted.

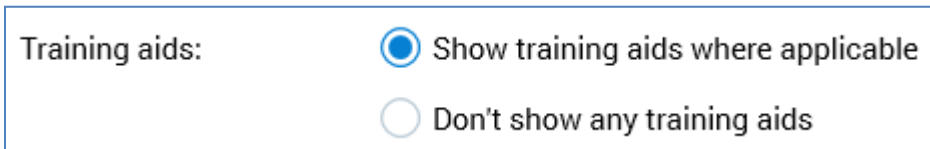
10.7 Disabling Training Aids

Training aids are, by default, disabled at an RPI client. This is due to the default 'false' value at system configuration setting EnableTrainingAids. When disabled, training aids are be available in the following contexts:

- Tasks Widget
- Preferences.Options
- Selection Rule.Toolbox
- Audience Designer
- Email Offer Designer

To enabled training aids, the configuration setting's value must be set to 'true'. The setting will be applied at sign in after having been changed.

If enabled at the current client, you can still disable training aids completely in the Options tab in the Preferences interface.



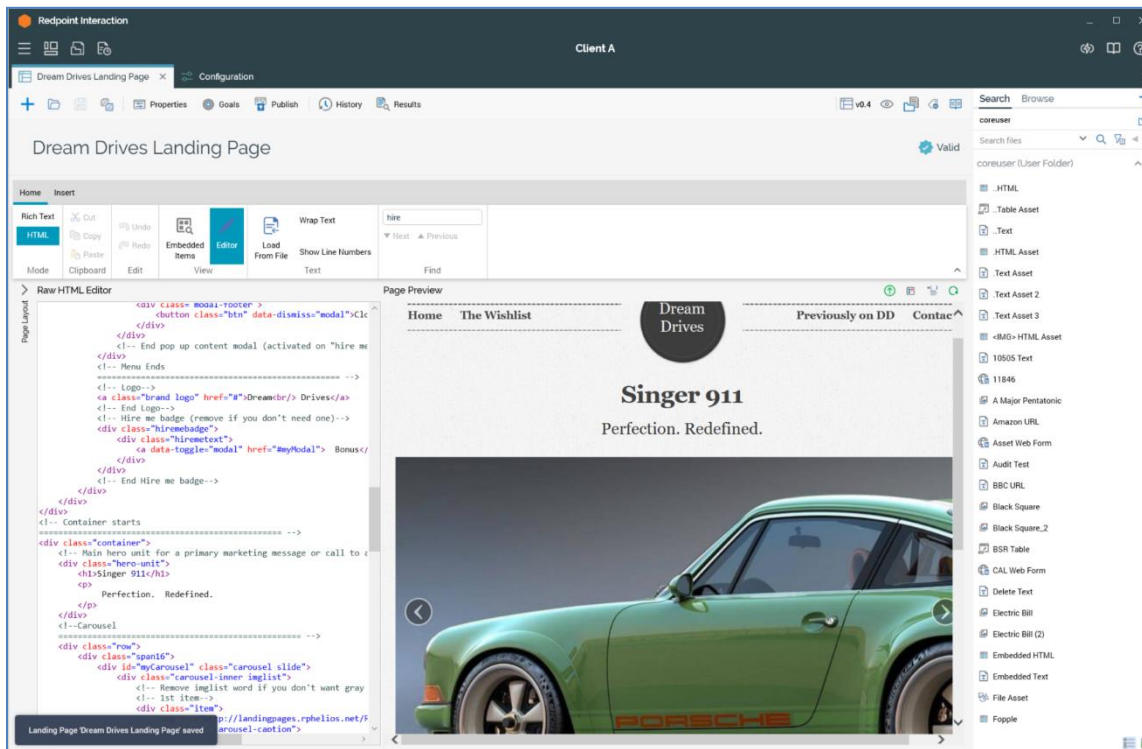
Training aids: Show training aids where applicable
 Don't show any training aids

The training aids option is accompanied by two mutually-exclusive radio buttons:

- Show training aids where applicable: this option is selected by default. When selected, training aids are available, and invocation of Send Emails can be effected from a selection rule, audience or email offer.
- Don't show any training aids: when this option is selected, training aids are not available in the aforementioned contexts.

11 Landing Page Designer

The RPI Landing Page Designer is used to create and modify landing pages, which can be hosted in a website for the purpose of capturing data from both anonymous visitors, and those directed to the site via outbound RPI communications.



The Landing Page Designer is displayed in its own tab in the RPI framework. It is used to create and manage landing pages.

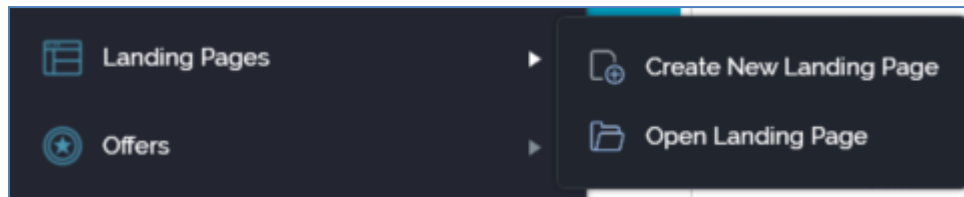
The Landing Designer contains the following elements, each documented separately.

- Main Toolbar
- Toolbar
- Toolbox
- Content Editor Toolbar
- Page Layout Section
- Cell Editor Section
- Page Preview Section

11.1 Invoking the Landing Page Designer

You can invoke the Landing Page Designer in the following ways:

- From the quick access menu's Landing Pages menu. The menu exposes the following options:



- From a Tasks or File Type widget. Typically, these might be displayed at your Home Page. For more information on widgets, please see the Dashboard Designer documentation.

By double-clicking a landing page file in the File System Dialog, or by highlighting a landing page and clicking OK in the same context.

Note that access to the Landing Page Designer is controlled via the Landing Page – Design functional permission. If none of the user groups of which you are a member are associated with this permission, you will not be able to access the Landing Page Designer.

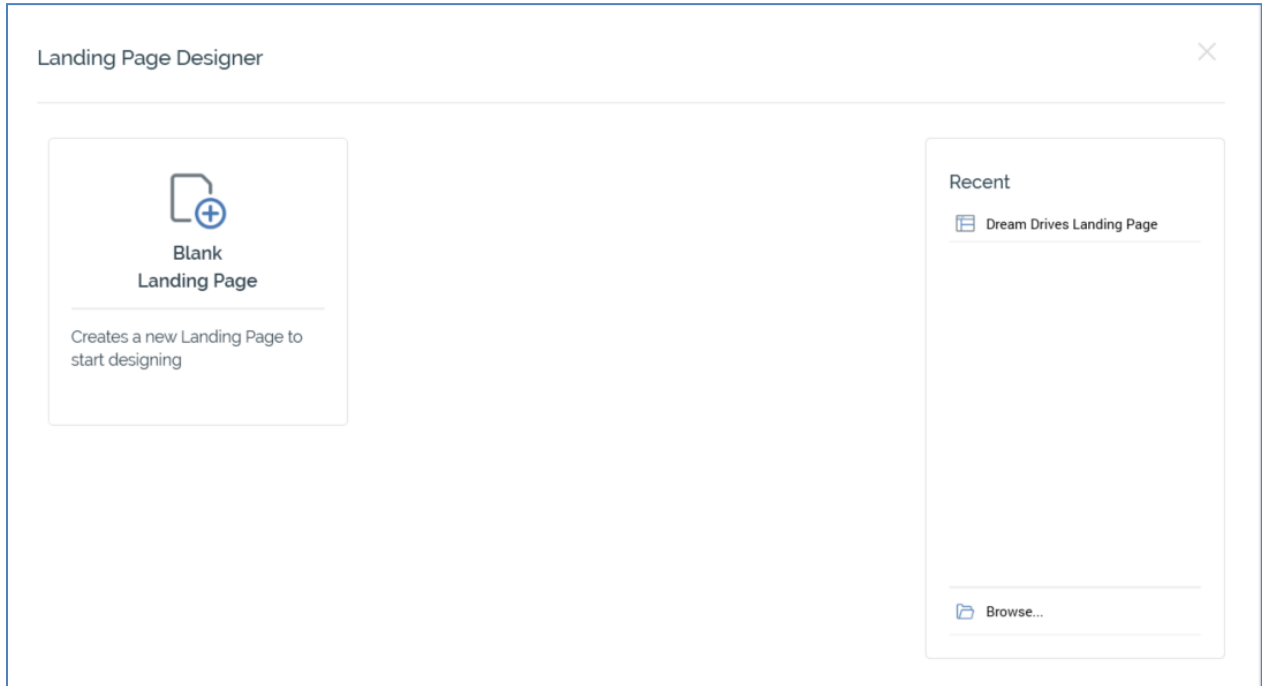
11.2 Closing the Landing Page Designer

You can close the Landing Page Designer by closing the tab within which it is displayed, or by shutting down RPI itself. If you do so when the Designer contains a landing page with unsaved changes, a dialog is shown, within which you can choose to do the following:

- Save the changes and proceed with closing the Landing Page Designer
- Abandon the changes and proceed with closing the Landing Page Designer
- Cancel closing the Landing Page Designer or RPI.

11.3 Start Page

The Landing Page Designer Start Page is shown upon invocation of Landing Pages at the quick access menu, and also on clicking Create new Landing Page at the Landing Page Designer toolbar. It contains the following:



- Blank Landing Page: clicking this button displays a new, unconfigured landing page in the Landing Page Designer.
- Recent: lists recently-accessed landing pages, facilitating the opening of the same.
- Browse: displays the Open Landing Page File System Dialog, allowing you to select a Landing Page to open.

A Cancel button is shown at the top of the Start Page. Clicking it removes the Start Page from display, and redisplay the Landing Page Designer. The Cancel button is only shown on invocation of the Start Page by clicking Create new Landing Page at the Landing Page Designer toolbar.

11.4 Toolbar

The Landing Page Designer toolbar exposes the following options:



- Create new Landing Page: clicking this button displays the Landing Page Designer Start Page. A close button is shown to its top right; clicking it removes the overlay from display. If a Landing Page containing unsaved changes is displayed at invocation of Create New, an 'Are You Sure?' dialog is shown, from which you can:
 - Save the changes
 - Abandon the changes
 - Abandon creation of the new Landing Page
- Open existing Landing Page: invocation of this option displays the Open Landing Page File System Dialog. You can navigate accessible folders in the RPI file system to locate the Landing Page that you wish to open. Only Landing Page files are shown. Having located a Landing Page, you can click OK or double click it to display it in the Landing Page Designer. You can also click Cancel to close the File System Dialog without opening a Landing Page.

If a Landing Page containing unsaved changes is displayed, you can:

- Save the changes
- Abandon the changes
- Abandon opening the Landing Page

If required, you can open a previous version of a landing page. This can be done in the following contexts:

- Realtime Details Report
- File Information Dialog's History tab
- Landing Page Designer's Publish History dialog

If you make changes to a version of a landing page that is not the current version, on invocation of Save, the File Conflict dialog is displayed.

If you open a previous version of a landing page, if you elect to view a linked (smart) asset therein, the latest version of the asset is displayed in an instance of the (Smart) Asset Designer.

- Save Landing Page: this option is disabled when no outstanding changes are present within the Landing Page. If the Landing Page has not been saved, Save behaves like Save As.... If

the Landing Page has previously been saved, invocation of this option saves any landing page changes to the existing Landing Page file.

- Save Landing Page as...: invocation of this option displays the Save Landing Page As... File System Dialog, allowing stipulation of the filename to which to save the new landing page file.
- Properties: clicking this button displays the Landing Page Properties overlay, which is covered separately in this documentation.
- Goals: clicking this button displays the Landing Page Goals overlay, which is covered separately in this documentation.
- Publish: clicking this button displays the Publish Landing Page overlay, which is covered separately in this documentation.
- History: clicking this button displays the Landing Page History overlay, which is covered separately in this documentation.
- Results: clicking this button displays the currently-displayed version of the landing page in the Realtime Details Report (for more information, please see the Report's own documentation). If invoked prior to the page's being published, Realtime Details advises that there are 'No details to display'.
- Version number
- Follow/Unfollow File: please see the RPI Framework documentation.
- File options: please see the RPI Framework documentation.
- File Metadata: please see the RPI Framework documentation.
- Linked Page options: please see the RPI Framework documentation.
-

11.5 Landing Page Properties

The Landing Page Properties overlay is shown on clicking Properties at the Landing Page Designer toolbar. It is also displayed immediately on creation of a new landing page.

Landing Page Properties ✕

Page Options

Page Title ⓘ

Dream Drives

Web Tracking ⓘ

Enabled. Click here to configure.

HTML Options

Disable HTML Creation

Disable Link Tracking

View Advanced HTML Options

It contains the following:

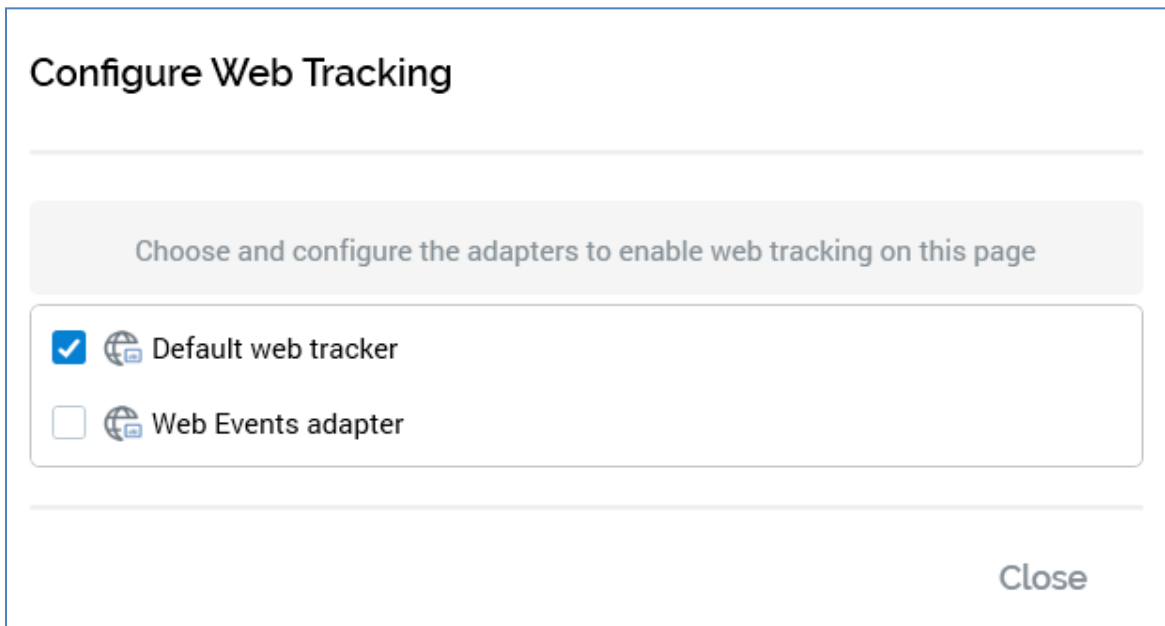
- Page Options section:
 - Title: the title of the landing page, as shown at the browser tab in which the landing page is displayed. Provision of a Title is mandatory, and it can be a maximum length of 100 characters.
 - Web tracking: this button allows you to control whether web tracking is to be configured for the landing page.

Web tracking is configured by associating one or more Piwik, web events, generic, Google Analytics and/or Kissmetrics adapters with the landing page (please see the Configuration documentation for full details about web adapters).

- Attaching a Piwik adapter to a landing page causes script to be added to the page which, in turn, allows visitors (anonymous or directed to the page by an RPI communication) to be tracked at a Piwik dashboard.



- When a Google Analytics adapter is attached to a landing page, Google Analytics script is added to the landing page when it is published. If an interaction contains an offer that fulfills using an outbound channel to which a Google Analytics adapter has been attached, and the offer contains a link to a landing page to which a Google Analytics adapter has also been attached, Google Analytics results will be made available at the offer (note that this may take a period of time; note also that Google Analytics results are collated by system task Fulfillment state flow count updates).
- Kissmetrics adapters function in a similar manner to Google Analytics adapters, other than that the collation of metrics is effected by the Kissmetrics external provider, rather than Google.
- When you attach a Generic web adapter to a landing page, you can consistently apply script declarations to the page's HTML <HEAD> tag, and the start and end of its <BODY> tag.
- If you wish to make use of one or more goal smart assets in a landing page, you must associate a web events adapter with the page's Web tracking property.

When a landing page is yet to be associated with web adapters, the button's text reads 'Not enabled. Click here to configure'. Clicking the button displays the Configure Web Tracking dialog:



Configure Web Tracking

Choose and configure the adapters to enable web tracking on this page

-  Default web tracker
-  Web Events adapter

Close

The dialog contains the following:

- Text: 'Choose and configure the adapters to enable web tracking on this page'
- Web adapters: all Piwik, web events, generic, Google Analytics and Kissmetrics adapters configured for the current client are listed. For each, the following are displayed:

- [Selected checkbox]: unchecked by default; allows you to specify that this adapter should be attached to the landing page. Checking the checkbox displays the Report page name field.
- [Icon]
- [Adapter name]
- Report page name: this optional field is only displayed for Piwik adapters, when selected. It represents the name by which the page will be referred to at the Actions column at the Visitor Log at the Visitor tab within the Piwik dashboard. If not provided, the page's title is used instead.

If no adapters are configured, a message is displayed ('No adapters that support web tracking are available').

When configured, the button's text reads 'Enabled. Click here to configure'. Clicking it displays the Configure Web Tracking dialog, in which you can make changes to the page's existing web tracking configuration.

A validation error is raised if you attach more than one web adapter of the same type to a landing page.

- HTML Options section:
 - Disable HTML Creation: this checkbox, which is unchecked by default, is only displayed when Page Layout is set to one of HTML template or Raw HTML. When unchecked, the following tags are provided within the current content:
 - `<html>`
 - `<head>`
 - `<title>`
 - `<body>`

When checked, content entry in rich text mode is not supported. The `<html>` tag must be supplied manually (a validation message is shown if it is not provided). If `<head>` and /or `<body>` tags are supplied, they are used as provided; otherwise they are created by RPI. If a `<title>` is supplied, it is overridden with the value provided at the landing page's Properties dialog; otherwise it is added automatically by RPI.

The View HTML options property is removed from display when Disable HTML creation is checked.

- Disable Link Tracking: when checked, this checkbox (which is unchecked by default), prevents the tracking of link clicks on the landing page. When unchecked, link clicks on the page are tracked. Note that the property must be unchecked if the landing page contains a link click-based goal.

- View Advanced HTML options: This checkbox, unchecked by default, allows you to show or hide the Advanced HTML Options section. It is removed from display when Disable HTML creation is checked.
- Advanced HTML Options section:
 - HTML Doc Type: this optional field, set to 'html' by default, allows you to specify the page's HTML !DOC TYPE declaration. It is displayed when View HTML options is checked.
 - HTML Header: this optional field allows you to specify any styles and/or scripting to be applied to the <HEAD> HTML element. You can use this field to include references to local style sheets. It is displayed when View HTML options is checked.

11.6 Landing Page Goals

The Landing Page Goals overlay is shown when the Goals toolbar button is clicked.

Landing Page Goals X

Optimization Goal

Any goal driven assets on this landing page can be optimized to a specific goal. Additional goals can be added to the landing page for reporting purposes.

Goal Name ⓘ

Goal Web Tracker ⓘ

Default web tracker

Goal Measurement ⓘ

Choose goal

Goal Detail ⓘ

Additional Goals

Define Additional Goals

The overlay allows you to define goals that can be achieved by site visitors within a landing page. Goals represent an outcome of the user's interacting with a page; for example:

- Clicking a hyperlink
- Submitting a web form
- Undertaking a custom action that results in the execution of a JavaScript function.

Optionally, one goal can be defined as the landing page's optimization goal. The optimization goal is used by any goal smart assets contained within the landing page. A goal smart asset determines which of a series of content elements is most effective in encouraging a user to undertake the defined optimization goal.

For example, consider a travel company's landing page, in which the optimization goal is defined as submission of a web form to request a brochure. A goal smart asset is included within the landing page. This initially serves a series of random images (e.g. Eiffel Tower, Taj Mahal, Golden Gate Bridge) to page visitors. RPI tests the relative efficacy of each of these images in encouraging visitors to submit the form. On determining the most effective image, the winner is served to new site visitors thereafter.

Note that, if the landing page contains more than one goal smart asset, they all will share the same optimization goal.

For more details on goal smart assets, please see the Smart Asset Designer documentation.

Additional goals can also be defined, over and above the optimization goal. An additional goal can be:

- Used for reporting purposes, being displayed in the Realtime Tracker (for more information, please see that interface's documentation).
- Used in realtime variation of web content, through use of the Goal decision criterion in a Web Tracking realtime decision (e.g. to display different content should a goal have or have not been attained; for more information, please see the Realtime Decisions documentation).
- Persisted in the Data Warehouse, having been captured and stored in the realtime cache. Thereafter this data can be used when targeting outbound communications from RPI.

Note that goals can be defined without goal smart assets' inclusion in the landing page.

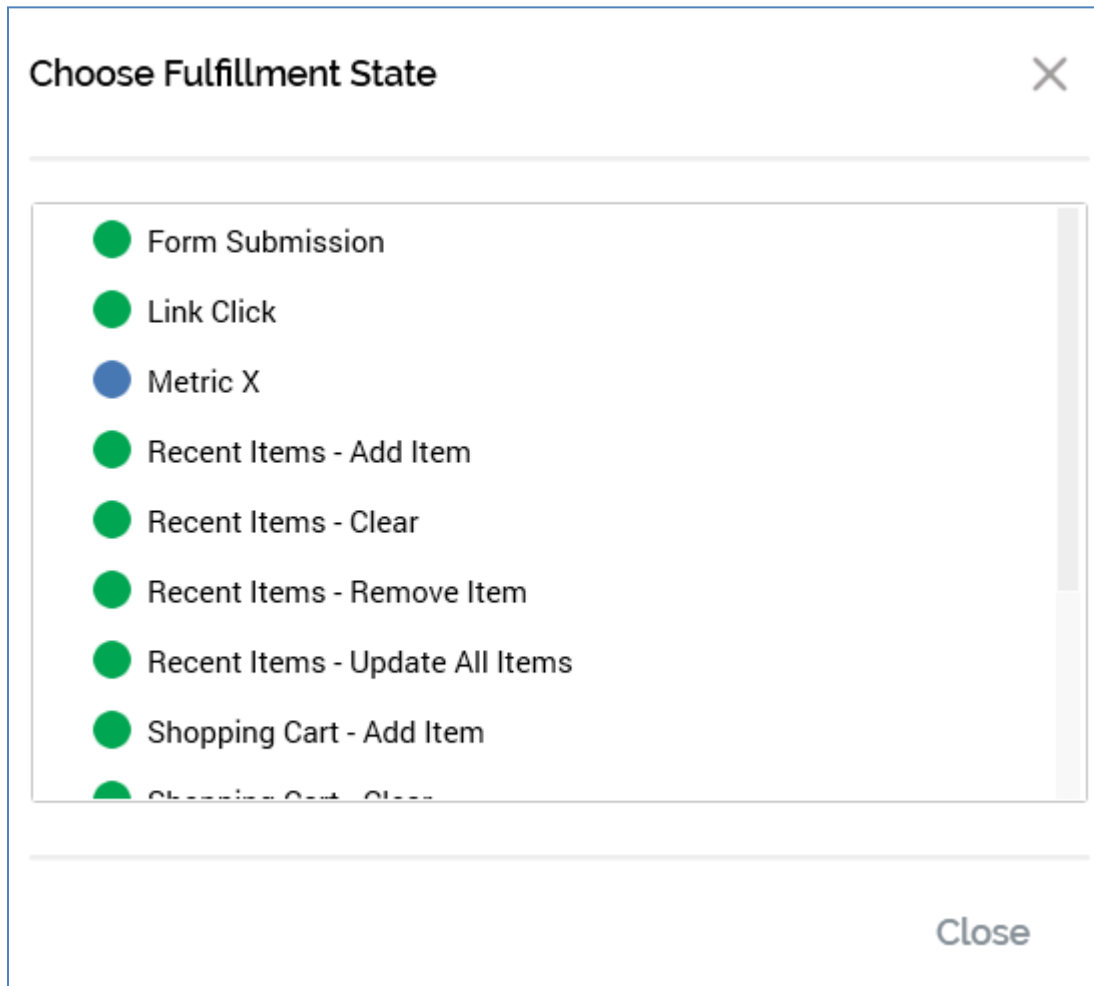
The Landing Page Goals dialog contains the following:

- Optimization Goal section:
 - Text as follows:

Any goal smart assets on this landing page can be optimized to a specific goal. Additional goals can be added to the landing page for reporting purposes.

- Goal name: this property represents the name by which the goal will be referred to in the Realtime Tracker. It must be defined if one or more goal smart assets are included within the landing page and can be a maximum of 100 characters in length. No default is provided. The name of the optimization goal must be unique across all goals defined within the landing page.
- Goal web tracker: this property represents the web events adapter that will be used to supply goal metrics, gathered at the landing page, to RPI (goals are collated by executing the Web events importer system task). The property is read only and is set automatically to the first web events adapter selected in the page's Web tracking property. Its provision is mandatory.

- Goal measurement: this property represents the goal by which the comparative success of competing content elements is to be measured. For example, a goal might be defined as encouraging a user to click through on a specific hyperlink within a landing page, or to submit a web form contained therein. You can click the property to choose a goal. This displays the Choose Fulfillment State dialog.



The dialog lists standard and custom metrics made available by the selected web adapter. Selection of a goal measurement is mandatory. Having selected the goal, you can clear it if so desired.

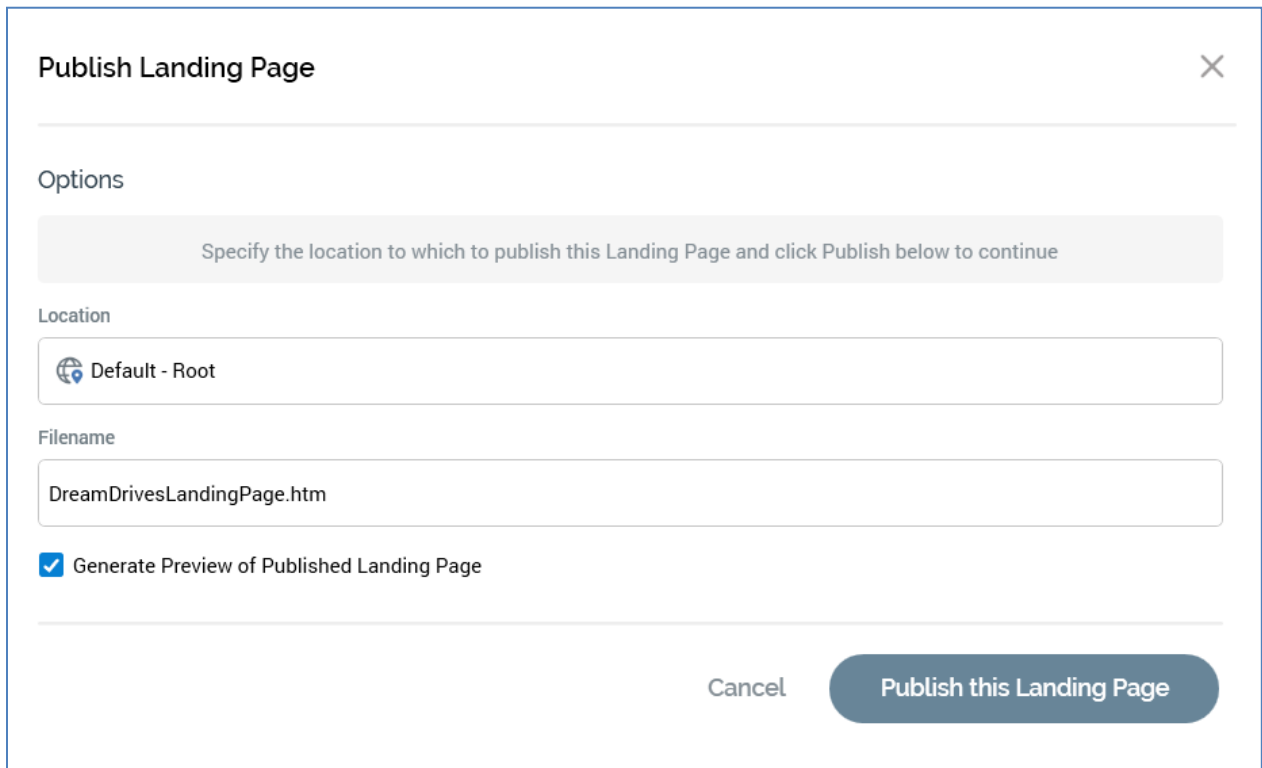
A validation error is raised if a Link Click Goal measurement is selected and no link exists in the landing page, or if Form Submission is selected and no web form exists in the landing page.

- Goal detail: this property allows you to optionally qualify the optimization goal through specification of all or part of a link address or web form name. A goal will be deemed to have been achieved if e.g. a link to a URL containing the supplied detail string is clicked; clicking other URLs will not result in the goal being met.

- Additional Goals section:
 - Define additional goals: this checkbox is shown below the Optimization Goal section. It is unchecked by default. Checking it displays the Additional Goals grid. Once checked, it is mandatory to define at least one additional goal.
 - Additional Goals grid: this is displayed when Define additional goals has been checked. It consists of a toolbar and a grid.
 - Toolbar: two buttons are available:
 - Add new Goal: clicking this button adds a new, unconfigured additional goal to the grid. The goal's Measurement and Detail properties are not set.
 - Remove selected Goal: clicking this button removes the selected goal from the grid, without display of an 'Are You Sure?' dialog.
 - Grid: the grid itself contains the following columns:
 - Name: provision of a Name for the additional goal is mandatory, and it can be a maximum of 100 characters in length. Name must be unique across the optimization goal and additional goals within the page.
 - Measurement: it is mandatory to supply a goal measurement, by selecting one from the Choose Fulfillment State dialog. Validation errors can be raised as per the Goal measurement property within the Optimization Goal section.
 - Detail: as per the equivalent property at the Optimization Goal section, an additional goal can be qualified through the provision of a goal detail.

11.7 Publish Landing Page

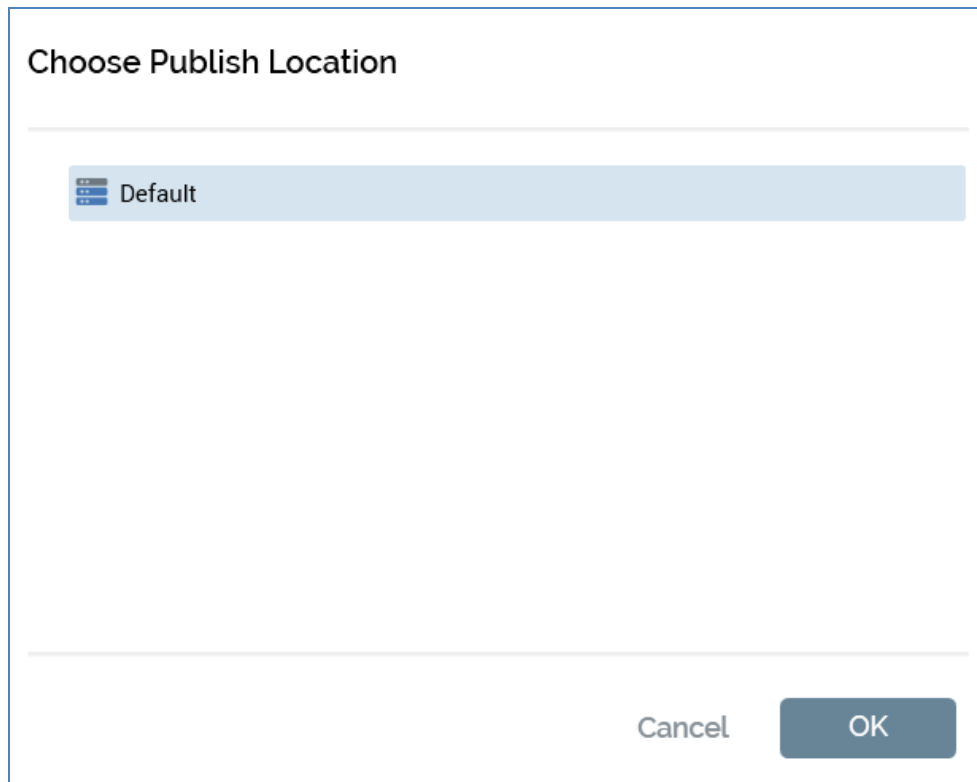
The Publish Landing Page overlay is shown when the Publish toolbar button is clicked.



The screenshot shows a dialog box titled "Publish Landing Page" with a close button (X) in the top right corner. Below the title bar, there is a section labeled "Options" containing a grey instruction box: "Specify the location to which to publish this Landing Page and click Publish below to continue". Underneath, the "Location" field is set to "Default - Root" with a globe icon. The "Filename" field contains "DreamDrivesLandingPage.htm". A checkbox labeled "Generate Preview of Published Landing Page" is checked. At the bottom right, there are two buttons: "Cancel" and "Publish this Landing Page".

It contains the following:

- **Location:** this property allows you to choose a web publish site or folder to which the landing page will be published. Full details of web publish folders can be found within the Configuration Workbench documentation. The property is mandatory. Prior to the property's population, a Choose publish location button is displayed. Clicking the button displays the Choose Publish Location dialog.



A treeview displays all configured web publish sites, and the folders they contain. You can select a site or folder and click OK to specify the Publish to location.

If you select a site, it is displayed as '[site name] – Root'. If you select a folder, it is displayed as '[site name] - [folder name]'.

Clicking Cancel removes the Choose Publish Location dialog from display (clicking off it has the same effect).

Having selected a site or folder, you can click it again to redisplay the Choose Publish Location dialog, should you wish to change it.

- **Filename:** you must specify the full name, including the extension, of the landing page file. The value provided can be a maximum of 100 characters in length and must be a well-formed filename.
- **Generate preview:** this checkbox is initially checked by default (your selection is thereafter persisted as a user setting). When checked, on publishing the landing page, a preview image is generated for display in the Realtime Details Report. The image is not generated when the checkbox is unchecked.
- **Publish:** this button is enabled when available when the landing page is valid. Clicking it publishes the landing page by creating a Publish Landing Page job, which is displayed in the My Jobs Dialog. For more information, please see the My Jobs documentation.

If the landing page contains unsaved changes, the button is named Save & Publish. On invocation, if the landing page has yet to have been saved, the File System Dialog is presented to facilitate its saving, after which the page is published. If already saved, changes are written to the existing landing page file, after which the page is published.

System configuration setting LandingPageJavascriptLibraryURL is used to control the path to the RPI JavaScript web client in a published landing page. If the setting is blank, the path is set to the default relative path, e.g.:

```
<script type="text/javascript"
src="/RPIFormValidation/shared/js/rpiwebclient/rpiWebClient-6.2.js"></script>
```

If the setting is set to a website URL, the path is fully qualified, e.g.:

```
<script type="text/javascript"
src="https://local.rphelios.net/RPIFormValidation/shared/js/rpiwebclient/rpiWebClient-6.2.js"></script>>
```

If you attempt to publish a landing page containing a web form with a Form identifier already used by another web form in the current RPI client, the publish job will fail with the following error:

'The form identifier '[Form identifier]' has been used by another published web form File name '[Filename]', published on page '[Landing Page]' by [user] on [date]'

If you attempt to publish a landing page containing a smart asset, at which images are to be published to an external folder, and a default smart asset location has not been configured, an error occurs.

Multiple attempts to publish the same landing page to the same location in quick succession may result in the failure of one or more Publish jobs.

Publishing a landing page creates an audit record with Audit Type 'Object Execution' and Audit Sub Type 'Landing Page Publish'.

When a landing page associated with file metadata is published, the metadata is persisted at data warehouse table RPI_WebPages_Meta, in the PageMeta column.

11.8 Landing Page Publish History

This overlay is displayed on clicking the History toolbar button.

Published	Name	Version	Published Date	Published By	Published Name	Published URL	Method
⊗	SmartAssetTestbedLP	0.1	18/06/2020 15:34:45	coreuser	SmartAssetTestbedLP.htm	http://landingpages.rphelios.net/SmartAssetTestbedLP.htm	Network copy
⊗	SmartAssetTestbedLP	0.1	18/06/2020 15:31:54	coreuser	SmartAssetTestbedLP.htm	http://landingpages.rphelios.net/SmartAssetTestbedLP.htm	Network copy
⊗	SmartAssetTestbedLP	0.1	18/06/2020 11:53:03	coreuser	SmartAssetTestbedLP.htm	http://landingpages.rphelios.net/SmartAssetTestbedLP.htm	Network copy
⊗	SmartAssetTestbedLP	0.1	18/06/2020 11:52:32	coreuser	SmartAssetTestbedLP.htm	http://landingpages.rphelios.net/SmartAssetTestbedLP.htm	Network copy

It consists of Latest Publish Instance and Previous Published Instances sections.

Refresh and Close buttons are shown at the top of the overlay.

11.8.1 Latest Published Instance

This section is shown when an instance of the landing page is currently published. It contains the following:

Status	Name	Version	Published Date	Published By	Published Name	Published URL
✔ Published	SmartAssetTestbedLP	0.2	18/06/2020 16:06:12	coreuser	SmartAssetTestbedLP.htm	http://landingpages.rphelios.net/SmartAssetTestbedLP.htm

- Unpublish: invocation of this button is protected by an 'Are You Sure?' dialog. Invocation creates a new Unpublish... job and displays it in the My Jobs Dialog (full details can be found in that section's documentation). Unpublishing a landing page deletes it from the context to which it was published and creates an audit record with Audit Type 'Object Execution' and Audit Sub Type 'Landing Page Unpublish'.

The following read-only properties are also shown:

- [Status icon]
- Status
- Name

- Version
- Published Date
- Published By
- Published Name
- Published URL
- Copy URL to Clipboard (button)
- Method
- Instance ID

11.8.2 Previous Published Instances

This section contains a toolbar and a read-only grid.

Previous Published Instances							Unpublish
Published	Name	Version	Published Date	Published By	Published Name	Published URL	Method
	SmartAssetTestbedLP		0.1	18/06/2020 15:34:45	coreuser	SmartAssetTestbedLPh...	http://landingpages.rphelios.net/SmartAsset... Network copy
	SmartAssetTestbedLP		0.1	18/06/2020 15:31:54	coreuser	SmartAssetTestbedLPh...	http://landingpages.rphelios.net/SmartAsset... Network copy
	SmartAssetTestbedLP		0.1	18/06/2020 11:53:03	coreuser	SmartAssetTestbedLPh...	http://landingpages.rphelios.net/SmartAsset... Network copy
	SmartAssetTestbedLP		0.1	18/06/2020 11:52:32	coreuser	SmartAssetTestbedLPh...	http://landingpages.rphelios.net/SmartAsset... Network copy

The toolbar exposes a single option:

- Unpublish: available when a previous instance was published to multiple locations.

When a landing page has yet to be published, a message ('No instances were found') is displayed.

When previously-published instances exist, they are listed in the grid, which contains the following columns:

- Published: a tick or cross
- Name
- Open this version (button): allows you to open the version of the landing page in question in the Landing Page Designer. If not invoked in respect of the currently-displayed landing page version, the opened version is shown in a new Landing Page Designer instance.
- Version
- Published Date
- Published Name: as defined by the page's Filename property

- Published URL
- Copy URL to Clipboard (button)
- Method: one of FTP, Network copy or External content provider
- Unpublished Date
- Unpublished By
- Instance ID

Publishing file with a given name to location where the file already exists results in the automatic unpublishing of the previous published instance in the same location.

11.9 Toolbox

The Landing Page Designer toolbox contains a Folder Search component. For more information, please see the Framework documentation.

The toolbox is constrained to display attribute, asset, landing page and smart asset files only. It exposes standard RPI toolbox functionality.

Use of the toolbox when building Landing Pages is described elsewhere in this documentation.

Note that external files, as sourced via an external content provider, can be used in a landing page. This can provide a useful solution to image hosting concerns.

The following types of external file are supported in landing pages:

- Text
- HTML
- Image
- Audio
- Video

Note that if audio or video files are included, to support all browsers' limitations, it may be necessary to manually manipulate HTML content.

In addition, the following types of asset are also supported when they are configured with external files:

- Text
- HTML

Finally, smart assets configured with external assets are also supported.

11.10 Configuring a Landing Page's Name

A landing page's name is configured in the large property shown at the top of the Landing Page Designer, below the toolbar:



Dream Drives Landing Page

Provision of a name is mandatory, and the value provided may be a maximum of 100 characters. The landing page's name is the same as the filename under which it is saved within the RPI file system. As such, it must be unique amongst the landing pages in the folder within which saved.

You can edit a landing page's name by clicking the property. Complete the edit by clicking off the property, or by hitting return.

11.11 Landing Page Validation

Before a landing page can be used, it must be valid.

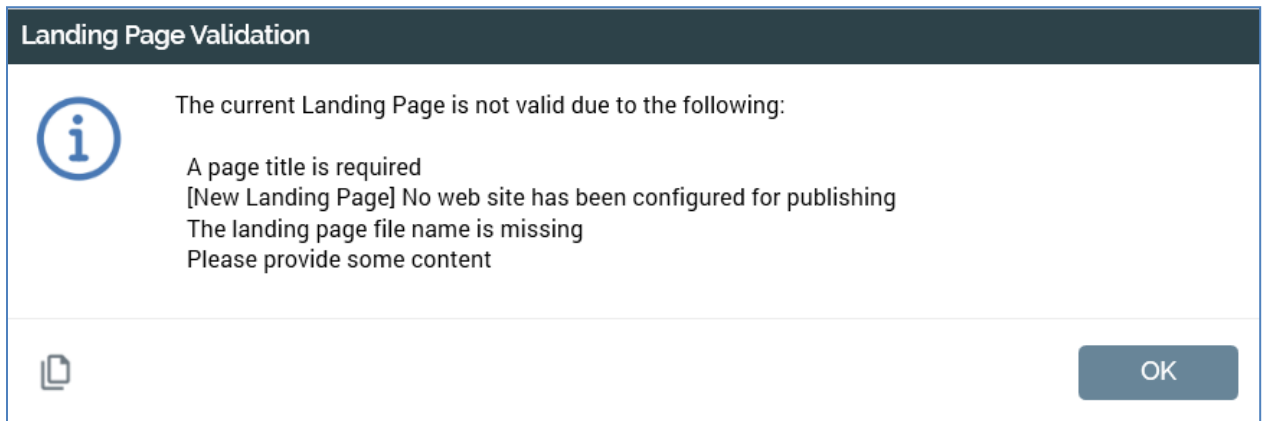
A validation status indicator is displayed to the right of the landing page's name. When the landing page is valid and contains no validation errors, the validation status indicator is shown as follows:



Specific validation errors are outlined in the landing page documentation. When one or more validation errors is present, a validation error indicator is shown:



Clicking the indicator lists the validation errors in a dialog:



You can use the button at the bottom left of the dialog to copy the validation error details to the clipboard. You can close the dialog using the OK button.

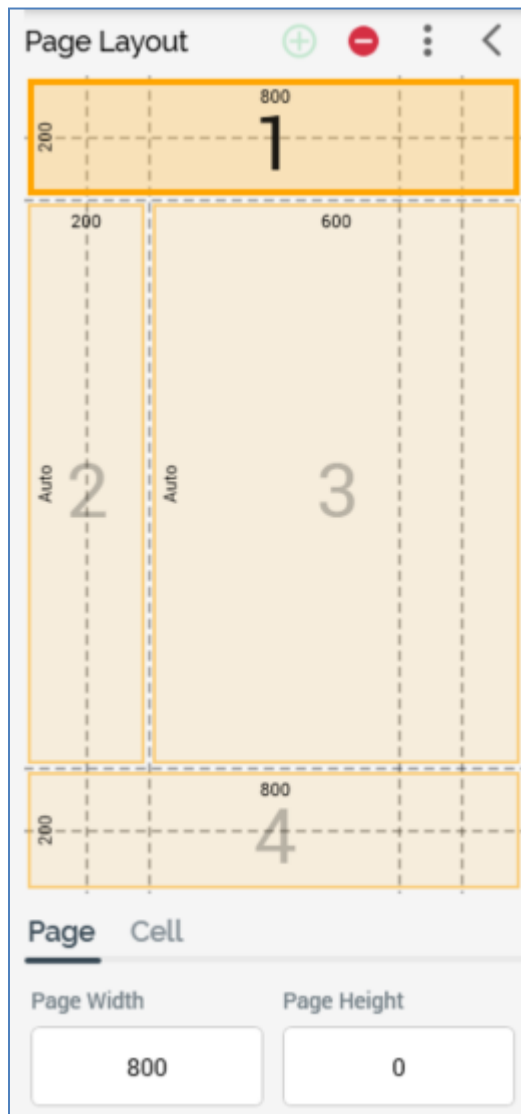
11.12 Content Editor Toolbar

The content editor toolbar is described within the RPI Content Editor documentation.

You can include text, HTML, image, and web form assets in a landing page, as well as smart assets.

11.13 Page Layout Section

The page layout section is shown to the left of the Cell Editor:



It contains the following elements, each of which is documented separately:

- Toolbar

- Cells (Pre-built or HTML template)
- Tabset

Each is covered separately.

11.13.1 Page Layout – Toolbar

A toolbar is shown at the top of the Page Layout section. It exposes the following options:



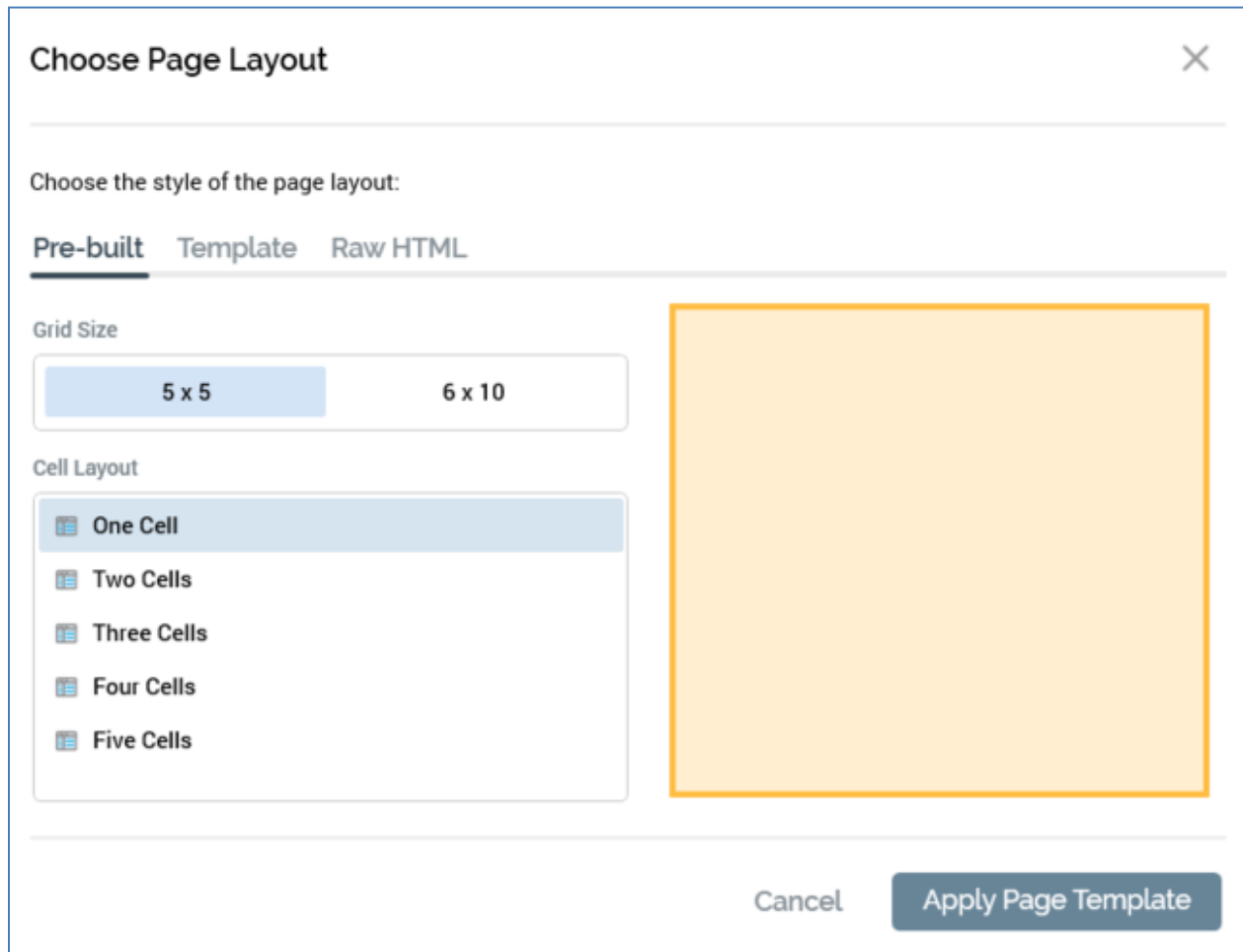
- Add a new cell: this button is only available when a pre-built page layout is selected. Clicking it adds a new cell to the page layout panel, at the first available empty position as defined by the rows/columns grid. The new cell occupies one grid cell only. The option is enabled when one or more available empty positions exist. Available positions are populated from the top left, then across the row.
- Remove the selected cell: this button is only available when a grid-based page layout is selected. It is enabled when a cell is selected in the page layout panel. Invocation removes the selected cell from the panel. Any content therein is lost.
- Choose page layout: this button allows you to choose a page layout for the landing page. Clicking it displays the Choose Page Layout dialog, which is covered separately.
- Hide/Show: clicking this button when the Page Layout section is shown causes it to be hidden.



A vertical 'Page Layout' is displayed to the left of the cell editor, at which you can click Show to redisplay the Page Layout section.

11.13.2 Choose Page Layout Dialog

The Choose Page Layout dialog allows you to select a page layout upon which to base your landing page.



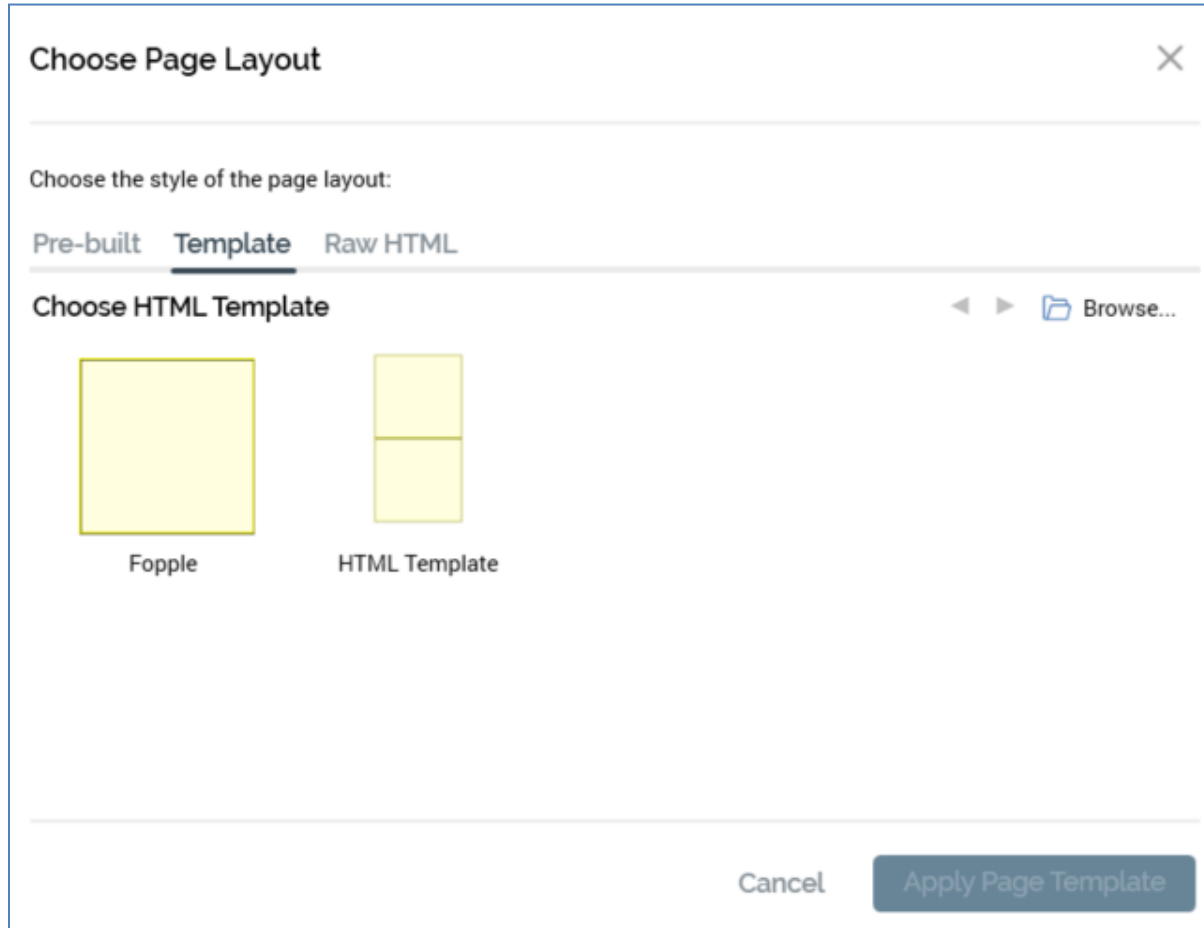
The dialog contains the following:

- Choose the style of the page layout: you can select from a Pre-built, HTML template or Raw HTML based layout (the most-recently used grid layout is selected by default).

When specifying a pre-built layout, the following are shown:

- Grid size: two grid sizes – 5x5 (the default) and 6x10 – are available for your selection.
- Cell layout: you can specify a one- to five-cell layout for your landing page.
- Grid preview: when you select a Cell layout, a preview representation thereof is shown to the right of the dialog.

When specifying an HTML template-based layout, the following are shown:



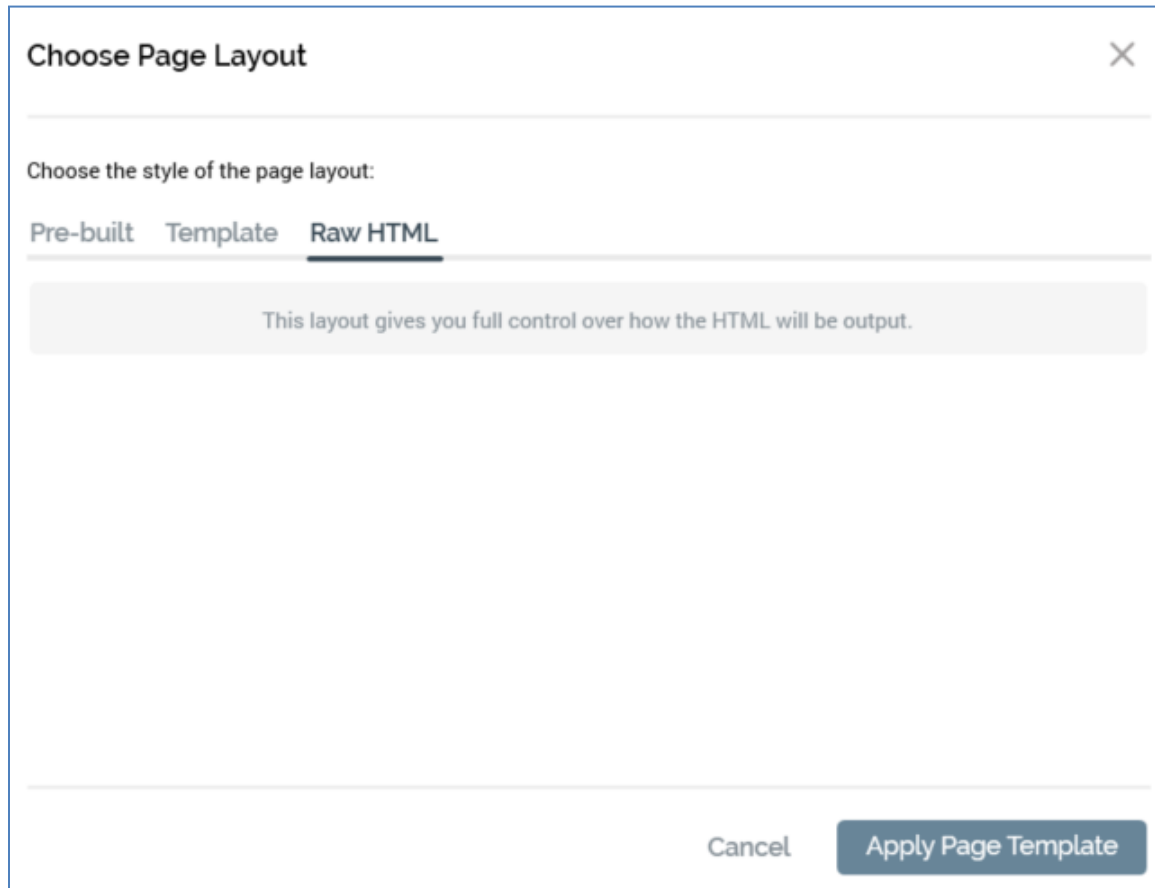
- Toolbar: exposing the following options:
 - Previous Page: this button is available when a page other than the first is displayed. Clicking it displays the previous page's worth of HTML templates. The page size controlled by system configuration setting MaxFileSearchPageSize.
 - Next Page: this button is available when a page other than the last is displayed. Clicking it displays the next page's worth of HTML templates. The page size controlled by system configuration setting MaxFileSearchPageSize.
 - Browse: clicking this button displays the Choose HTML Template File System Dialog, which is limited to the display of asset files only. You can select an HTML template to use. If you select a non-template HTML asset, a warning message is displayed. The same warning is also displayed if you select a non-HTML asset.
- Choose the template to use: a list of all HTML assets defined for use as HTML templates across all accessible folders in file system is displayed. A thumbnail is shown for each. Templates are listed in alphabetical order, and an informational tooltip is displayed on hover.

The following context menu options are available when you right-click an HTML template:

- View File Information...
- Open File Location...
- Open Latest Version

You can select the HTML template you wish to use by clicking it. Doing so enables the Apply Page Template button.

When specifying a raw HTML based layout, the following are shown:



Having chosen to use Raw HTML, you have full control over the contents of the HTML `<body>` tag. If you wish to add extra header information, you can do so via the HTML header property, exposed within the Landing Page Properties dialog (accessible by clicking the Page button).

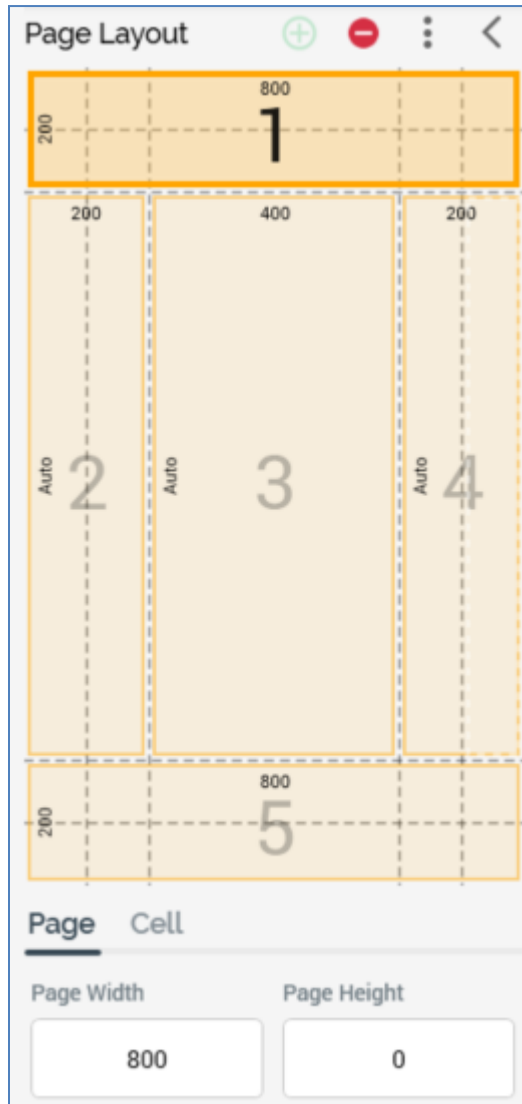
Two buttons are shown at the bottom of the dialog:

- **Apply Page Template:** having specified a grid layout or chosen an HTML template, clicking this button applies your selection to the landing page. When you do so, all previous content that you entered will be lost; an 'Are You Sure?' dialog asks you to confirm that you wish to proceed.

- Cancel: invocation of this option removes the dialog from display without applying the layout change (clicking off the dialog has the same effect).

11.13.3 Page Layout – Grid

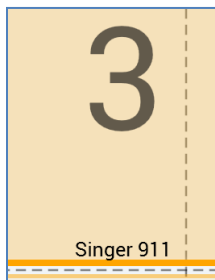
When a grid-based cell layout is selected, the Page Layout section appears as follows:



The following are shown:

- Toolbar – exposing three options and covered separately.
- Cells list: cells are shown below the Page Layout toolbar. Each cell is automatically assigned an ordinal number, which is incremented or decremented as cells are added and removed.

You can populate a cell directly with an asset (other than a table asset) or smart asset by dragging the required asset from the toolbox and dropping it onto a cell. When you do so, any existing content in the cell is lost, and the asset's name is displayed below the cell number.



You can also select a cell within the cells grid. When you do so, the Cell Editor section is populated with the contents of the selected cell.

A context menu is shown when you right-click a cell in a grid-based layout, exposing a single option:

- Edit row/column size: clicking this button displays the Edit Row [y] Height & Column [x] Width dialog:

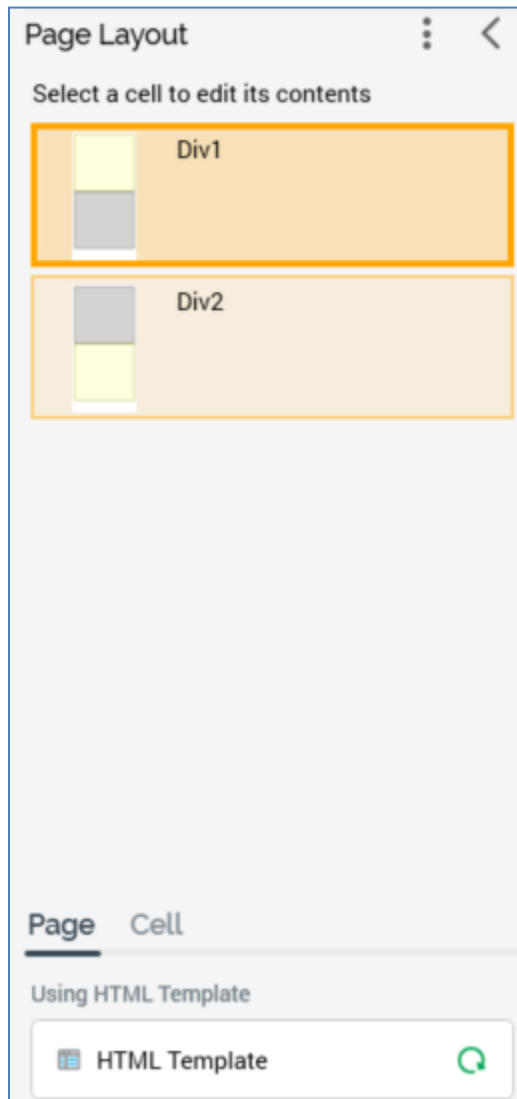
The dialog allows you to set the following cell properties:

- Row height: two buttons allow you to specify that the row's height should be set automatically (in accordance with the overall page height), or to a fixed value. If the latter is selected, you must specify a value, which defaults to 100, and which must be greater than or equal to 50.

- Column width: as row height.
- Tabset: covered separately.

11.13.4 Page Layout – HTML Template

When an HTML template-based cell layout is selected, the Page Layout section appears as follows:



The following are shown:

- Toolbar – exposing a single option (Choose page layout). Covered separately.
- Message: advising you to ‘Select a cell to edit its contents’.
- Cells list: each cell within the HTML template is listed, in the order in which it appears therein. The currently-selected cell is selected. The following properties are shown for each:
 - Thumbnail: a thumbnail image provides an impression of the position of the cell (shown in yellow) within the HTML template relative to the other cells therein (displayed in gray).

- Name
- Description

You can select a cell, and then enter content manually therein using the Cell Editor. You can also assign an appropriate asset or smart asset directly to an HTML template cell. Note that, if you wish to edit the properties of a directly-assigned image asset, you should access it via the Embedded Items dialog.

A validation error is raised if you configure a cell with an HTML asset that is defined as for use as an HTML template.

- Tabset: covered separately.

11.13.5 Page Layout – Tabset

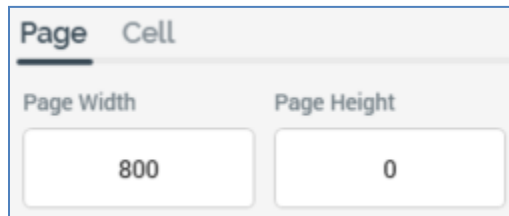
The tabset is displayed below the Cells list. It contains the following tabs, each of which is documented separately:

- Page
- Cell

11.13.6 Page Layout – Page Tab

This tab allows you to control the dimensions of the landing page itself.

If a grid-based page layout is selected, the tab contains the following:

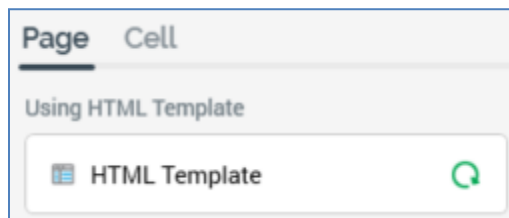


- Size: displayed as [Width] x [Height].

[Width] is a mandatory numeric property with a maximum value of 5000, a minimum value of 50 and a default value of 800. If the page's width is defined as less than or equal to the sum of the widths of columns 1, 2, 4 and 5, an asterisk is appended to widths as shown in page layout cells.

If the width is less than the sum of the widths of columns 1, 2, 4 and 5, the total of widths shown in page layout cells are set to the sum of the widths of the aforementioned columns. [Height] is a mandatory numeric property with a maximum value of 5000 and a default value of 0. When the page's height is less than or equal to sum of the heights of rows 1, 2, 4 and 5, row 3's height is shown as 'Auto'. When it exceeds that value, row 3's actual height is displayed, and is calculated as the sum of the heights of rows 1, 2, 4 and 5.

If an HTML template-based page layout is selected, the tab contains the following:



- Using HTML template: the name of the currently-selected HTML template is shown. You can open the latest version of the template in the Asset Designer. You can also view information about the template in the File Information Dialog.
- Refresh template: applies the latest version of the template to the current landing page.

11.13.7 Page Layout – Cell Tab

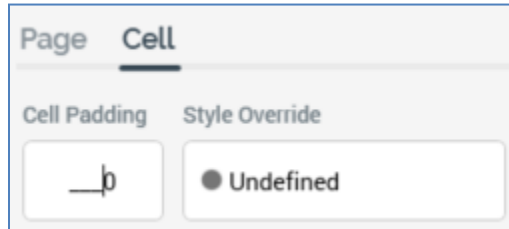
This tab allows you to control the size and position of the cells that make up the landing page's layout, using two sets of arrow controls. Cell sizes and positions are based on the underlying dashed grid.

If a grid-based page layout is selected, the tab contains the following:



- Position: set using up, down, left and right arrow controls. The controls are only enabled if the cell size is less than the available area within the page layout. Individual arrow controls are enabled in accordance with the current cell position. You can move the cell within the available area. Arrows are enabled or disabled when the cell is moved to its new position.
- Size: set using up, down, left and right arrow controls. The controls are enabled in accordance with cell's size compared to its current position. You can increase or decrease a cell's size one column or row at a time. Cell size is increased or decreased from its right or bottom boundary. Note that you cannot change a cell's height when set to 'Auto'. The minimum cell width is one column, and the minimum cell height is one row.
- Cell padding: you can specify an integer cell padding value on a cell-by-cell basis. Cell padding can be used to surround a cell with an empty border of a given number of pixels.
- Style override: if you wish, you can optionally apply a CSS (Cascading Style Sheets) style directly to the cell.

If an HTML template-based page layout is selected, the tab contains the following:



- Cell padding: as per grid-based page layout.
- Style override: as per grid-based page layout.

11.14 Content Editor Section

The content editor allows you to edit the contents of a landing page cell. It is described in its own section within the RPI documentation.

You can add attributes (except band-based model project and exists in table attributes) to landing page content. When values for attributes with matching names are present in the realtime cache, content added to a landing page in this way can be personalized. The same applies when including text and HTML assets containing embedded attributes in landing pages.

When an attribute has been embedded in a landing page, if a value for the attribute is available for the current visitor in the realtime cache, the value will be shown in the landing page. If a value is not available, if a default value is provided, it is displayed. If a default value was not provided, no data is displayed. If multiple values for the attribute are available in the cache, the first value persisted in the cache is shown.

Note that if a landing page's content contains the HTML '<body>', the landing page is deemed to be invalid.

11.14.1 Content Editor – Asset Assigned Directly To Cell

When a cell (grid or HTML template) has been configured directly with an asset or smart asset, the content editor section is entitled '[Asset type] Asset'.



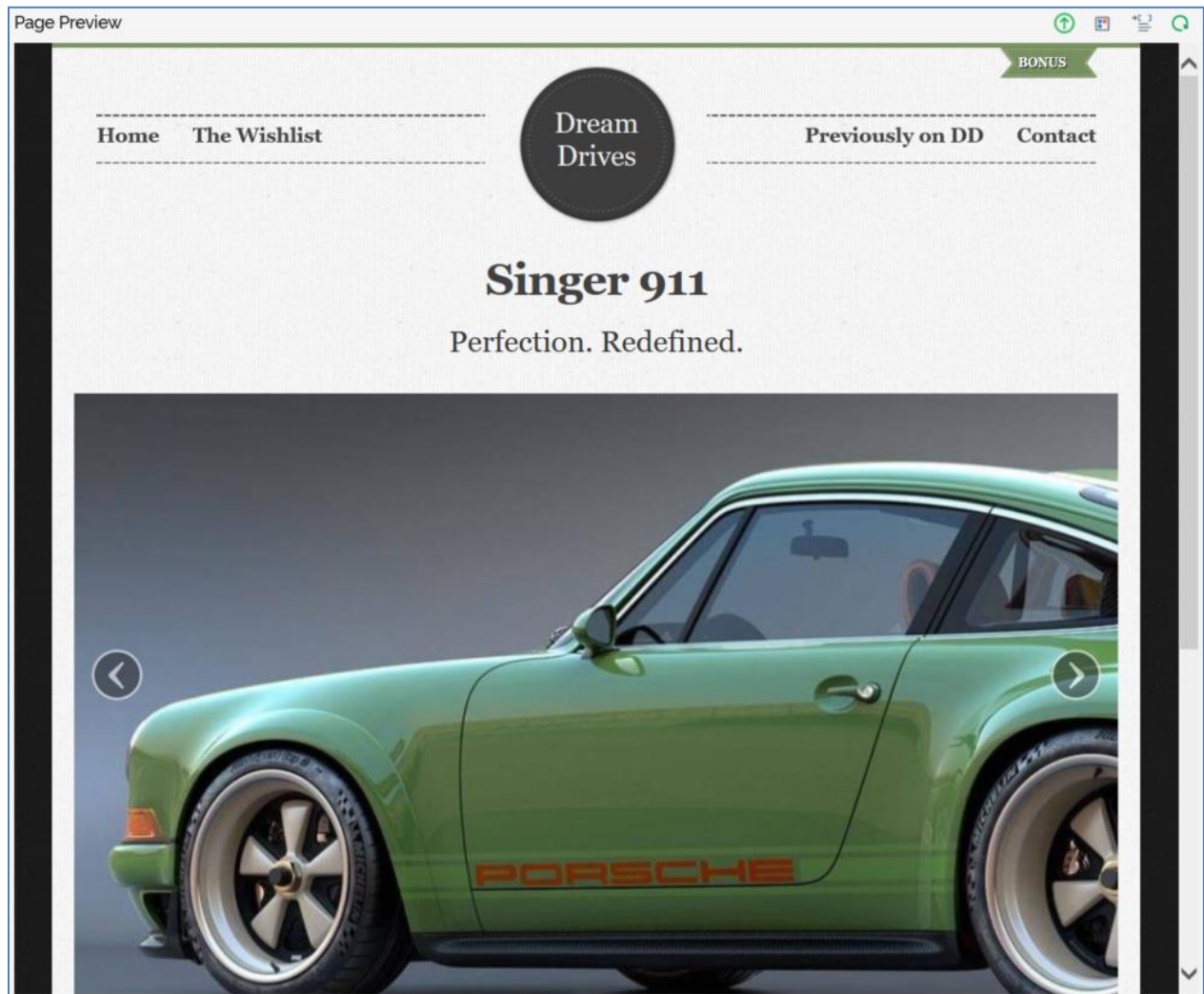
A toolbar is shown at the top of the section, exposing the following options:

- Edit Cell: clicking this option displays the Cell Editor, with the embedded asset displayed as a tag therein. Note that, once you have done this, you cannot revert to the asset preview.
- Open latest version: clicking this button displays the latest version of the (smart) asset in the (Smart) Asset Designer.
- Clear Asset from Cell: removes the asset from the cell and removes its name from the cell in the Page Layout section.
- Refresh

A read-only preview of the asset is displayed instead of the content editor.

11.15 Page Preview

This section is shown to the right of the cell editor section.



It displays a read-only preview of content across all cells in the landing page. Any stylesheets (as defined in the HTML property or at web forms) are applied to give an impression of final rendered content. Any smart assets included in landing page content are rendered using default content (if default content is not provided, no content is shown).

A toolbar at the top of the section exposes the following options:

- Show the Preview Window as a Popout: clicking this button displays the Preview section in its own autonomous, floating Window. Full details of this functionality can be found within the email Offer Designer documentation.

- View Dynamic Content Previews: this option is available when the landing page has been saved. It allows you to view variations of the landing page due to the inclusion of dynamic content therein.

Clicking the button displays the Preview Landing Page Dynamic Content dialog, which is functionally identical to its equivalent in the email Offer Designer (please see that interface's documentation for further information).

- Show Preview Parameters: clicking this button displays the Landing Page Preview Parameters dialog, within which you can provide personalized values for any attributes embedded in landing page content, in order to illustrate its final appearance when rendered to a site visitor.
- Refresh

11.16 Smart Assets in Landing Pages

You can use smart assets in landing pages to vary the content to be shown to website visitors.

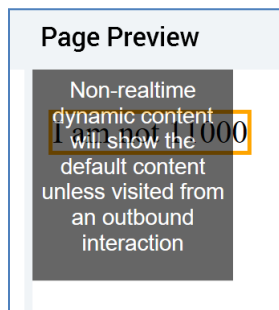
Full details on smart assets can be found in the Smart Asset Designer documentation.

11.16.1 Attribute and Audience Segment Smart Assets in Landing Pages

When you target a prospective website visitor with an outbound communication (typically an email) containing a link to an RPI landing page, you can include within that landing page attribute or audience segment smart asset.

The same applies when you include in a landing page an HTML asset containing a smart asset as described.

Non-realtime smart assets will only serve personalized content in the event of their being browsed via a link included in an outbound RPI communication. When a non-realtime smart asset is included in a landing page, an indicator is displayed at the Preview section to indicate that dynamic content will only be rendered when landing page navigated to via such a link.



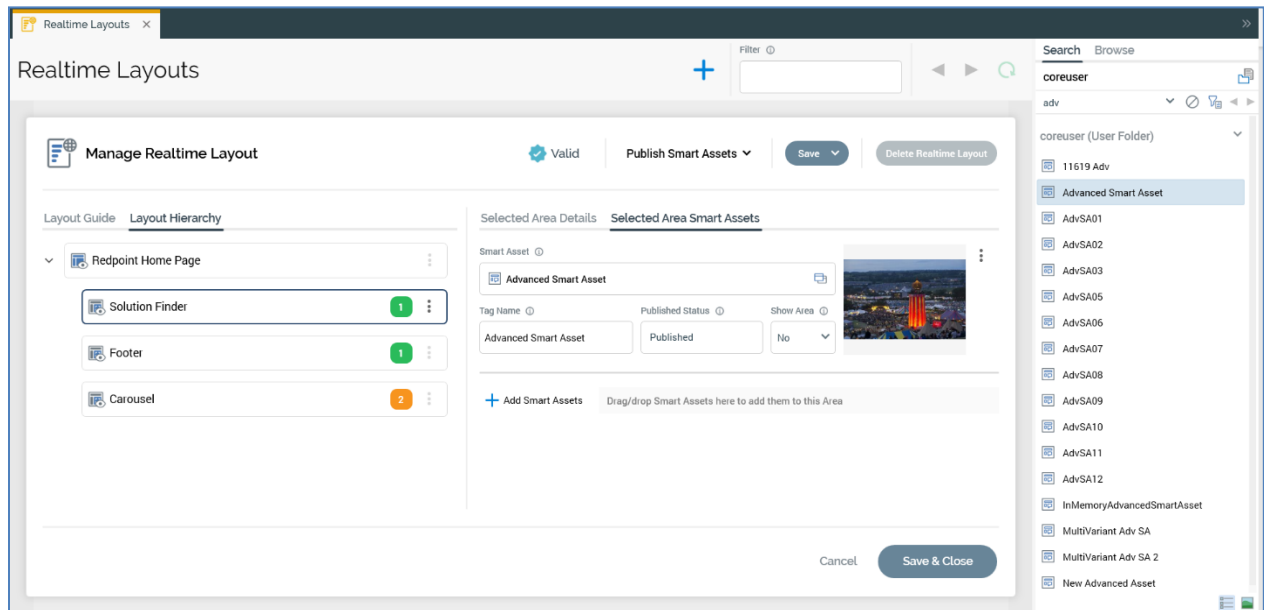
The indicator can be removed or redisplayed using the Show/hide Information Labels over the Page Preview toggle button shown at the Preview toolbar.



When a message recipient navigates a link to a landing page, the dynamic content rendered at the page is accordant with the rules defined at the smart asset.

12 Realtime Layouts

The Realtime Layouts interface is used to create and manage Realtime Layouts.



Realtime Layouts allow RPI users to create a visual representation of a web page (a Layout), and then define elements therein – such as ‘banner’, ‘sidebar’ and ‘carousel’ (known as Areas). Each of these can be associated with smart assets. Layouts and areas can then be used to access these smart assets via the RPI Realtime API, serving content appropriate to a visitor’s specific requirements.

The Realtime Layouts interface is displayed in its own tab in the RPI framework. It contains the following elements:

- Toolbar
- Realtime Layouts list
- Toolbox

Each of the above is documented separately.

12.1 Invoking the Realtime Layouts Interface

You can invoke the Realtime Layouts Interface in the following ways:

- From the quick access menu's Realtime Layouts menu option. This can be found in the Orchestration menu.
- From a Tasks widget. Typically, this might be displayed at your Home Page. For more information on widgets, please see the Dashboard Designer documentation.

Note that access to the Realtime Layouts Interface is controlled via the Realtime Layouts – Design and Realtime Layouts – Limited Design functional permissions. If none of the user groups of which you are a member are associated with these permissions, you will not be able to access the Realtime Layouts Interface.

In addition, the Realtime Layouts - Limited Design functional permission permits users to make changes to layout and area smart asset assignment, publish smart assets and invoke Generate and Display Scripts. Possession of this permission does not allow a user to create a new realtime layout, or make changes to the structure of an existing realtime layout, or other layout or area properties.

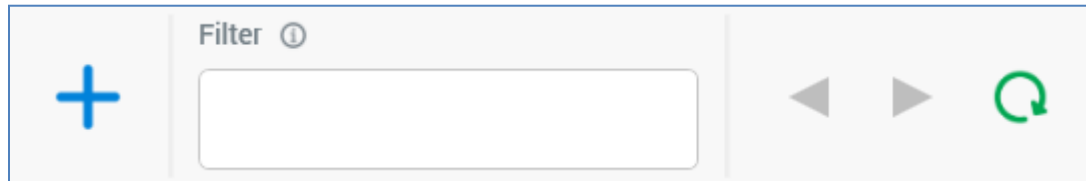
12.2 Closing the Realtime Layouts Interface

You can close the Realtime Layouts Interface by closing the tab within which it is displayed, or by shutting down RPI itself. If you do so when the interface contains a Realtime Layout with unsaved changes, a dialog is shown, within which you can choose to do the following:

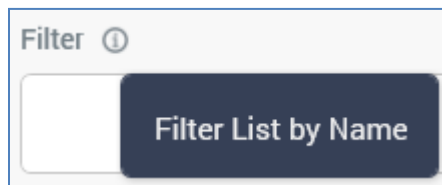
- Save the changes and proceed with closing the Realtime Layouts Interface
- Abandon the changes and proceed with closing the Realtime Layouts Interface
- Cancel closing the Realtime Layouts Interface or RPI.

12.3 Toolbar

The Realtime Layouts Interface toolbar exposes the following:



- Add New Realtime Layout: clicking this button displays the Add New Realtime Layout overlay (covered elsewhere in this documentation).
- Filter: an information tooltip accompanies this property:



You can enter a text string by which to filter the list of realtime layouts; only realtime layouts with a matching name will be displayed when you do so. The filter is applied automatically within a few seconds of text being entered.





- Previous/Next Page: these buttons afford access to previous or subsequent pages' worth of realtime layouts.
- Refresh: clicking this button reloads the list of realtime layouts.

12.4 Realtime Layouts List

The following message is displayed when no realtime layouts have been configured at the current RPI client:

No Realtime Layouts were found that match the current filter

If one or more realtime layouts has been configured, they are displayed in the list.

Name	Description	Smart Assets ⓘ	
Other Home Page	-	3	
Redpoint Home Page	Redpoint Global Inc.'s home page.	4	
Wally's Page	-	5	

Realtime layouts are ordered alphabetically. The following are displayed for each realtime layout:


- Name
- Description
- Smart Assets: an information tooltip accompanies this property:

Total number of Smart Assets associated with this Layout and its child Layouts and Areas

Details on Layouts and Areas are provided elsewhere in this documentation.

- Manage this Realtime Layout: clicking this button displays the realtime layout's details in the Manage Realtime Layout overlay (covered elsewhere in this documentation).

An Add New Realtime Layout button is displayed at the bottom of the list:


Add New Realtime Layout

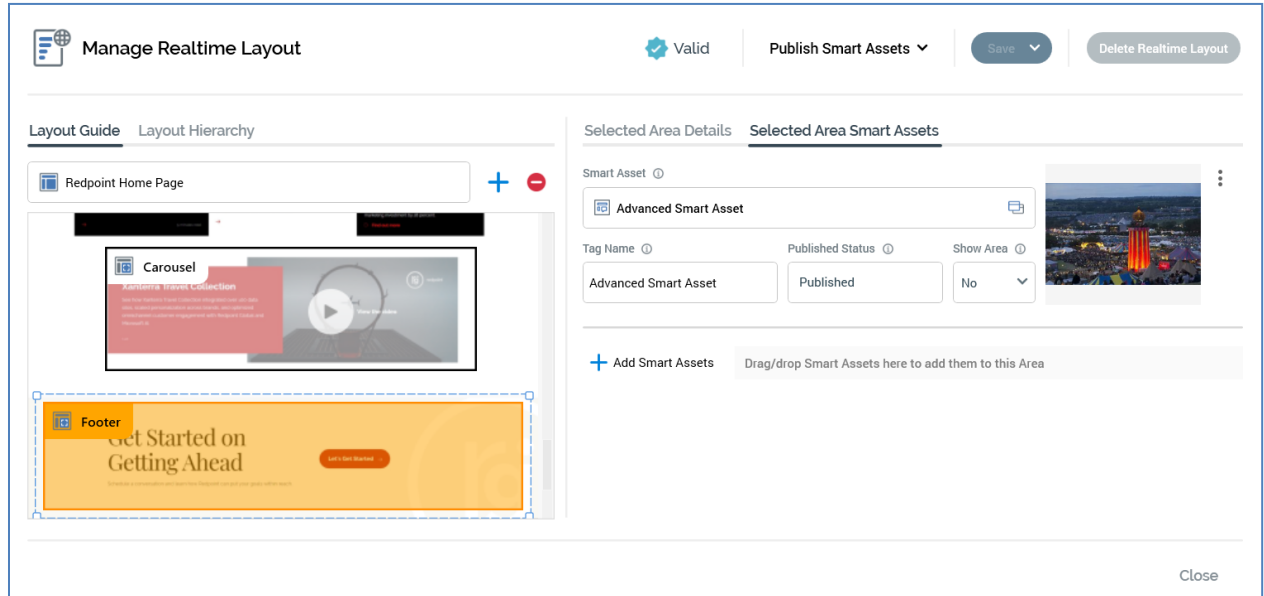
Clicking the button displays the Add Realtime Layout overlay (covered elsewhere in this documentation).

12.5 Toolbox

The Realtime Layouts Interface toolbox exposes the standard RPI Folder Search component, which is constrained to display smart asset files only. Please see the RPI Framework documentation for more information.

12.6 Manage Realtime Layout Overlay

The Manage Realtime Layout overlay allows you to view and make changes to a previously-saved realtime layout.



It contains the following, each of which is documented separately:

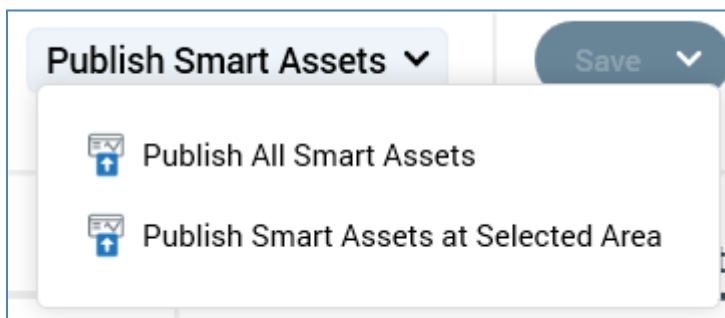
- Toolbar
- Left-hand tabset, containing:
 - Layout Guide tab
 - Layout Hierarchy tab
- Right-hand tabset, containing:
 - Selected Layout/Area Details tab
 - Selected Layout/Area Smart Assets tab
- Footer

12.7 Manage...Overlay: Toolbar

The following are displayed at the Manage Realtime Layout overlay's toolbar:



- Validation status indicator
- Publish Smart Assets: exposing two context menu options:

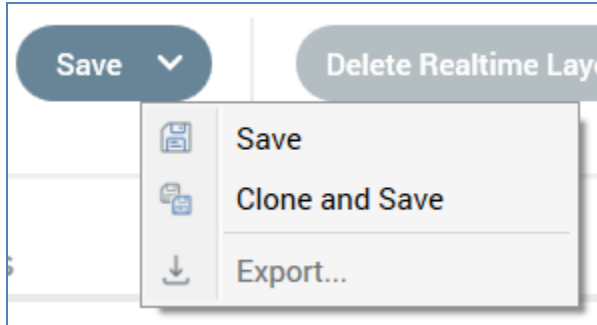


- Publish All Smart Assets: this option allows you to publish all Smart Assets associated with the current realtime layout for use with the RPI Realtime API.
- Publish Smart Assets at Selected [Layout/Area]: this option allows you to publish all Smart Assets within the selected area or layout, and its child areas/layouts, for use with the RPI Realtime API. An information message is displayed when you select this option and no smart assets have been associated with the currently-selected layout or area or its children.

Note that both of the options above are disabled when the current realtime layout is invalid or contains unsaved changes.

- Save: clicking this button saves any unsaved changes within the current realtime layout, and publishes all realtime layouts at the current client to the RPI Realtime API. Note that this does not publish their associated smart assets. A Publish job is created, but the My Jobs Dialog is not shown.

The following save options are available at a context menu:



- Save: as per clicking the main Save button.
- Clone and Save: selecting this option creates a new realtime layout based on the current one. The new layout is saved, and displayed in the Manage... overlay. An incrementable integer is appended to the layout's name to ensure its uniqueness.
- Export: this option is available when the realtime layout contains no unsaved changes. Clicking it displays a Browse for Folder Windows file system dialog. Selection of a folder and clicking OK creates an Export job, and displays it in the My Jobs dialog. Having exported a realtime layout, you can import it in the usual manner from the RPI File System Dialog.
- Delete Realtime Layout: this button is displayed in gray...



...and changes to red when hovered over:



Its invocation is protected by an 'Are You Sure?' dialog. When a realtime layout is deleted, the Manage... overlay is removed from display, the layout is removed from the list and the list is refreshed. An information message confirms the deletion.

12.8 Manage...Overlay: Layout Guide Tab

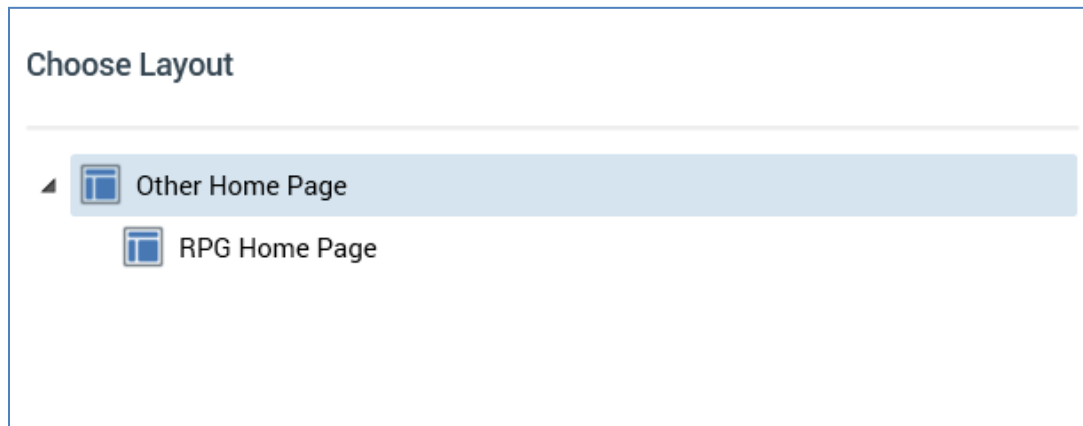
The Layout Guide tab allows you to visually represent a layout. A background image (typically of a web page) can be uploaded, and areas can be located within the layout.



It consists of a toolbar and a Layout control.

The toolbar exposes the following:

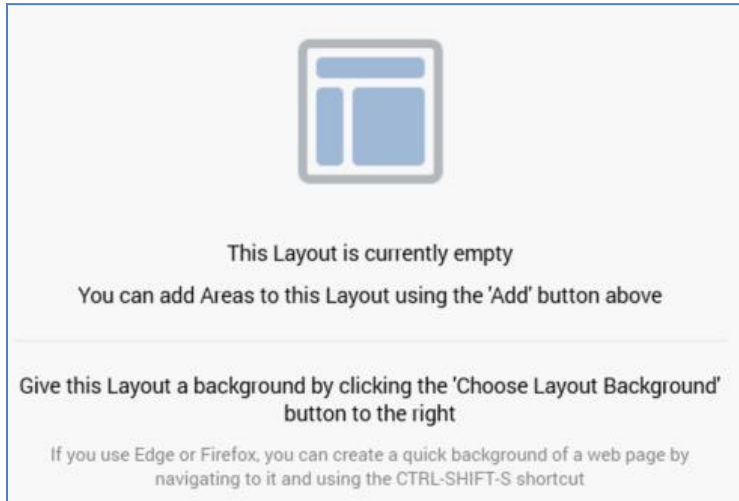
- **Layout chooser:** this control, displayed at the top of the tab, allows you to choose a layout, and the areas contained therein, to view in the Layout Guide. If more than one layout has been configured within the current realtime layout, a treeview is displayed on clicking the layout chooser.



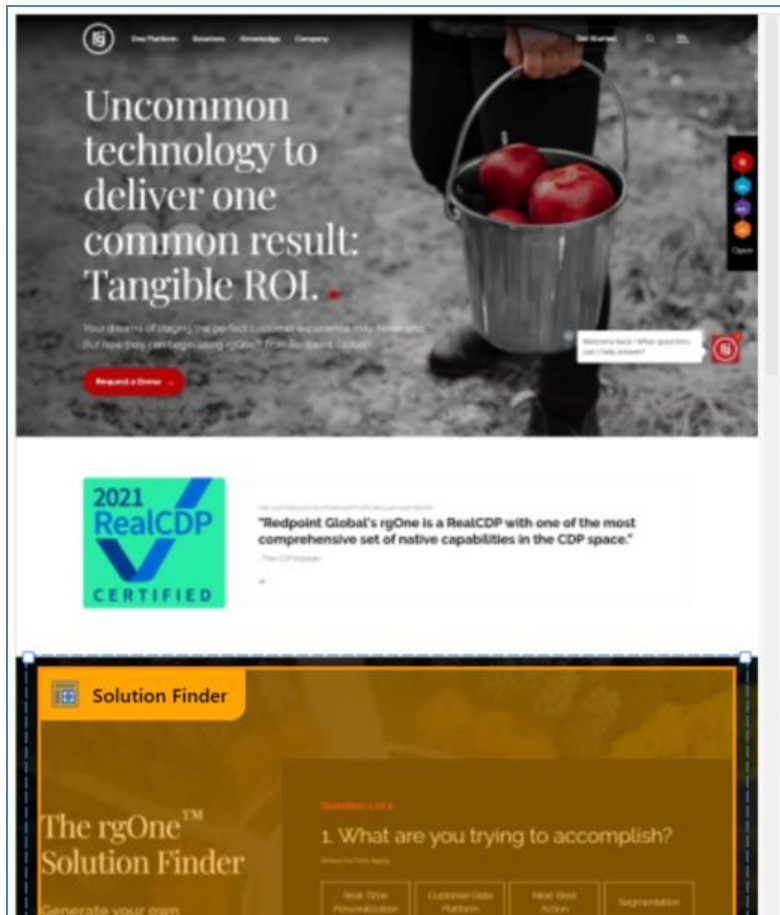
You can select a layout to display in the Layout Guide. The treeview is not shown if only a single layout has been configured.

- **Add new Area to this Layout:** this button, shown to the right of the layout chooser, allows you to add a visual representation of a new area to the Layout Guide. The new area is positioned below all existing areas within the current layout, is selected automatically and is named 'New Area' (an incrementable integer can be appended to ensure that the area's name is unique within the layout).
- **Remove selected Area from this Layout:** this button, displayed to the right of Add new Area..., is enabled when an area is selected in the Layout Guide. Clicking it removes the area without display of an "Are You Sure?" dialog.

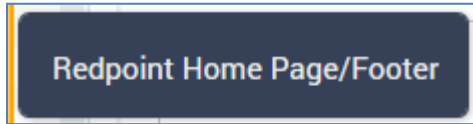
The Layout control appears below the toolbar. A representation of the current layout, optionally displaying an image selected at the layout's Choose Layout Background property, is displayed below the toolbar. When an image has not been associated with the layout, and no areas have been added, the following is displayed:



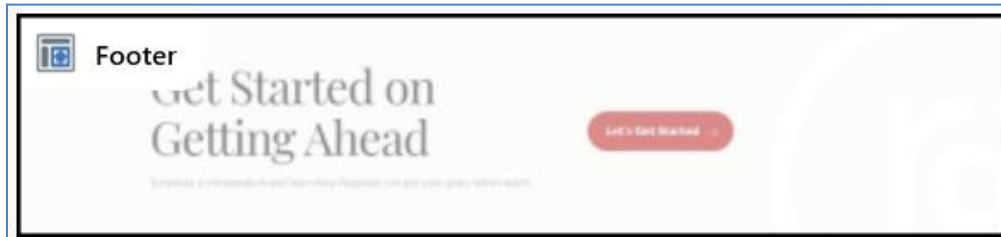
When a layout background has been set, it is displayed as expected:



When an area is selected within a layout, the area's Realtime API Context Path is shown in a tooltip when hovering over the same:



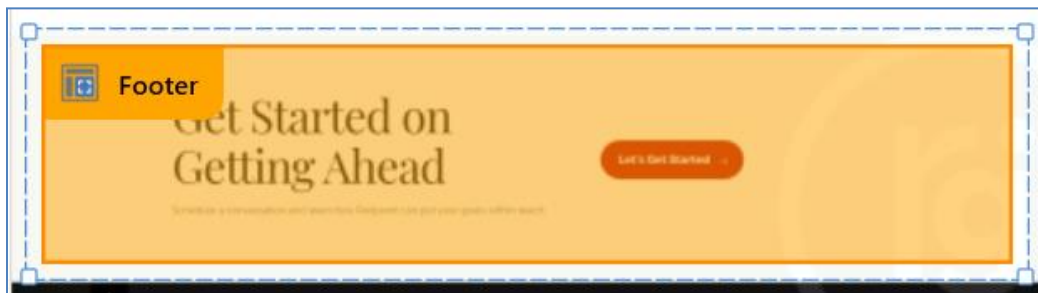
When an area is unselected, it is displayed with a black border and no fill:



On hovering over an area, it is displayed with an orange border and fill:

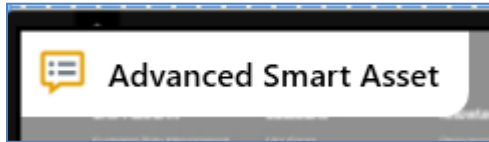


When an area is selected, it is displayed with a selected item dotted border:

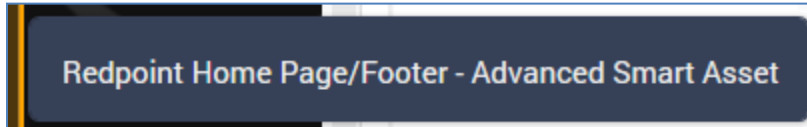


You cannot select more than one area simultaneously. No constraints upon areas' placement are enforced.

If an area represents a smart asset with its Show Area property set to 'Yes', it is differentiated from other areas through use of a smart assets icon:



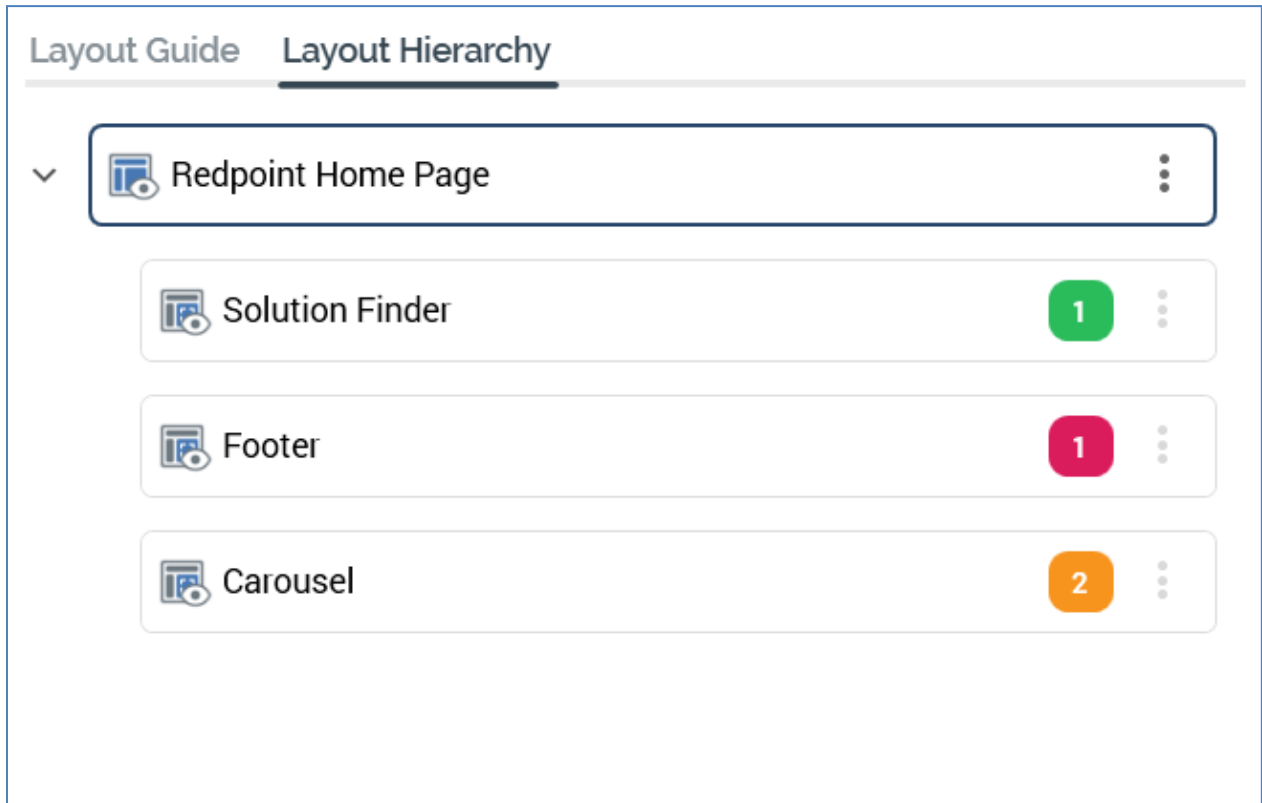
The smart asset name is also included in the Realtime API Context Path tooltip shown on hover:



The Z-order of areas displayed within a layout is as per the placement in the current Layout Hierarchy, with areas later in the hierarchy displayed over earlier areas.

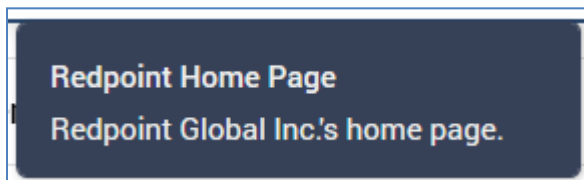
12.9 Manage...Overlay: Layout Hierarchy Tab

The Layout Hierarchy contains a treeview representation of the current realtime layout's hierarchy of layouts and areas. If the Layout Guide is used, it reflects the structure of layouts displayed therein.



The Layout Guide is read-only. An initial layout is always present.

A tooltip is shown when hovering over a layout or node in the hierarchy, displaying its name and description:



The following appear at a layout or area displayed within the Layout Hierarchy:

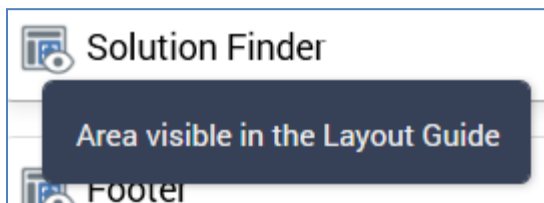
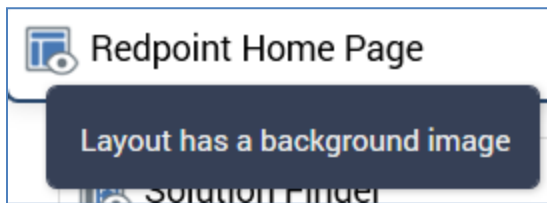
- Icon: representing a layout:



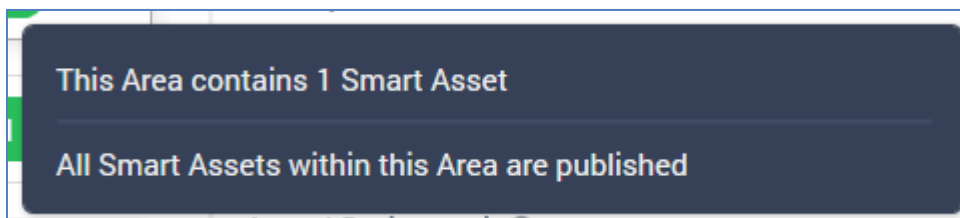
...or area:



The icon is adorned with a mini icon in the following cases:



- Name
- 'Traffic light': displaying the current status of smart asset publishing at the layout or node. A tooltip is shown when hovering over the traffic light:



The traffic light's color represents the following:

- Green:

All Smart Assets within this Area are published

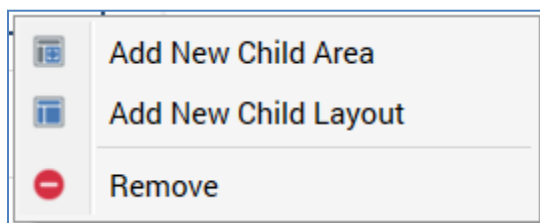
- Amber:

There are both published and unpublished Smart Assets within this Area

- Red:

No Smart Assets within this Area have been published

- Actions: this button is displayed at the right of a layout or area. Clicking it displays a context menu, exposing the following options:



- Add New Child Area: selecting this option creates a new area as a child of the current layout or area. It is added after all other children. Its default name is 'New Area' (an incrementable integer can be added to ensure the name's uniqueness within its parent).
- Add New Child Layout: selecting this option creates a new layout as a child of the current layout or area. It is added after all other children. Its default name is 'New Layout' (an incrementable integer can be added to ensure the name's uniqueness within its parent).
- Remove: this option is disabled at the root layout. Invocation removes the selected layout or area without display of an 'Are You Sure?' dialog.

Note that the maximum depth to which layouts and areas can be nested is 10 deep.

The Layout Hierarchy treeview's collapsed or expanded status is saved along when the current realtime layout is saved.

You can drag and drop layouts and areas within the treeview to re-order them. You cannot drag the root layout, and you can only drop layouts and areas in a legitimate position.

12.10 Manage...Overlay: Selected Layout/Area Details Tab

This tab is displayed in the right-hand tabset, and displays the properties of the layout or area selected currently in the Layout Guide or Hierarchy.

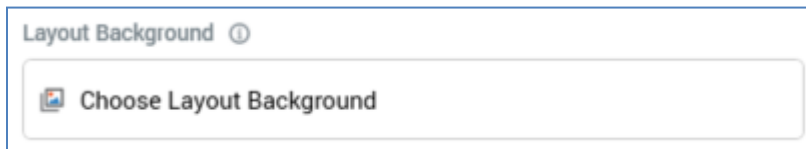
If a layout is selected, the following are shown:

The screenshot shows a tab titled "Selected Layout Details" with a sub-tab "Selected Layout Smart Assets". Below the title bar are several sections:

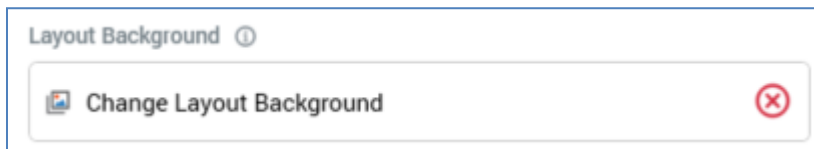
- Name:** A text field containing "Redpoint Home Page".
- Description:** A text field containing "Redpoint Global Inc.'s home page."
- Layout Background:** A section with a "Change Layout Background" button and a red "X" icon.
- Layout URL:** A text field containing "aaa" and a calendar icon.
- Realtime API Context Path:** A text field containing "Redpoint Home Page" and a document icon.
- Realtime API Scripts:** A section with a "Generate and Display Scripts" button and a document icon.

- **Name:** this mandatory, updateable text field can be a maximum of 100 characters in length. If the root layout, the value supplied must be unique across all realtime contexts at the current client. If a non-root layout, the value supplied must be unique within the parent layout or area. No case restrictions apply, but you may not use the '/' or '.' characters.
- **Description:** this optional, multi-line text field can be a maximum of 1000 characters in length.

- **Layout Background:** this property allows you to select an optional layout background to use at the Layout Guide. A button is shown; when a background has yet to be selected, it appears like this:



...and when a background has been selected, like this:




Clicking the button displays the Choose Layout Image Windows file system dialog, which is display image Files only. On selection of an image, it is displayed at the currently-selected layout in the Layout Guide.

- **Layout URL:** you can optionally provide a URL representing the layout in this text field. When a URL has been specified an Open URL in Web Browser button is displayed to the right of the property. Clicking it opens the URL provided in your default browser.
- **Realtime API Context Path:** this read-only property represents the full path to the layout, which can be used when accessing it via the Realtime API. It is accompanied by a Copy Realtime API Path to Clipboard button, displayed to the right of the property.

- Realtime API Scripts: this button ('Generate and Display Scripts') allows you to generate scripts to access the layout using the Realtime API. Clicking the button generates the scripts and displays them below the button:

Realtime API Scripts ⓘ



The Smart Assets associated with a Realtime Layout can be evaluated via the Interaction

The Smart Assets to evaluate are determined by the following search properties.

- The ContextPath property identifies the correct layout or area to search from.
The ContextPath for the selected layout or area is Redpoint Home Page
- The ContextSearch property controls how the search will operate from the selected
 - IncludeSubcontexts : Evaluate all smart assets that match the ContextPath
 - ExactPath : Evaluate only smart assets that match the ContextPath
 - IncludeParentContexts : Evaluate all smart assets that match the ContextPath
 - FirstParent : Evaluate all smart assets that match the ContextPath, or its parent
- The TagSearch property is an optional property that will further filter the selected smart assets

The identity of a visitor can be determined using a VisitorID or by one of the keys contained in the Visitor object.
If no identity is provided, the visitor will be treated as a new unknown visitor

You can copy the JSON body to be used to evaluate smart assets at the current layout.

If an area is selected, the following are shown:

Selected Area Details Selected Area Smart Assets


Name

Description


Show Area

Show this area in the Layout Guide

Realtime API Context Path ⓘ

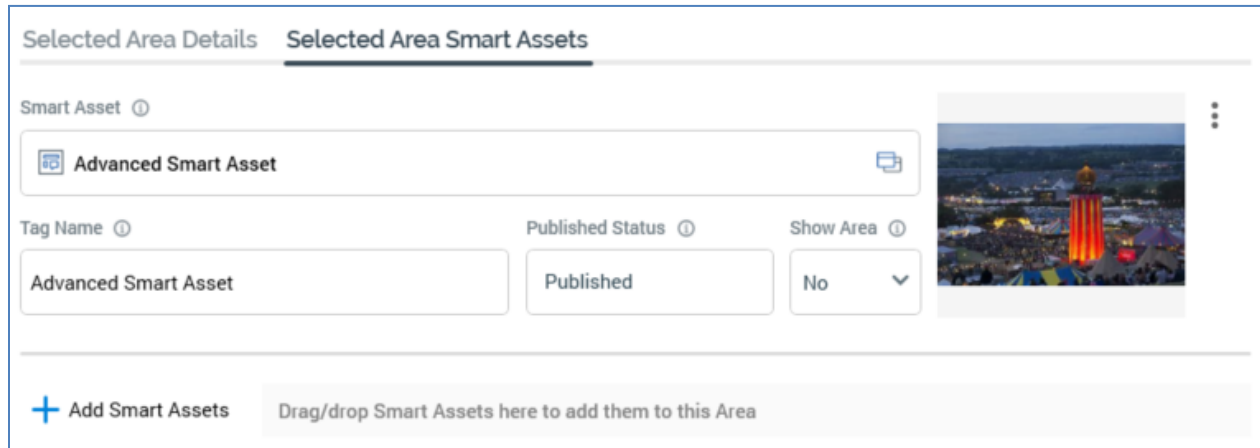
Realtime API Scripts ⓘ

- Name: must be unique within the parent layout or area.
- Description
- Show Area: this checkbox is checked by default. When checked, the area is shown at the Layout Guide. When unchecked, the area is not shown.
- Realtime API Context Path
- Realtime API Scripts

12.11 Manage...Overlay: Selected Layout/Area Smart Assets Tab

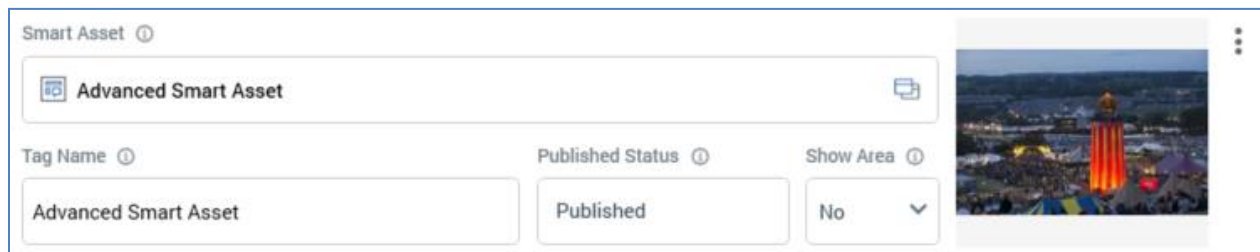
This tab is used to manage the smart assets associated with a layout or area. It contains the following:



When no smart assets are associated with the layout or area, a message is shown:

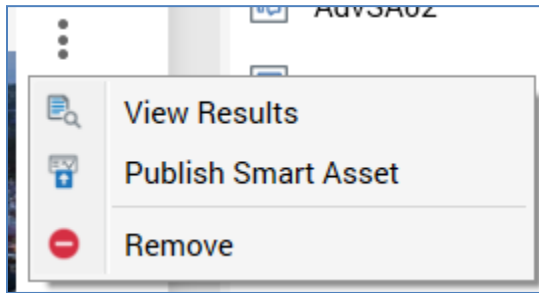


A list of the associated smart assets is displayed in alphabetical order. The following are shown for each smart asset in the list:

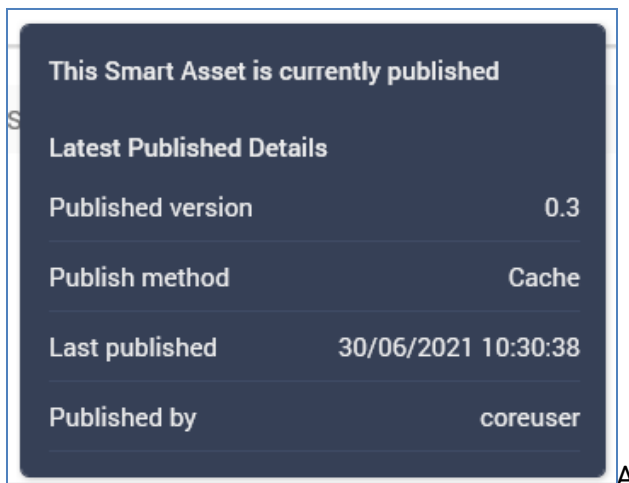


- Smart Asset: a read-only representation of the smart asset file associated with the selected layout or area. An inline Open Latest Version button is provided, and standard file operations can be accessed from a context menu.
- Preview: if the smart asset's default content is an image asset, a preview is displayed inline. Otherwise, it can be accessed by clicking this property to view a preview in the File Information Dialog.

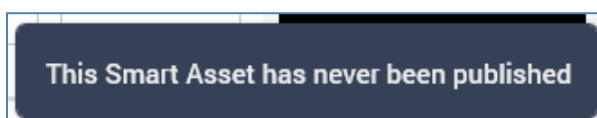
- Actions: this button provides access to the following context menu options:



- View Results: selecting this option displays the smart asset's details in the Realtime Details Report.
- Publish Smart Asset: selecting this option publishes the smart asset. It is disabled when the realtime layout is invalid or contain unsaved changes.
- Remove: removes the smart asset from the layout or area. Not protected by "Are You Sure?".
- Tag Name: an optional property used to identify the Smart Asset when using the Realtime API. Tag Name can be a maximum of 100 characters in length, and defaults to the name of the smart asset.
- Published Status: a read-only representation of the current published status of the smart asset (one of Published, Unpublished or Not published). An information tooltip is shown on hovering over the property; when the smart asset is Published or Unpublished:

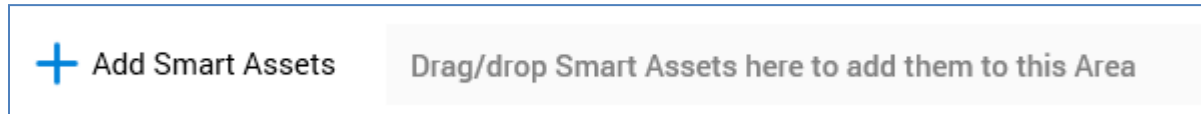


...and when never having previously been published:



- Show Area: this Yes/No dropdown field allows you to specify that the smart asset be shown as a separate area in the Layout Guide. If set to 'Yes', a separate area, named after the smart asset and with a smart asset icon, is displayed.

The following are displayed at the bottom of the list:



- Add Smart Assets: this button allows you to associate smart assets with the layout or area. Clicking it displays the Add Smart Assets File System Dialog, within which you can select one or more smart assets to add to the list.
- Drag/drop Smart Assets here to add them to this [Layout/Area]: dragging a smart asset from the toolbox and dropping it onto this label adds it to the list. If the smart asset is already present in the list it is not added.

Note that Rule, Model, Goal, Tag, Table and Advanced smart assets can be added to the list. Attribute and Audience Segment smart assets cannot. Note also the presence of an invalid smart asset within a realtime layout does not make the layout itself invalid.

Finally, a new Realtime API Context Paths section is now available in the Smart Asset Designer's Publish Options dialog. For more information, please see that interface's documentation.

12.12 Manage...Overlay: Footer

The following buttons are displayed at the Manage Realtime Layout overlay's footer:



- **Cancel:** displayed if outstanding changes are present within the realtime layout. Invocation is protected by an 'Are You Sure?' dialog, abandons any changes made to the realtime layout and closes the Manage... overlay.
- **Save & Close:** displayed if outstanding changes are present within the realtime layout. Invocation saves any changes made to the realtime layout and closes the Manage... overlay.



- **Close:** displayed if no outstanding changes are present within the realtime layout. Invocation closes the Manage... overlay.

12.13 Add New Realtime Layout Overlay

The Add New Realtime Layout overlay is used to create a new realtime layout. Its properties are similar to those displayed within the Manage Realtime Layout overlay, and are documented fully in that section, with any differences called out below.

The overlay contains the following:

The screenshot shows the 'Add New Realtime Layout' overlay. The interface includes a title bar with a globe icon, the text 'Add New Realtime Layout', a 'Valid' status indicator, 'Publish Smart Assets' with a dropdown arrow, and a 'Save' button with a dropdown arrow. Below the title bar, there are two tabs: 'Layout Guide' (selected) and 'Layout Hierarchy'. The 'Layout Guide' section shows a single layout item 'New Realtime Layout' with a plus and minus icon. Below this is a large empty area with a placeholder icon and text: 'This Layout is currently empty. You can add Areas to this Layout using the 'Add' button above. Give this Layout a background by clicking the 'Choose Layout Background' button to the right. If you use Edge or Firefox, you can create a quick background of a web page by navigating to it and using the CTRL-SHIFT-S shortcut.' The 'Selected Layout Details' section on the right contains fields for Name (filled with 'New Realtime Layout'), Description, Layout Background (with a 'Choose Layout Background' button), Layout URL (with a copy icon), Realtime API Context Path (filled with 'New Realtime Layout' and a copy icon), and Realtime API Scripts (with a 'Generate and Display Scripts' button). At the bottom right, there are 'Cancel' and 'Save & Close' buttons.

- Validation Status indicator
- Publish Smart Assets: all options are disabled.
- Save: invocation saves the new realtime layout and switches to the Maintain Realtime Layout overlay. The Clone and Save option is disabled.
- Layout Guide/Hierarchy tabset: a single root layout, with the default name 'New Realtime Layout', is displayed.
- Selected Layout Details/Selected Layout Smart Assets tabset

12.14 Using Layouts and Areas with the RPI Realtime API

Having published a smart asset to a layout or area, you can access the content it serves using the RPI Realtime API. When using the SmartAsset endpoint, you can use the following within the AssetLookups section in the endpoint call's Body:

```
"ContextSearch": {  
  "ContextPath": "xxx",  
  "SearchOperator": "xxx",  
  "TagSearch": ""  
}
```

The following SearchOperator values are supported:

- IncludeAreas: evaluates all smart assets matching LayoutPath or any part of the path provided.
- ExactPath: evaluates only smart assets matching LayoutPath.
- IncludeParentLayouts: evaluates all smart assets matching LayoutPath or any parent within the layout hierarchy.
- FirstParent: evaluates all smart assets matching LayoutPath, or, if not found, the first match upwards within the layout hierarchy.

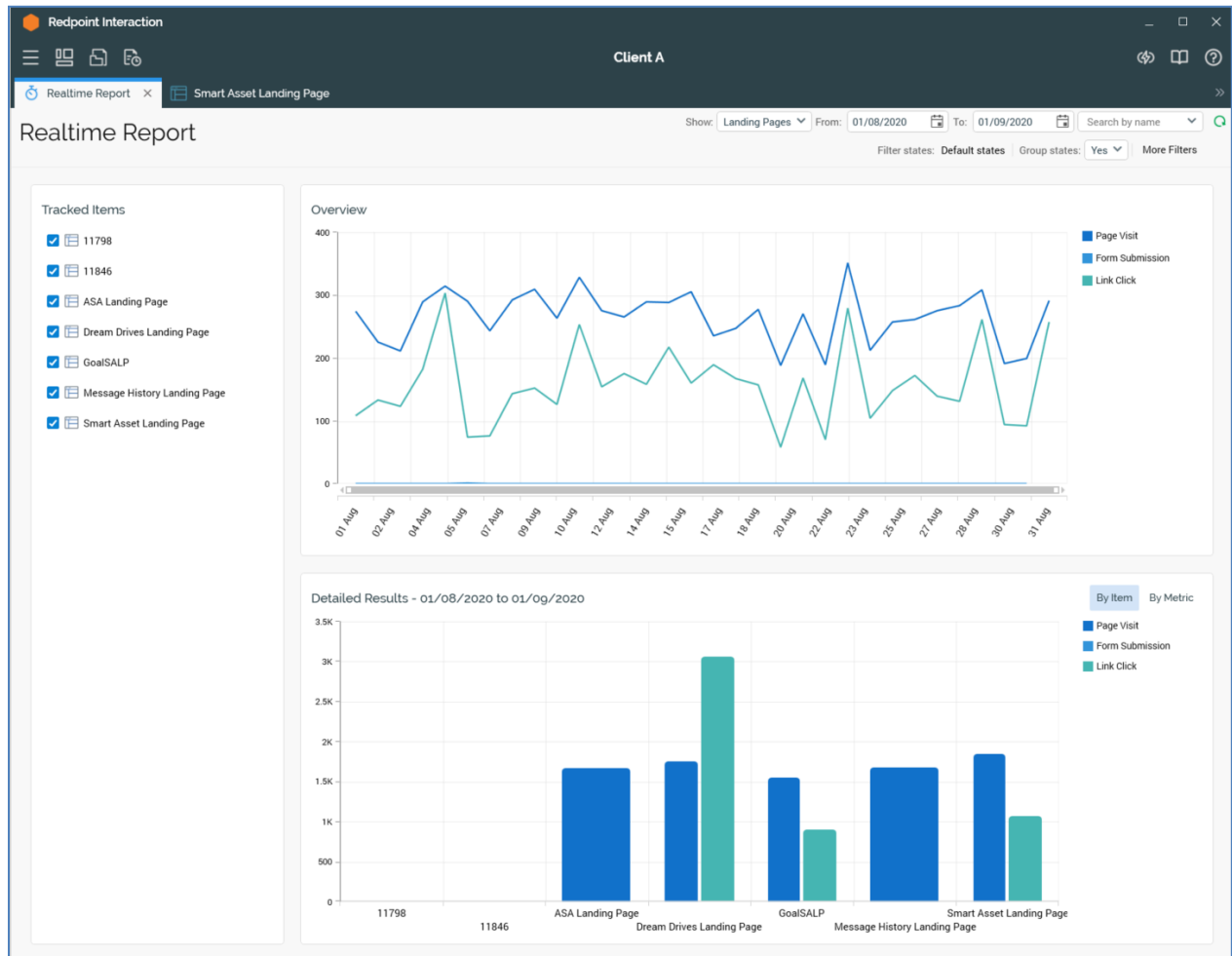
TagSearch provides the ability to search for smart assets with matching Tag values.

Note that the use of wildcards with the above is not supported.

13 Realtime Report

The RPI Realtime Report allows you to view metrics relating to RPI landing and other web pages, such as the number of times pages were visited, details of the links clicked and the forms submitted therein, and the goals achieved by site visitors.

In addition, the Report supports the viewing of details relating to outbound interactions in the same context, providing instant insight into the impact of outbound communications on visitors' site behaviors.



Data is presented as time series of activity across a user-definable date range and is also aggregated by landing page and metric and presented as stacked bar charts.

13.1 Invoking the Realtime Report

You can invoke the Realtime Report in the following ways:

- From the Reporting Hub's Native Reports section. Selecting the option displays the Realtime Report in a new tab in the RPI interface. You can open more than one Realtime Report at the same time, if required.
- From the Realtime Report option within a widget.
- From the same option, exposed within the quick access menu's Reporting Hub task.

Note that access to the Realtime Report is controlled via the Realtime Report functional permission. If none of the user groups of which you are a member are associated with this permission, you will not be able to access the Realtime Report.

13.2 Closing the Realtime Report

You can close the Realtime Report at any time by closing the tab within which it is displayed, or by shutting down RPI itself.

13.3 Realtime Report Basics

The Realtime Report is displayed in a separate tab in the RPI framework.

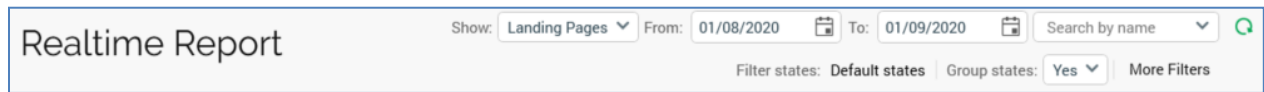
It contains the following:

- Header
- Tracked Items
- Overview
- Detailed Results
 - By Item
 - By Metric

Each of these is discussed separately.

13.4 Header

The Realtime Report header exposes the following:



The screenshot shows the header of the Realtime Report interface. It features a title 'Realtime Report' on the left. To the right, there are several controls: a 'Show:' dropdown menu currently set to 'Landing Pages', a 'From:' date field with a calendar icon set to '01/08/2020', a 'To:' date field with a calendar icon set to '01/09/2020', and a 'Search by name' dropdown menu with a refresh icon. Below these, there are 'Filter states: Default states', 'Group states: Yes', and a 'More Filters' button.

- Show: clicking Show displays a dialog in which you can choose the type of items to be shown in the Realtime Report using the following checkboxes, which are all checked by default:
 - External Web Pages
 - Interactions
 - Landing Pages

If a single item type is selected, its name is displayed at the property. If more than one is selected, '[n] Types' is displayed at the property. If no types are selected, 'No Types' is shown. Changing the selection refreshes the tracked items list, and charts, automatically.

Note that interactions are displayed within the Realtime Report if they match the supplied filter criteria, and the date range selected intersects with the duration post-execution for which their fulfillment states continue to be monitored for updates.

- From: defaults to today - 1 month. Date from must be less than Date to.
- To: defaults to today. Date to must be more than Date from.
- Search by name: you can enter a search string to limit the items displayed in the Realtime Report to those with a name matching the entered value. The search is applied as soon as you stop typing in the field. A dropdown list of recent searches is available.
- Refresh: reloads the Realtime Report with the latest set of insight data across the supplied date range. Any newly-created items that match the specified filter criteria are added to the Tracked Items list. If all previously-displayed items were checked, any newly-displayed items are also checked. If not all previously-displayed items were checked, any newly-displayed items are not checked.

Note that, following a refresh of the Realtime Report, zero results are only displayed at charts if results are returned by execution of the query. If no results are returned, zero results are not shown.

- Filter States: you can limit the items displayed within the Realtime Report to only those with state results that match one or more selected states.

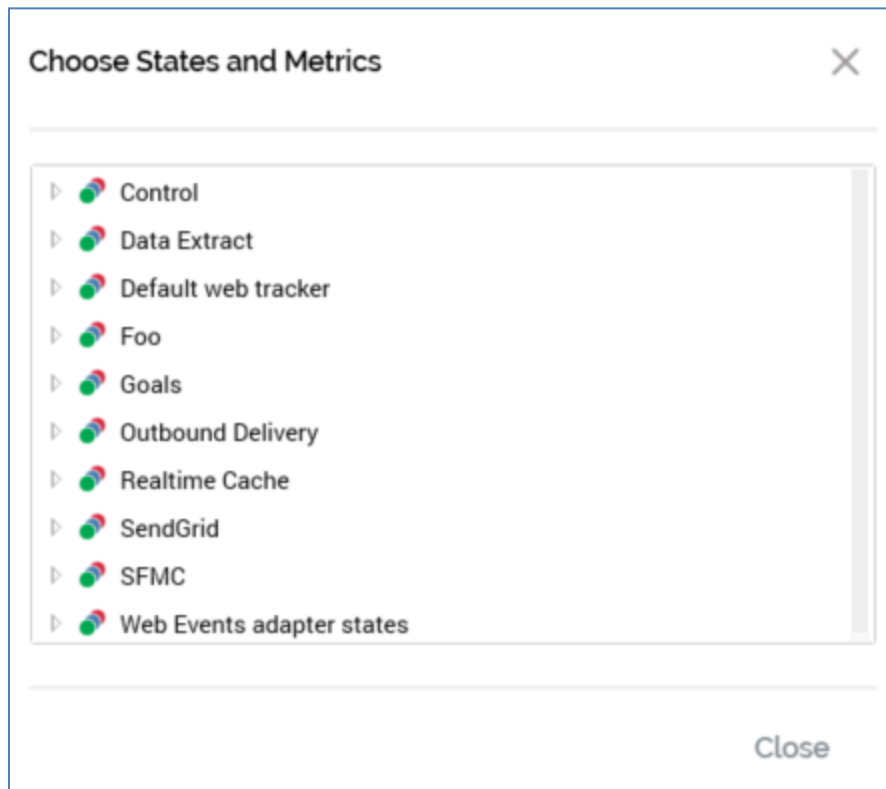
By default, only 'Default states' are shown. These are defined as Page Visit, Link Click, Form Submission (for web pages) and Targeted (for interactions). If only default states are

currently selected, this setting reads 'Default States'. This is the initial setting upon invocation of the Realtime Report.

If a single state has been selected, the text '[Context] - [State]' is displayed.

If multiple states have been selected, [n] States is displayed.

Clicking the property displays the Choose States and Metrics dialog.



You can expand each group therein to reveal the states that they contain. Each state is accompanied by a checkbox. You can check those that you wish to view in the Realtime Report.

The dialog lists the following:

- Web events states: these include the following:
 - Form Submission
 - Link Click
 - Page Visit: note that the duration that is required to have passed before a page visit by a given visitor using a given browser is deemed to be recorded as a new page visit is controlled by Interaction web.config setting ThresholdBetweenPageVisitsMinutes.
 - Any custom web event states defined at the web events adapter

- Channel states: these are grouped by channel.
- Goals: you can choose to filter by goals defined as goal smart assets' and landing pages' optimization goals, and the latter's additional goals.
- State Flow states

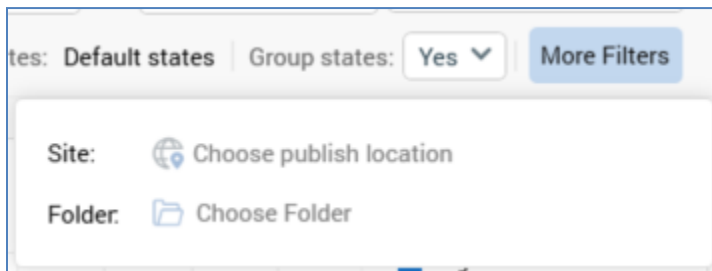
Having elected to apply a state filter, you can click the Clear the currently selected States button to revert to display of the default states.

- Group States: this option can be switched between Yes (the default) and No values. If set to Yes, states with the same name are grouped together at the Realtime Report charts; e.g. all 'Targeted' state counts are grouped together, even if collated at disparate channels, and all identically-named goals are counted together, even if the goals in question are defined at separate landing pages.

Note that if Group States is set to No, separate channels' common states are shown separately (e.g. 'Data Extract - Targeted' and 'Salesforce Marketing Cloud Email - Targeted').

- More Filters: clicking More Filters allows you to filter the Realtime Report by web publish site (applicable to landing pages only) and RPI file system folder (applies to landing pages and interactions).

Clicking More Filters displays a dialog:



- Site: you can limit the items displayed in the Realtime Report to just those landing pages that have been published to a specific web publish site, or folder therein. Clicking Choose publish location displays the Choose Publish Location dialog. You can select a web publish site or folder and then click OK. When you do so, the Realtime Report is filtered to show only landing pages published to the selected location.

Having selected a site or folder, you can clear it.

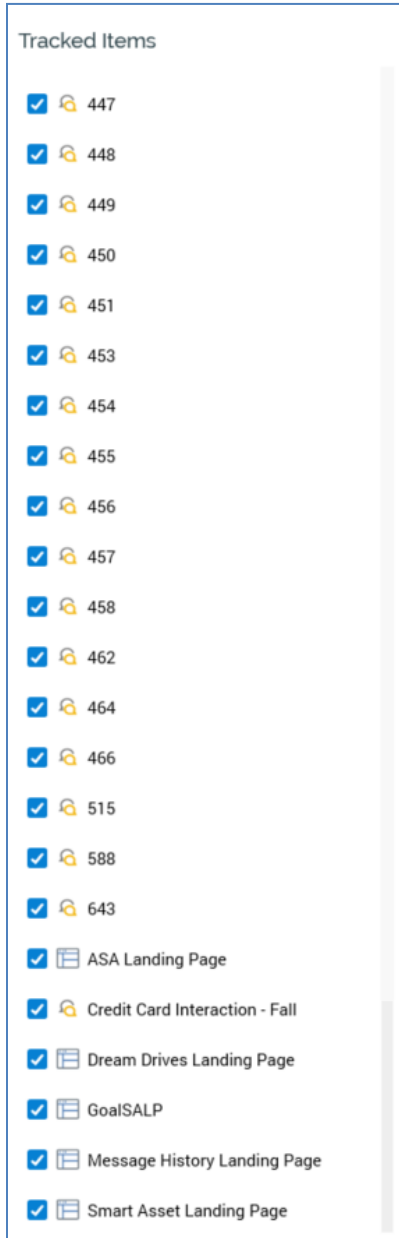
- Folder: you can click Choose folder to select a folder using the Choose Folder dialog. When a folder has been selected, only landing pages and interactions saved to the selected folder are displayed in the Realtime Report.

Having selected a folder, a Search subfolders checkbox is displayed below Folder. If checked, all subfolders within the selected folder searched for files to display in the Realtime Report.

Also having selected a folder, you can clear it. When you do so, the selected folder and Search subfolders checkbox are removed, and the filter restriction is lifted.

13.5 Tracked Items

This section, displayed to the top left of the Realtime Report, lists all landing pages, external web pages, and/or interactions that match the currently-specified filter criteria.



Items accordant with current search settings are listed. Currently-selected items are reflected at the Overview line chart and Detailed Results section. If no items are displayed, a message is shown.

For each item, the following are displayed:

- **Checkbox:** checked by default. When checked, data relating to the item are shown in the Realtime Report charts. When unchecked, data relating to the item are not shown.
- **Icon:** indicating whether the item is a landing page, external web page, or interaction.
- **Name**
- **Toggle whether the results of this item are charted separately:** this toggle button is not selected by default. When it is selected, series relating to the item in question are displayed at the Overview chart and legend.

Multiple items can be charted separately. A separately-charted item no longer counts towards standard aggregated results series (Page Visit, etc.).

- **Toggle whether the latest daily published versions of this item are shown:** this toggle button is only shown at landing pages and is not selected by default. When selected, it displays the time positions at which versions of the landing page were published on the Overview line chart. The first published instance of any given version shown (it is possible for a version of a landing page to be published multiple times; at each act of publishing the page, an instance is created). A version is represented by vertical dashed line. A black label at the bottom of the dashed line displays the version number.

Double-clicking a landing page in the list displays the page's most recent version in the Published Item Details interface. You can open multiple landing pages in separate Published Instance Details concurrently.

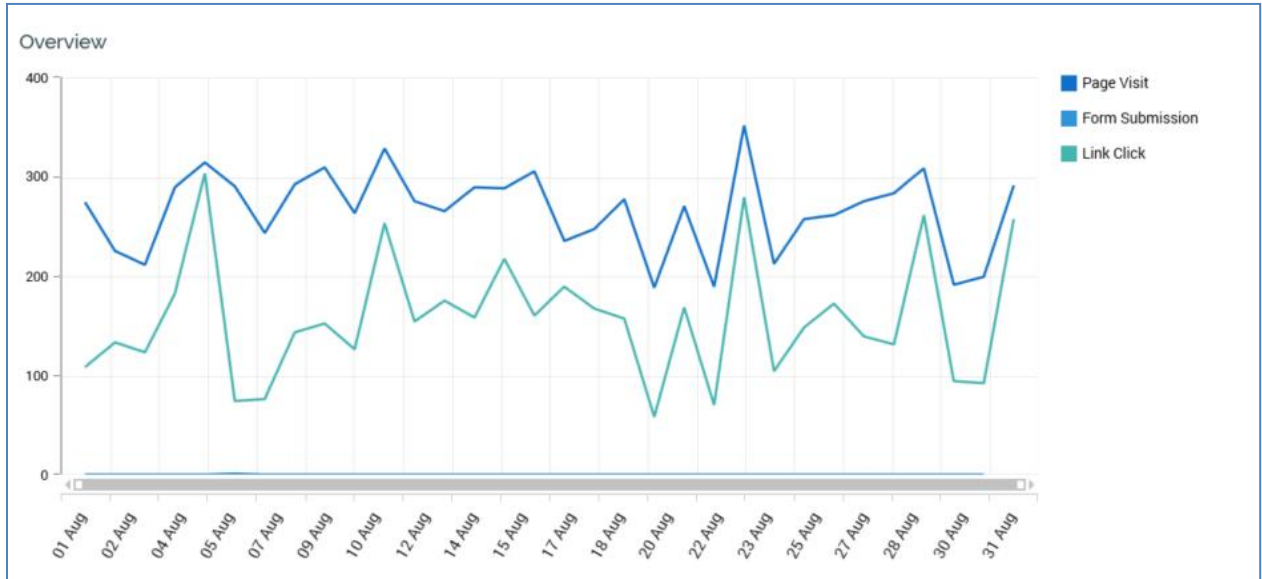
Double-clicking other item types has no effect.

A context menu is shown when you right-click an item:

- **Show All Items:** this option checks all items and displays their metrics in the charts.
- **Hide All items:** this option unchecks all items and removes them from the charts.
- **Hide All But This:** this option unchecks all items apart from the current.
- **View Realtime Details:** this option is only available at landing pages. It displays the current landing page's details in the Realtime Details interface.
- **View File Information...:** this option is only available at landing pages and interactions. It displays the current file's details in the File Information Dialog.
- **Open Latest Version:** this option is only available at landing pages and interactions. It displays the file's details in the Landing Page Designer.

13.6 Overview

This section contains a line chart, which displays time series values relating to metrics gathered in respect of published landing pages across the currently-specified date range.



When no data are available to be shown, a message is displayed.

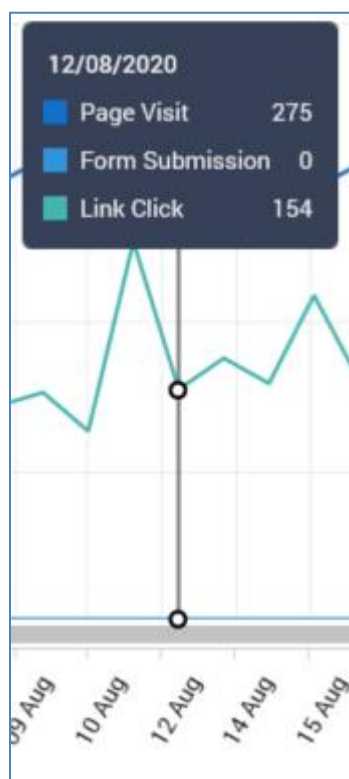
You can change the date range displayed within the chart by shortening or lengthening the horizontal scroll bar displayed at the bottom of the line chart manually, or by using the mouse wheel.

By default, the following series are shown:

- Page Visit
- Link Click
- Form Submission
- Targeted

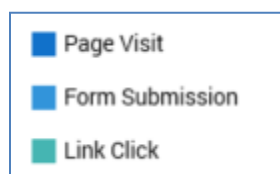
Any custom web events metrics and states are also displayed if they exist, along with series representing any separately-charted items' metrics.

On hovering over the chart, a vertical line, with points marking metric series' values, is displayed at the date nearest to the cursor.



A legend at the top shows the currently-displayed series' counts for the date in question.

A legend is displayed to the right of the chart.

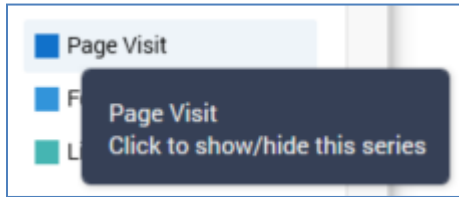


It displays each aggregated metric:

- Page Visit
- Link Click
- Form Submission
- Targeted

Custom web events states and metrics (if metric values exist) are also shown. In addition, any Separately-charted landing pages' series are also displayed.

A tooltip is shown when hovering over a legend entry.



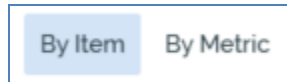
Clicking the same shows or hides the series. A series is grayed out at the legend and removed from the chart when hidden, and the vertical scale is adjusted accordingly. A series is also removed automatically at the By Item stacked bar chart in the Detailed Results (if displayed).

13.7 Detailed Results

This section contains a detailed results stacked bar chart, which displays aggregated series' values across the visible date range displayed in the Overview line chart.

When no data are displayed, a message is shown.

The section contains a tabset with two tabs:



- **By Item:** this tab is shown by default. It displays one stacked bar per landing page in the visible date range shown in the Overview line chart.
- **By Metric:** this tab displays one stacked bar per aggregated metric across the visible date range shown in the Overview line chart.

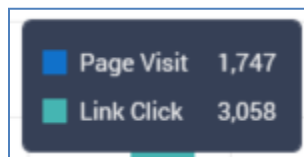
13.8 Detailed Results – By Item

The By Item stacked bar chart displays one stacked bar per landing or external page, or interaction, in the visible date range in the Overview line chart.



Bars are ordered alphabetically by name. A numerical count is displayed each section within a bar. Only checked landing pages are shown.

On hovering over a bar, a tooltip is displayed.



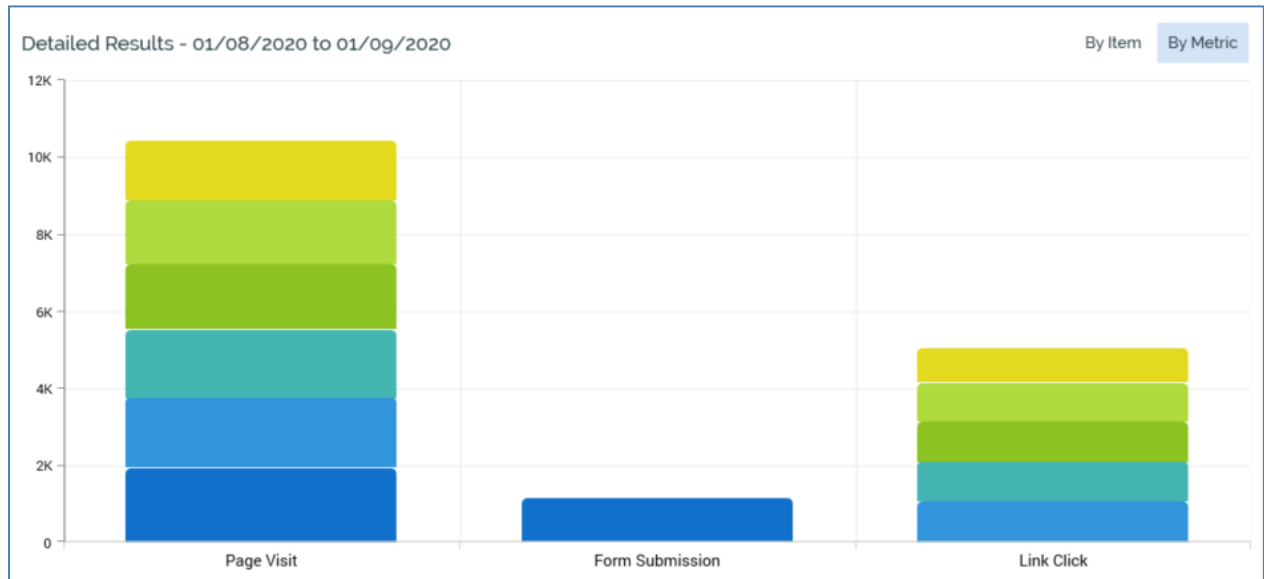
This displays each aggregated metric's count:

- Page Visit
- Link Click
- Form Submission
- Custom web events states and metrics (if shown)

- Interaction states

13.9 Detailed Results – By Metric

The By Metric stacked bar chart displays one stacked bar per aggregated metric, with data sourced from across the visible date range in the Overview line chart.



The following metrics are shown:

- Page Visit
- Link Click
- Form Submission
- Custom web events states and metrics (if available)
- Interaction states

A numerical count is displayed at each section within a bar (if space permits). Only checked landing pages are shown.

On hovering over a bar, a tooltip is displayed. Its contents depend on the metric in question:

- Page visit: displays the count by landing page. Entries are presented in descending value order. If more than ten values are available, the top ten values are displayed, and the sum of the remaining values shown as 'All others'.
- Link Click: displays URLs clicked.
- Form Submission: displays the names of submitted forms.

- Web event state or metric: displays state or metric counts only.

13.10 Collating Realtime Report Results

Results are made available in the Realtime Report when a published landing page is associated with a web events adapter. Page Visits, Link Clicks and web events results are collated at execution of the Web events importer system task. Form Submission results are collated at execution of the Web form processor task.

If a landing page is not associated with a web events adapter, Page Visits, Link Clicks and web events results are not collated.

13.10.1 External Web Pages in the Realtime Report

To be viewed in the Realtime Report, an external page must be configured to use the Realtime JavaScript web client with the client option “enablePageVisitTracking” set to true.

Documentation around the configuration and use of the JavaScript realtime web client to enable client-side integration between a web site and the Redpoint Realtime API can be found in Deployment Files in the following directory:

DeploymentFiles\InteractionRealtimeAPI\RPIFormValidation\shared\js\rpiwebclient\documentation\index.html

The following metrics are captured by default at an external page:

- Page visit
- Link click

At least one web events adapter must exist for external page metrics to be captured. Metrics are captured on execution of the Web events importer system task.

You can use the `rpiWebClient.sendMetric` function at an external page to record a web events metric. The metric must be defined at the default web events adapter. Please refer to the Realtime JavaScript web client documentation referenced above for full usage details of the `sendMetric` function.

13.10.2 Interactions in the Realtime Report

The Realtime Report affords visibility of interactions' production channel results, as captured at workflow execution. Results are sourced from offer, decision offer, export and control activities

Interaction results are displayed at the Overview line chart and Detailed Results bar charts. A result value is shown at the date when received by RPI. Any associated custom state flow-provided metrics are also available listed (these are collated at execution of the Fulfillment state flow count updates system task).

An interaction qualifies for display within a date range if the range supplied intersects with the time period for which RPI continues to monitor its workflows for receipt of results data.

14 Published Content Report

The Published Content Report allows you to view a list of published (and, if required, unpublished) content at the current RPI client.

Published Content Report

Client A

Show: All types From: 01/06/2021 to 08/07/2021 Search by name, page name, context, slot or URL

Filter by state: Published only Method: All methods Order by: Name Ascending Auto-refresh: Every 5 minutes

Name	Type	Realtime API Context Path	Last published	Published	Version
10500	Smart Asset	Wally's Page/New Area/New Area	02/07/2021 10:40:57	coreuser	0.1
10549	Smart Asset	Wally's Page/New Area/New Area	02/07/2021 10:40:57	coreuser	0.2
11000	Smart Asset	-	07/06/2021 15:31:53	coreuser	0.2
11293	Smart Asset	-	02/06/2021 10:27:31	coreuser	0.1
13763 Inner	Smart Asset	Wally's Page	01/07/2021 14:54:47	coreuser	0.2
13763 Outer	Smart Asset	Wally's Page/New Area	01/07/2021 14:54:47	coreuser	0.2
Advanced Smart Asset	Smart Asset	Other Home Page/Footer (+2)	30/06/2021 11:30:38	coreuser	0.3

Published URL: - Method: Cache Date Unpublished: - Unpublished By: -

Results

- Advanced Smart Asset.Hero Image: 2
 - Content Message: 1
 - Content Default: 1
- Advanced Smart Asset.Footer: 2
 - Content Message: 1
 - Content Default: 1

Asset Types RSA	Smart Asset	-	09/06/2021 13:20:04	coreuser	0.7
Browser RSA	Smart Asset	Other Home Page	05/07/2021 10:50:26	jim	0.1
Date Tests	Smart Asset	-	09/06/2021 13:21:14	coreuser	0.1
DB RTD Test	Smart Asset	-	09/06/2021 16:50:31	coreuser	0.1
GoalSA01	Smart Asset	-	03/06/2021 14:01:54	coreuser	0.3
Invalid Rule Smart Asset	Smart Asset	Wally's Page/New Area/New Area	02/07/2021 10:40:57	coreuser	0.1
MikeCheck	Smart Asset	Leading Page	09/06/2021 14:15:12	coreuser	0.1

14.1 Invoking the Published Content Report

You can invoke the Published Content Report in the following ways:

- From the Reporting Hub's Native Reports section. Selecting the option displays the Published Content Report in a new tab in the RPI interface. You can open more than one Published Content Report at the same time, if required.
- From the Published Content Report option within a widget.
- From the same option, exposed within the quick access menu's Reporting Hub task.

Note that access to the Published Content Report is controlled via the Published Content Report functional permission. If none of the user groups of which you are a member are associated with this permission, you will not be able to access the Published Content Report.

14.2 Closing the Published Content Report

You can close the Published Content Report at any time by closing the tab within which it is displayed, or by shutting down RPI itself.

14.3 Published Content Report Basics

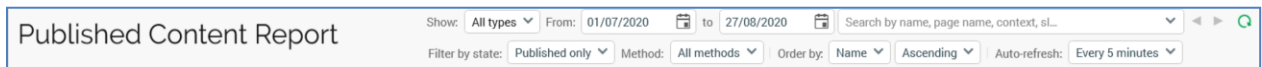
The Published Content Report is displayed in a separate tab in the RPI framework.

It contains the following:

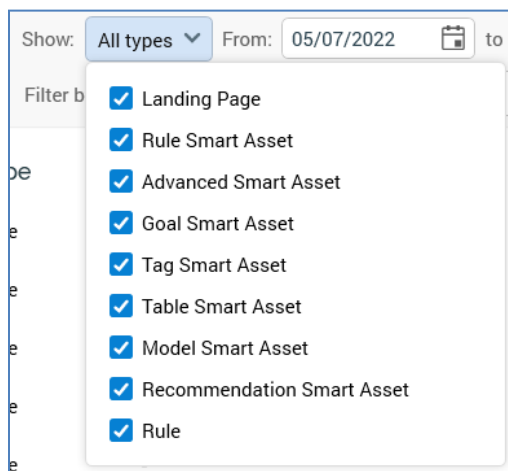
- Header
- Published Content list

14.4 Header

The Published Content Report header exposes the following:



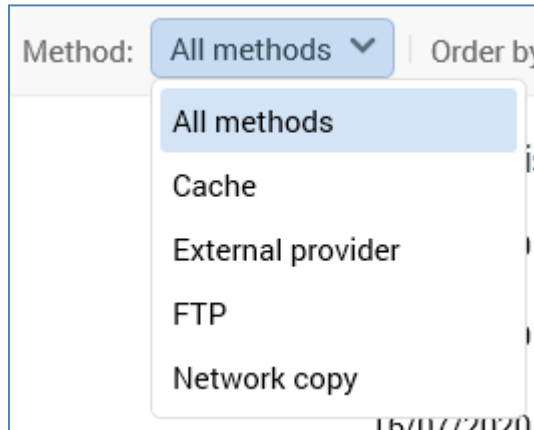
- **Show:** this dropdown allows you to specify whether to display all types of published content in the list, or to limit the display to files of one or more specific types. You can choose from the following:



Each file type is accompanied by checkbox. All are checked by default. Any changes you make are reflected immediately at the published content list.

- **From:** this field allows you to define the start of the date range controlling which published content is to be shown in the list. Only content published within the defined date range is shown. From defaults to today - 14 days.
- **To:** accompanies From in allowing definition of the date range within which content shown in the list was published. It defaults to today.
- **Search:** this field allows you to search for published content with a name, page name, context, slot or URL matching the supplied search string. The filter is applied automatically.
- **Previous Page:** this button is enabled when a page's worth of data other than the first is displayed. Clicking it displays the previous page's data
- **Next Page:** this button is enabled when a page's worth of data other than the last is displayed. Clicking it displays the next page's data.
- **Refresh:** clicking this button initiates a manual refresh of the published content list, displaying content matching the currently-specified filter criteria.
- **Filter By State:** this dropdown allows you to specify whether to display all content (the default), or just published or unpublished content.

- Method: this dropdown allows you to filter the list to display only content that was published using a specific publish method. The following options are available:



- Order By: this dropdown allows you to order the contents of the list by name (the default) or published date.
- Ascending/Descending: this dropdown is used in conjunction with Order by.
- Auto-Refresh: this property allows you to define the frequency at which the published content list will be updated automatically. The following values are available:
 - Off
 - Every 5 Minutes (the default)
 - Every 15 Minutes
 - Every 30 Minutes
 - Every Hour

Your most recent setting is persisted and applied when you next open the Published Content Report.

14.5 Published Content List

The read-only published content list is displayed below the header, and displays all published content matching the currently-specified filter criteria.

Name	Type	Realtime API Context Path	Last published	Published	Version
10500	Smart Asset	Wally's Page/New Area/New Area	02/07/2021 10:40:57	coreuser	0.1
10549	Smart Asset	Wally's Page/New Area/New Area	02/07/2021 10:40:57	coreuser	0.2
11000	Smart Asset	-	07/06/2021 15:31:53	coreuser	0.2
11293	Smart Asset	-	02/06/2021 10:27:31	coreuser	0.1
13763 Inner	Smart Asset	Wally's Page	01/07/2021 14:54:47	coreuser	0.2
13763 Outer	Smart Asset	Wally's Page/New Area	01/07/2021 14:54:47	coreuser	0.2
Advanced Smart Asset	Smart Asset	Other Home Page/Footer (+2)	30/06/2021 11:30:38	coreuser	0.3
Published URL		Method	Date Unpublished	Unpublished By	
-		Cache	-	-	
Results					
Advanced Smart Asset.Hero Image					2
Content Message					1
Content Default					1
Advanced Smart Asset.Footer					2
Content Message					1
Content Default					1
Asset Types RSA	Smart Asset	-	09/06/2021 13:20:04	coreuser	0.7
Browser RSA	Smart Asset	Other Home Page	05/07/2021 10:50:26	jim	0.1

If no content matches the criteria, a message is displayed.

Each piece of published content is displayed by default with its details hidden. The following are displayed for each:

Published Details LP	Landing Page	-	-	9/19/2018 4:35:15 PM	coreuser	0.1
----------------------	--------------	---	---	----------------------	----------	-----

- Icon: indicating the type of published content
- Name
- Type: one of Smart Asset, Landing Page, Advanced Smart Asset or Goal Smart Asset.
- Realtime API Context Path
- Last Published: the date/time at which the content was last published.
- Published By: the username of the user who last published the content.
- Version: the version of the file at the point when the content was published.

The following additional properties are displayed when the details of a piece of content are shown:

- If the content is a smart asset (other than a goal or advanced smart asset), the following are shown:

RuleSA01		Smart Asset	28/07/2020 10:27:43	coreuser	0.28
Published URL		Method	Date Unpublished	Unpublished By	
-		Cache	-	-	
Results					
RuleSA01					14
Content 1					11
Content 2					3

- Published URL: you can copy the URL to the clipboard using a context menu option.
 - Method: the method that was used to publish the content; one of Cache, or, if a web publish site, FTP, Network copy or External content provider.
 - Results: broken down by list asset.
- If the content is a landing page, the following are shown:

DocDB001Test01		Landing Page	9/28/2018 10:16:50 AM	coreuser	0.4
Published URL		Method	Date Unpublished	Unpublished By	
http://uk.tryfan.tld/FTP/DocDB001Test01.htm		FTP	-	-	
Results					
Page Visit					4
DocDB001Test01					4
Referral					4
Direct					4

- Published URL: you can copy the URL to the clipboard using a context menu option. You can also open the landing page in a browser using the hyperlink provided.
 - Method
 - Date Unpublished
 - Unpublished By
 - Results: including Page Visits, Referrals and Form Submissions
- If the content is an advanced smart asset, the following are shown:

Avd SA RDR		Smart Asset	23/07/2020 15:30:23	coreuser	0.1
Published URL		Method	Date Unpublished	Unpublished By	
-		Cache	-	-	
Results					
Avd SA RDR.Variant					2
Content Message					2

- Published URL
- Method
- Results

- If the content is a goal smart asset, the following are shown:

Goal Smart Asset RDR		Smart Asset	23/07/2020 14:46:37	coreuser	0.2
Published URL		Method	Date Unpublished	Unpublished By	
-		Cache	-	-	
Results					
● Goal Smart Asset RDR					21
Content 1					14
Content 2					7
● Goal: Goal_635					14
Content 1					13
Content 2					1
● Goal: Goal_634					1
Content 2					1

- Published URL
- Method
- Results

- If the content is a rule (selection rule or realtime decision), the following are shown:

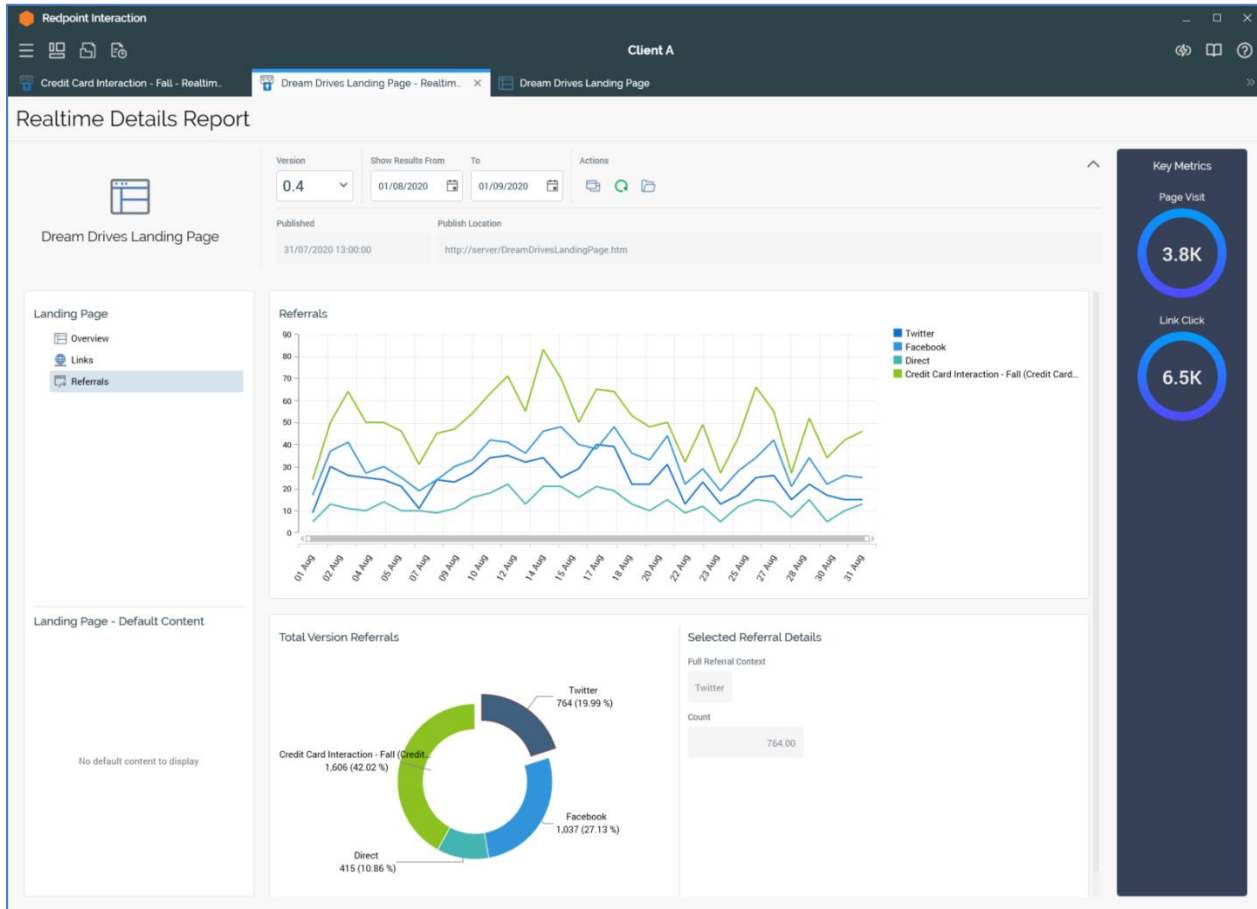
Omni SQL		Rule	13/07/2022 10:44:16	coreuser	0.6
Published URL		Method	Date Unpublished	Unpublished By	
-		Cache	-	-	
Results					
Omni SQL					10
Content 1					5
Content 2					5

- The following buttons are displayed irrespective of file type:

- View Realtime Details: displays the published content in the Realtime Details interface.
- Open Latest Version: displays the published content file in an appropriate designer instance.
- View File Information: displays the published content file's details in the File Information Dialog.

15 Realtime Details

The RPI Realtime Details report allows you to view metrics and trends thereof, generated by site visitor activity, in respect of a landing page, smart asset, interaction, selection rule or realtime decision.



15.1 Invoking Realtime Details

You can invoke the Realtime Details report in the following ways:

- From the Reporting Hub's Native Reports section. Selecting the option displays the Choose Interaction, Smart Asset, Landing Page, Realtime Decision or Selection Rule File System Dialog to facilitate selection of a file to view in the Realtime Details report. Landing page, smart asset, interaction, selection rule and realtime decision files are shown. You can select a file to view its details in the Realtime Details report.
- From the Realtime Details option within a widget.
- From the same option, exposed within the quick access menu's Reporting Hub task.
- By double-clicking a landing page in the Tracked Items list in the Realtime Report.
- By clicking one of the following designer toolbar buttons:
 - Landing Page Designer: Details
 - Smart Asset Designer: Results
 - Interaction Designer: Realtime Results
- By invoking View Realtime Details at the context menu displayed when right-clicking a smart asset in the Realtime Details content treeview.

15.2 Closing Realtime Details

You can close the Realtime Details report at any time by closing the tab within which it is displayed, or by shutting down RPI itself.

15.3 Realtime Details Basics

The Realtime Details report is displayed in a separate tab in the RPI framework. Multiple Realtime Details reports can be open concurrently.

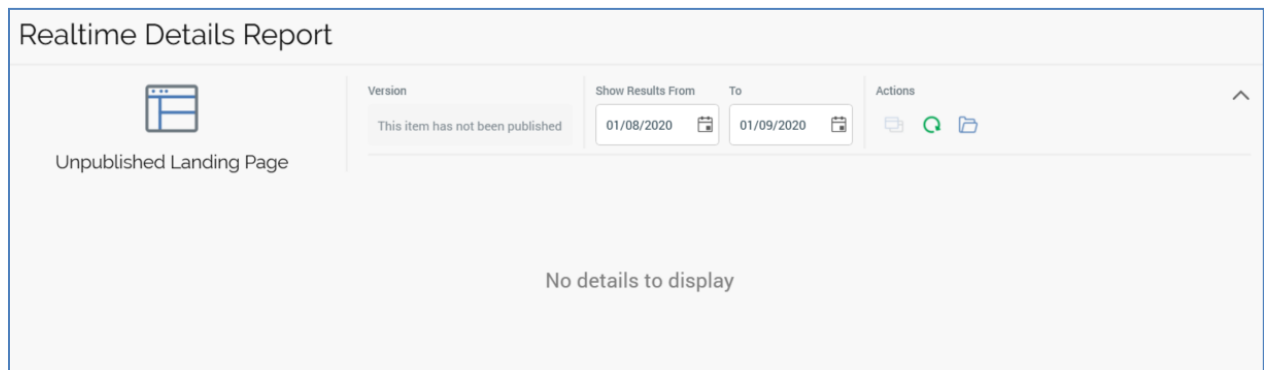
The interface contains the following:

- Header
- Key Metrics
- Treeview
- Charts

Each of these is discussed separately.

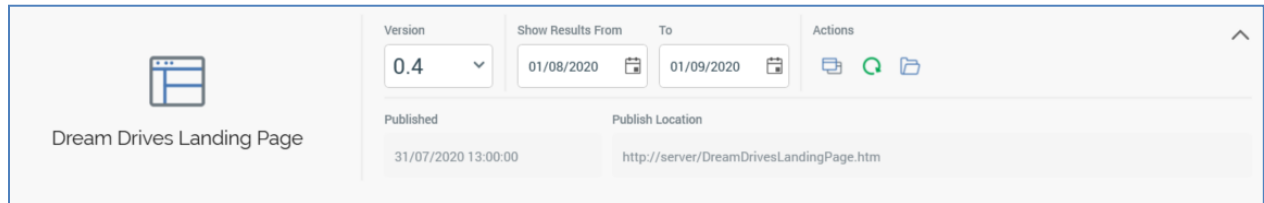
15.4 Display When No Results Exist

When an item for which no results exist is displayed in the Realtime Details report, it is shown as follows:



15.5 Header

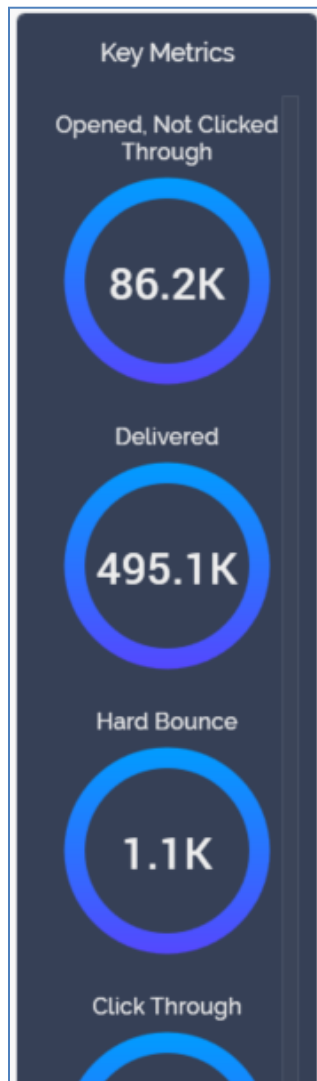
The Realtime Details Report header contains the following:



- File icon
- File name
- Version: this dropdown is only displayed for smart assets and landing pages. It allows you to select the published version of the file for which you wish to view Realtime Details.
- Show Results From: defaults to today - 1 month, unless invoked from the Realtime Tracker or another Realtime Details instance, in which case the field is set to the same value as the equivalent field in the context of invocation. Show Results From must be before Show Results To.
- (Show Results) To: defaults to today, unless invoked from the Realtime Tracker or another Realtime Details instance, in which case the field is set to the same value as the equivalent field in the context of invocation. Show Results To must be after Show Results From.
- Actions toolbar: exposing the following:
 - Open the latest version of the current item: displays the latest version of the file displayed currently in the Realtime Details report in an appropriate designer instance.
 - Refresh
 - Choose an Interaction, Smart Asset or Landing Page to view details. Selecting this option displays the Choose Smart Asset, Interaction or Landing Page File System Dialog to facilitate selection of a file to view in the Realtime Details report.
- Roll Up/Expand: this arrow button allows you to control whether the following properties are shown or hidden.
- Published: a read-only representation of the date and time the file was published. Only displayed for smart assets and landing pages.
- Publish Location: read-only. Only displayed for smart assets and landing pages.

15.6 Key Metrics

The Key Metrics section is displayed to the right of the Realtime Details report.



It displays key metrics relating to the current smart asset or landing page version, or interaction.

The actual metrics displayed depend on the data available, which vary by file type and data availability.

15.7 Treeview

A treeview is displayed to the left of the Realtime Details report, below the top section. Its contents vary in accordance with the type of file that is currently shown.

15.8 Treeview – Landing Page

When a landing page version is shown in the Realtime Details report, the treeview contains the following:

- Overview: this treeview node is always shown. When it is selected, the following is shown to the right of the Realtime Details report:
 - Overview
 - Key Metrics/Goals (if the landing page contains one or more goals).

A context menu is shown when right-clicking the Overview node, exposing the following options:

- View File Information
- Open Latest Version
- Open This Version
- Smart Assets: this treeview node is only displayed when the currently-displayed landing page version contains one or more smart assets.

When it is selected, the following are shown to the right of the Realtime Details report:

- Content Impressions By Asset
- Content Impressions By Asset Over Time

Each smart asset version contained within the currently-displayed version of the landing page is listed as a child of the Smart Assets treeview node. Child nodes are presented in alphabetical order. Any smart assets are shown in a flattened hierarchy as peers of their parent nodes. When a smart asset version is selected, the following are shown to the right of the Realtime Details report:

- Content Impressions Over Time
- Content Impressions
- Selected Content Preview

A context menu is available when right-clicking a smart asset version in the treeview, exposing the following options:

- View Realtime Details
- View File Information

- Open Latest Version
- Open This Version

When you double click a smart asset version in the treeview, its details are displayed in another instance of the Realtime Details report.

When a goal smart asset version is selected, the Goal Smart Asset Result section is displayed below the treeview.

When an advanced smart asset variant is selected, the following are shown to the right of the Realtime Details report:

- Message Impressions Over Time
- Message Impressions
- Selected Variant Preview

When a landing page contains one or more goals, a tabset is shown to the right, exposing Impressions and Goals tabs.

The Impressions tab hosts the charts documented above.

The Goals tab contains the following:

- Goal Conversion Rate Over Time
- Selected Content Preview
- Links: this treeview node is only displayed when the currently-displayed landing page version contains one or more links. When it is selected, the following are shown to the right of the Realtime Details report:
 - Link Clicks Over Time
 - Total Version Link Clicks
 - Selected Link Details
- Web Forms: this treeview node is only displayed when the currently-displayed landing page version contains one or more web forms. When it is selected, the following are shown to the right of the Realtime Details report:
 - Form Submissions Over Time
 - Total Version Form Submissions
 - Selected Web Form Details

- Referrals: this treeview node allows you to view details of the contexts in which visitors were referred to the current landing page version. When it is selected, the following are shown to the right of the Realtime Details report:
 - Referrals
 - Total Version Referrals
 - Selected Referral Details

Each chart cited above is documented separately.

15.9 Treeview – Smart Asset

When a smart asset version is shown in the Realtime Details report, the treeview contains the following:

- Overview: this treeview node is always shown. When it is selected, the following is shown to the right of the Realtime Details report:
 - Content Impressions Over Time
 - Content Impressions
 - Selected Content Preview

A context menu is displayed when right-clicking the Overview node, exposing the following options:

- View File Information
 - Open Latest Version
 - Open This Version
- Landing Page Utilization: this treeview node allows you to view how the currently-displayed version of the smart asset has been used to serve content in the landing pages in which it is utilized. When it is selected, the following are shown to the right of the Realtime Details report:
 - Utilization Over Time
 - Utilization

Each published landing page version in which the currently-displayed smart asset was used is listed as a child node of the Landing Page Utilization node.

When a landing page version is selected, the following are shown to the right of the Realtime Details report:

- Overview
- Content Impressions
- Selected Content Preview

A context menu is available when right-clicking a landing page version in the treeview, exposing the following options:

- View Realtime Details
 - View File Information
 - Open Latest Version
 - Open This Version
- **Outbound Offer Utilization:** this treeview node allows you to view the outbound offers in which the smart asset was used. When selected, the following is displayed to the right of the Realtime Details Report:
 - Utilization Over Time

All offers in which the smart asset was used are listed below the node. For each, the name of the interaction and the name of the activity are shown. When an offer is selected, the following is shown to the right of the Realtime Details Report:

- Overview
- **Variants:** this node is shown when an Advanced smart asset is shown in the Realtime Details Report.

The smart asset's variants are listed within the node. When a variant is selected, the following are displayed to the right of the Realtime Details Report:

- Message Impressions Over Time
- Message Impressions
- Selected Variant Preview

Each chart cited above is documented separately.

15.10 Treeview – Interaction

When an interaction is shown in the Realtime Details report, the treeview contains the following:

- Overview: this treeview node is always shown. When it is selected, the following is shown to the right of the Realtime Details report:
 - Overview

A context menu is displayed when right-clicking the Overview node, exposing the following options:

- View File Information
 - Open Latest Version
 - Open This Version
- Smart Assets: each smart asset version contained within the currently-displayed version of the landing page is listed as a child of the Smart Assets treeview node. Child nodes are presented in alphabetical order. Any smart assets are shown in a flattened hierarchy as peers of their parent nodes. When the Smart Asset node is selected, the following are shown to the right of the Realtime Details report
 - Content Impressions By Asset
 - Content Impressions By Asset Over Time

When a smart asset version is selected, the following is shown to the right of the Realtime Details report:

- Content Impressions Over Time

A context menu is available when right-clicking a smart asset version in the treeview, exposing the following options:

- View Realtime Details
- View File Information
- Open Latest Version
- Open This Version

When you double click a smart asset version in the treeview, its details are displayed in another instance of the Realtime Details report.

- Activities: fulfillment activities within the interaction are listed within this node.

When an activity is selected in the treeview, the following is shown to the right of the Realtime Details report:

- Activity Overview

A context menu is available when right-clicking an activity version in the treeview, exposing the following options:

- View Realtime Details
- View File Information
- Open Latest Version
- Open This Version

Smart assets used within activities are listed within the same. The following is shown to the right of the treeview when a smart asset is selected within the Activities node:

- Content Impressions Over Time

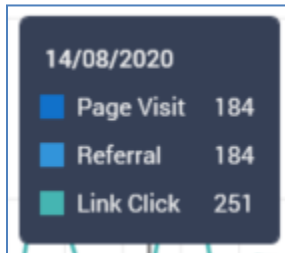
The same context menu options are available when right clicking a smart asset as when right clicking an activity.

Each chart cited above is documented separately.

15.11 Charts

A number of line, bar and pie charts are shown in the Realtime Details Report. Each is documented separately.

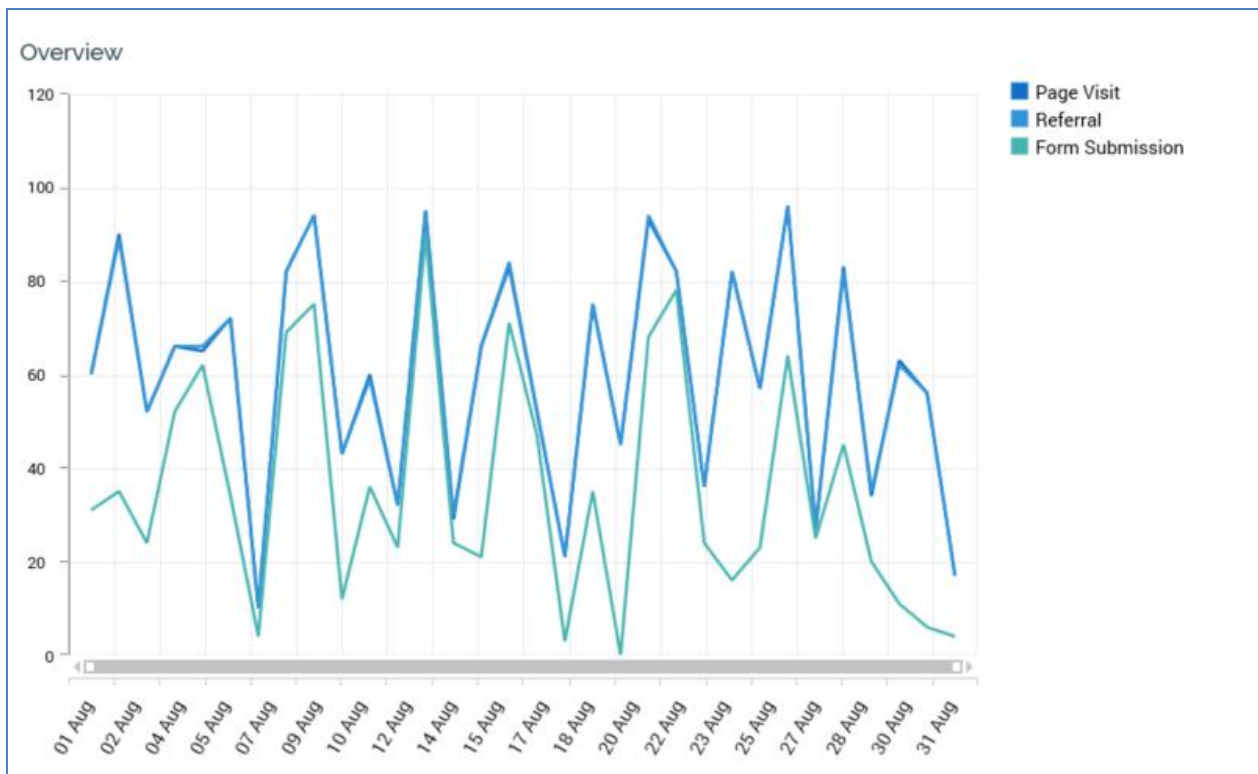
Information tooltips are shown when you hover over a chart.



Note that you can change the date range displayed within a chart by shortening or lengthening the horizontal scroll bar displayed at the bottom of the line chart manually, or by using the mouse wheel.

15.12 Overview

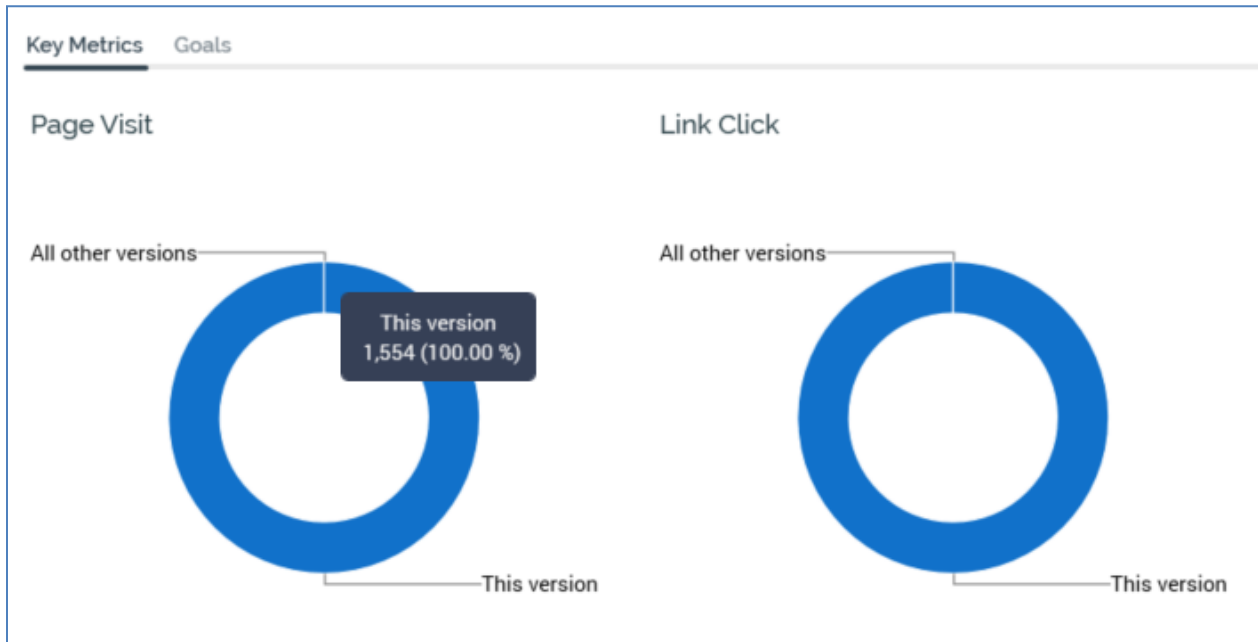
This line chart displays key metric trends across the selected date range. If a landing page contains goals, these are displayed in the line chart as well.



15.13 Key Metrics/Goals

This control contains Key Metrics and Goals tabs.

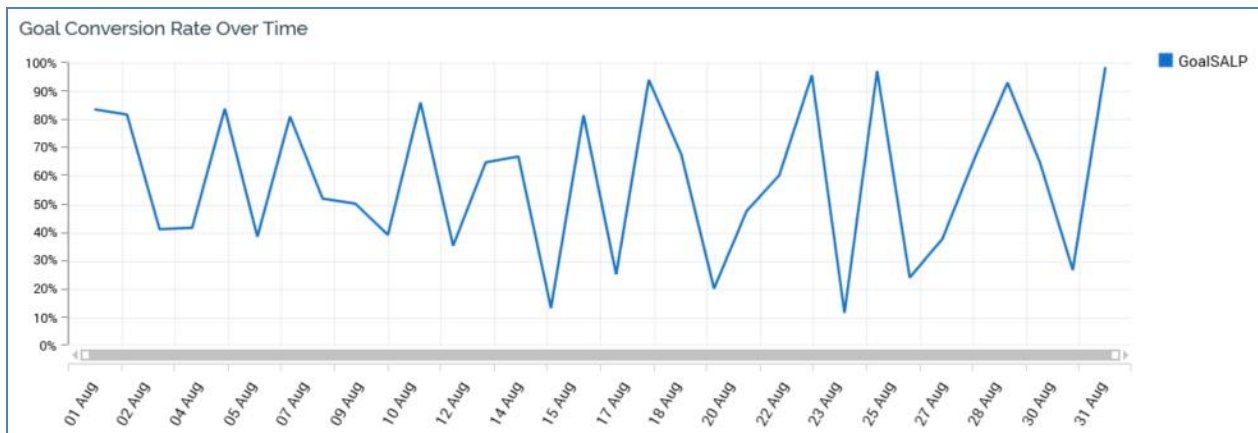
The Key Metrics Tab displays one pie chart is shown per available key metric or goal.



The Goals tab displays a Goal Conversion Rate Over Time chart.

15.14 Goal Conversion Rate Over Time

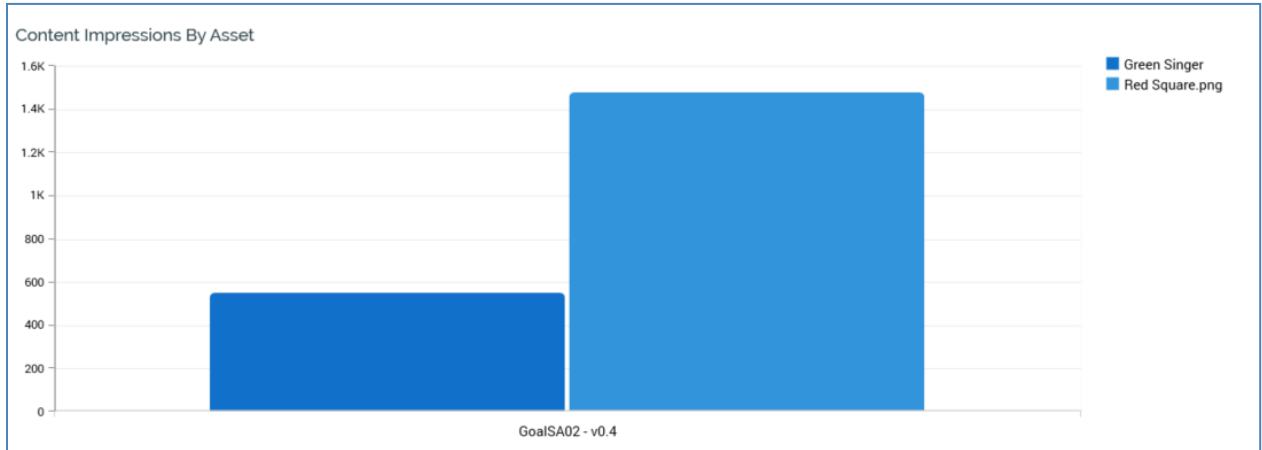
This chart displays the attainment of goals across time.



Each goal's conversion rate is displayed at the chart's legend.

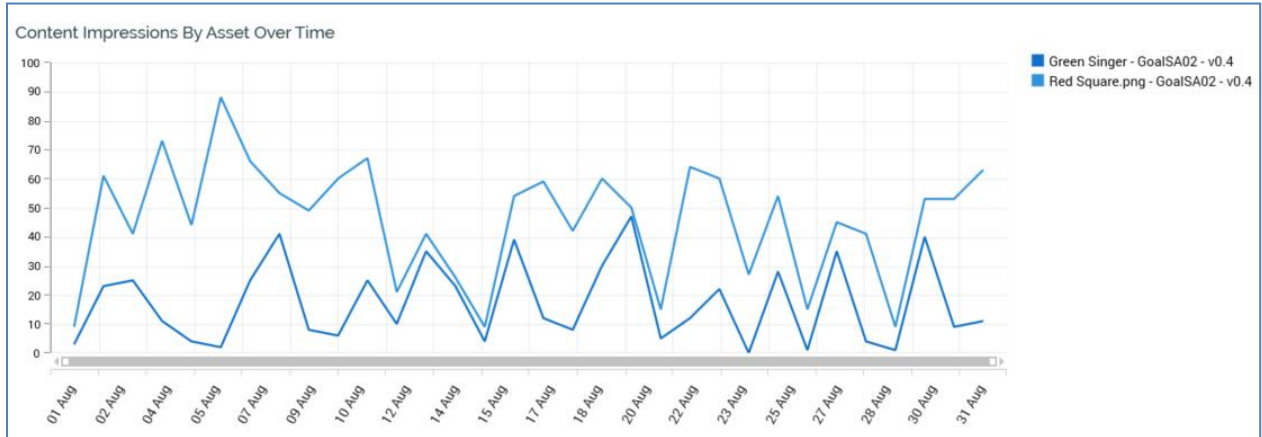
15.15 Content Impressions By Asset

This bar chart displays one bar per piece of content. Within each bar, one section is shown per rendered content element.



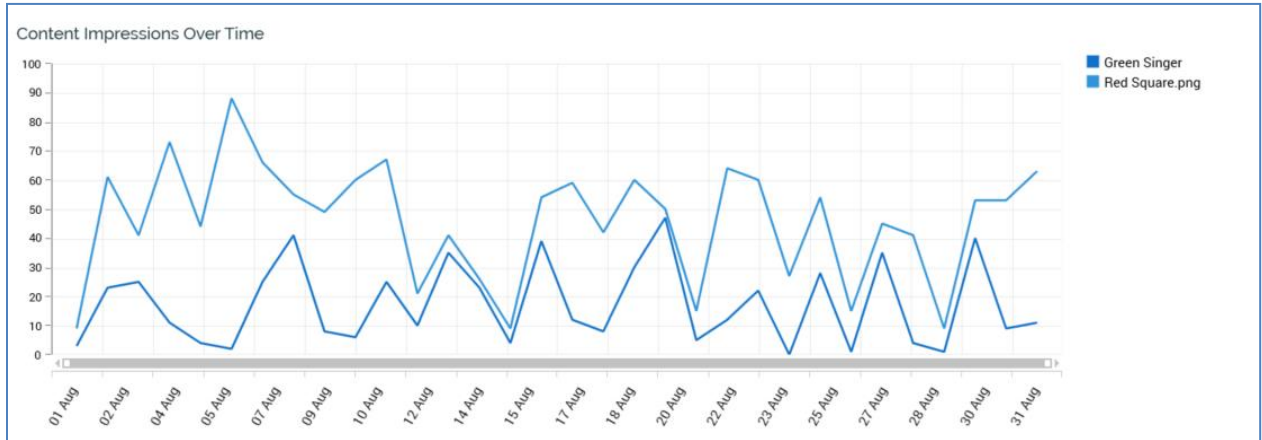
15.16 Content Impressions By Asset Over Time

This line chart displays the trend of all of a smart assets' content element's being rendered across the selected date range.



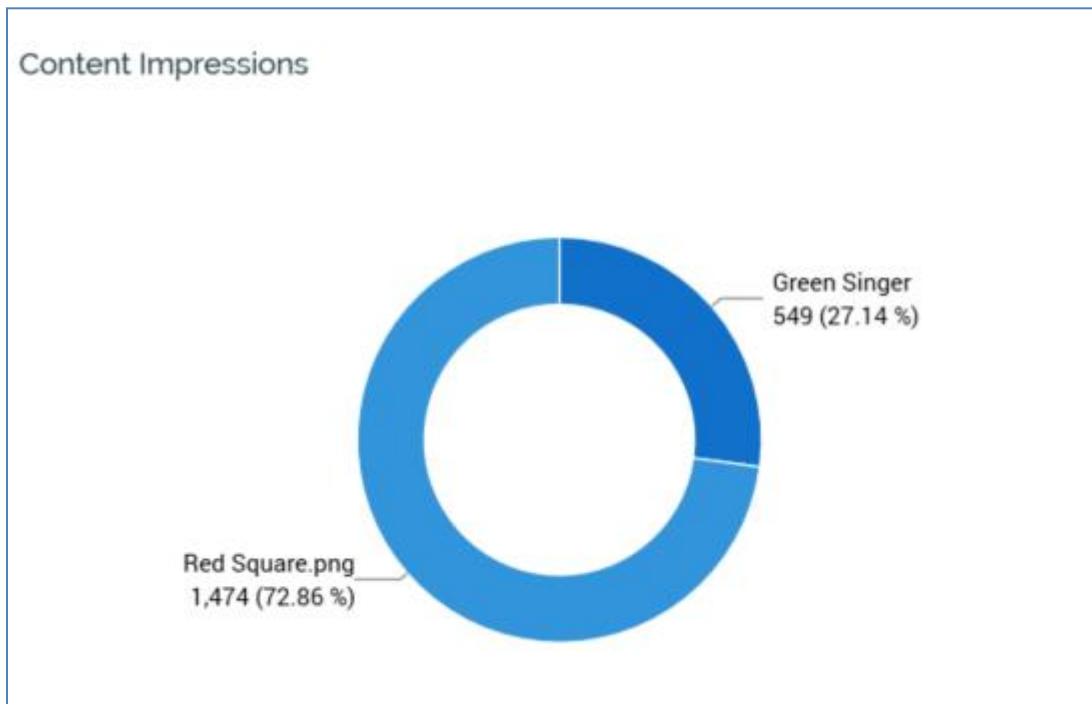
15.17 Content Impressions Over Time

This line chart displays the trend of the selected smart asset's content elements being rendered across the selected date range.



15.18 Content Impressions

This pie chart displays the currently-selected smart asset's content elements viewed as a proportion of the total impressions.



You can select a segment to populate the Selected Content Preview section. Clicking a segment again deselects it.

15.19 Selected Content Preview

This section displays a preview of the selected content element.



The following buttons are available in respect of the content element:

- Open latest version of the Asset
- Open this version of the Asset
- View File Information

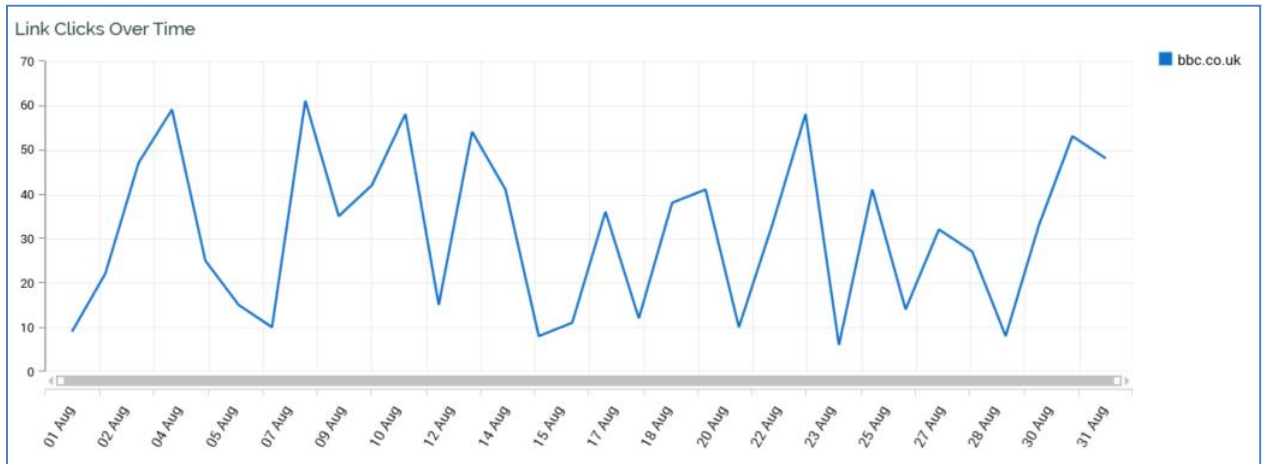
In addition, if the version of the content element published within the smart asset was not the latest, clicking the Open This Version button opens the historical version of the content element. Open This Version is also available if a web form asset version is selected at the Total Version Form Submissions pie chart.

If the selected content element is a smart asset that exposes no default content, a message ('No default content available for the selected asset') is displayed instead of the preview.

The selected content preview section is not displaying when viewing selection rule or realtime decision results.

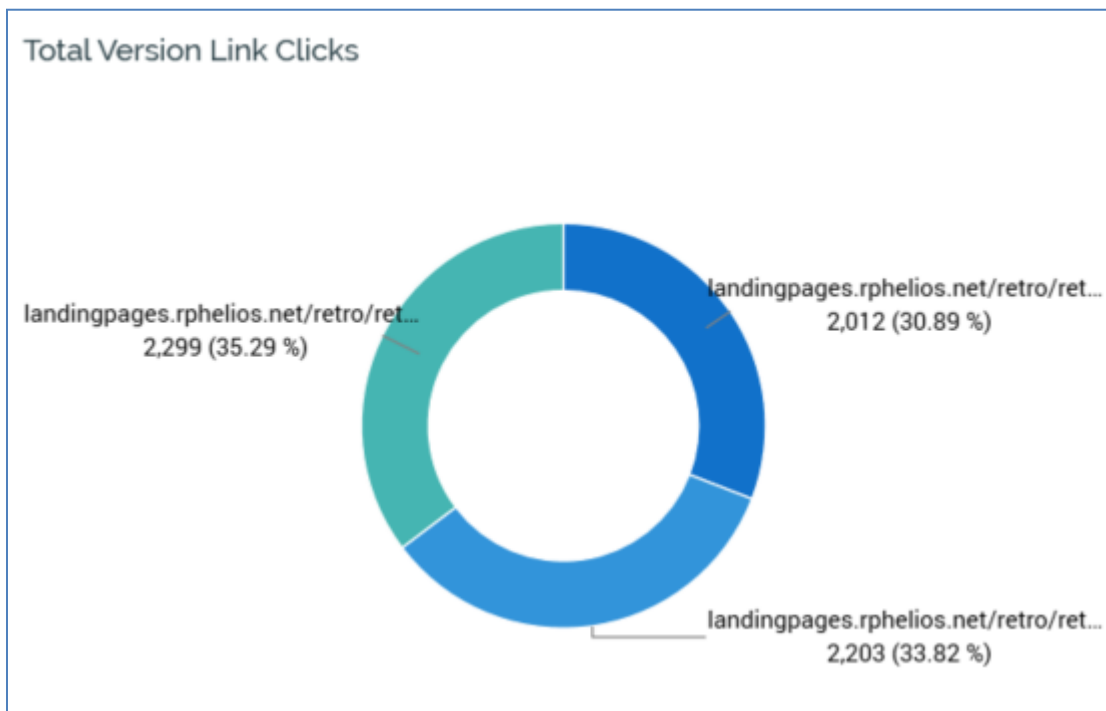
15.20 Link Clicks Over Time

This line chart displays the trend of links being clicked across the selected date range.



15.21 Total Version Link Clicks

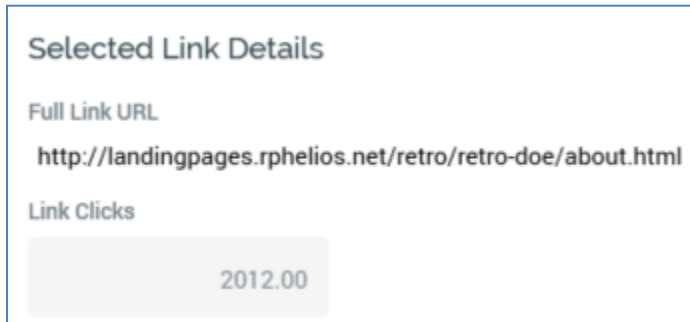
This pie chart displays details of links clicked.



You can select a segment to populate the Selected Link Details section. Clicking a segment again deselects it.

15.22 Selected Link Details

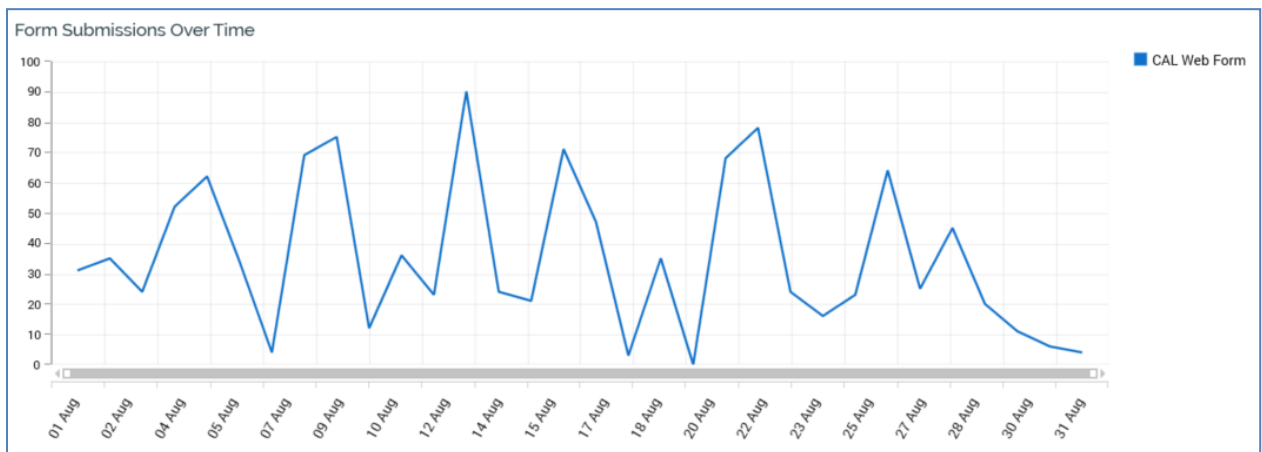
When a pie chart segment is selected, the following read-only link properties are displayed:



- Full link URL: a hyperlink, which you can click to open in your default browser. A context menu, displayed when right-clicking the property, exposes Copy Link To Clipboard functionality.
- Link clicks: the number of times the link was clicked in the current version of the landing page.

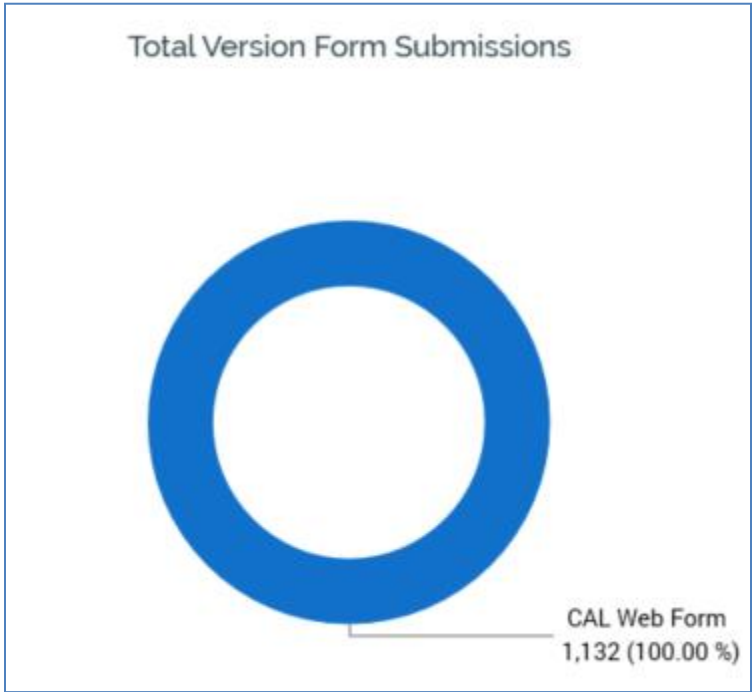
15.23 Form Submissions Over Time

This line chart displays the trend of the web forms being submitted across the selected date range.



15.24 Total Version Form Submissions

This pie chart displays details of submitted web forms.



You can select a segment to populate the Selected Web Form Details section.

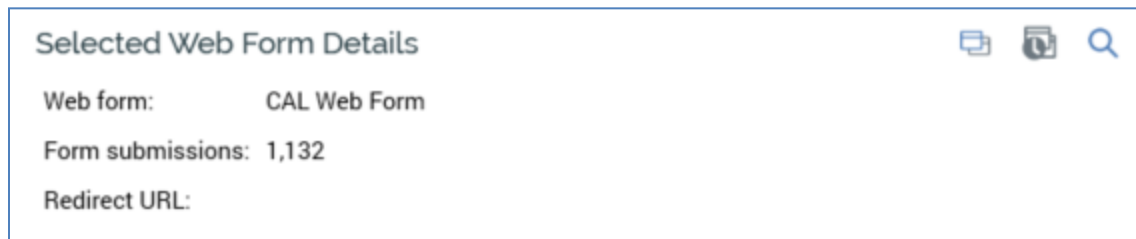
15.25 Selected Web Form Details

This section is displayed when the Web Forms node is selected at the treeview.

When a segment in the Total Version Form Submissions pie chart is not yet selected, a message is displayed:



When a pie chart segment is selected, the following are displayed:

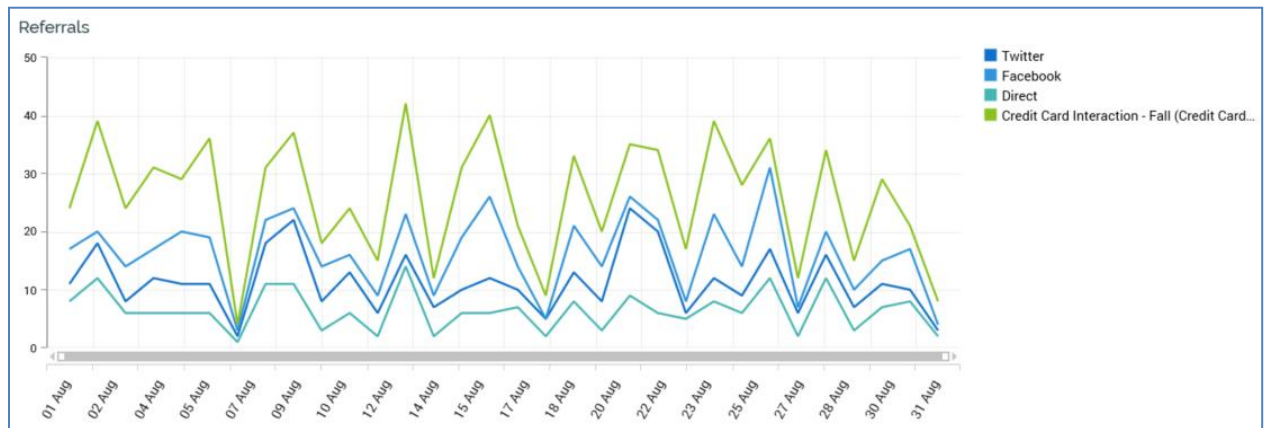


The accompanying menu exposes the following options:

- Open Latest Version: you can click this button to open the web form in the Asset Designer.
- Web form: the name of the RPI web form file.
- Form submissions: the number of times the web form was submitted in the current version of the landing page.
- Redirect URL: a hyperlink, which you can click to open in your default browser. A context menu, displayed when right-clicking the property, exposes Copy Link To Clipboard functionality.

15.26 Referrals

This line chart displays referrals over time.

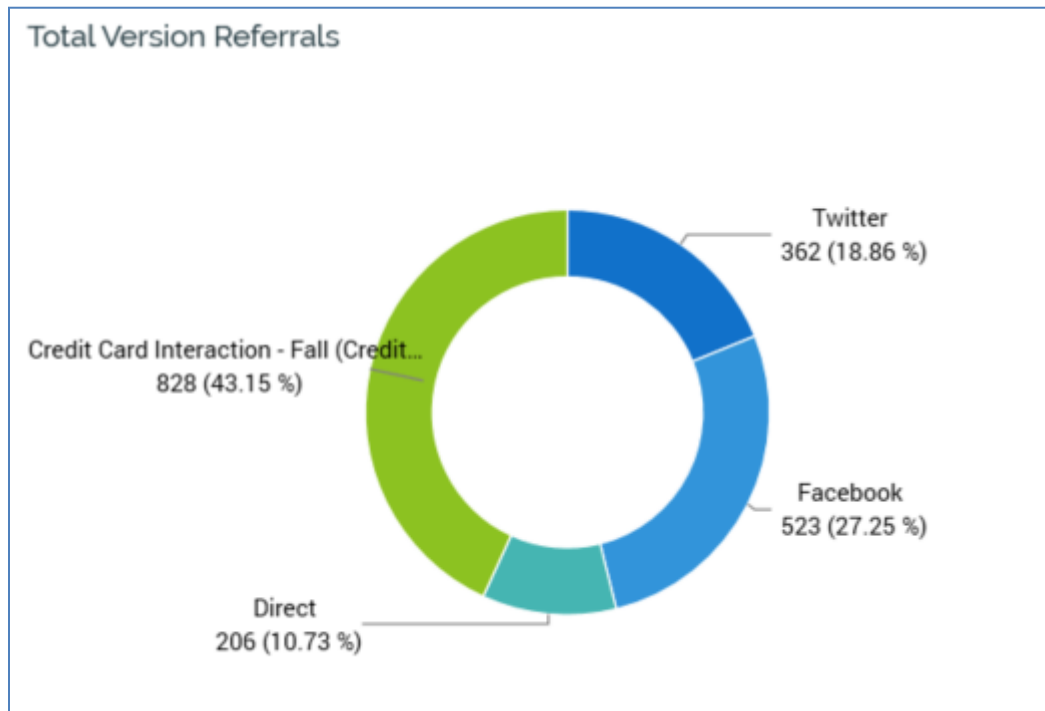


The following information is displayed at its legend:

- If referred from a web page, the URL is shown.
- If referred from an RPI offer or broadcast, '[Interaction Name] ([Offer Activity Name] / [Offer Activity Channel Name])' is shown. Note that outbound or broadcast channels must be associated with a web events or Matomo adapter for referral results to be captured.
- If referred directly from a social post, the following are displayed (as appropriate):
 - 'Facebook'
 - 'Twitter'
- If visitors were not referred, 'Direct' is shown.

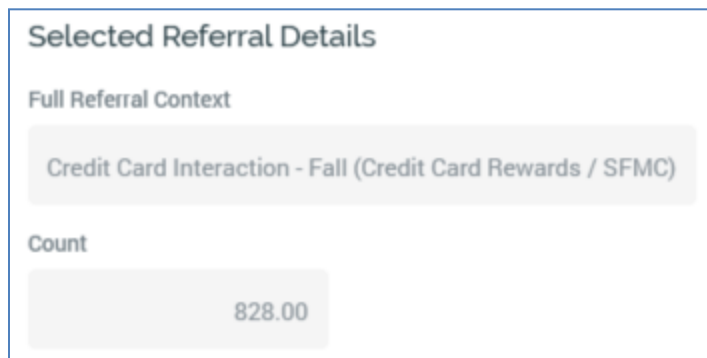
15.27 Total Version Referrals

This pie chart displays the breakdown of contexts from which visitors were referred.



15.28 Selected Referral Details

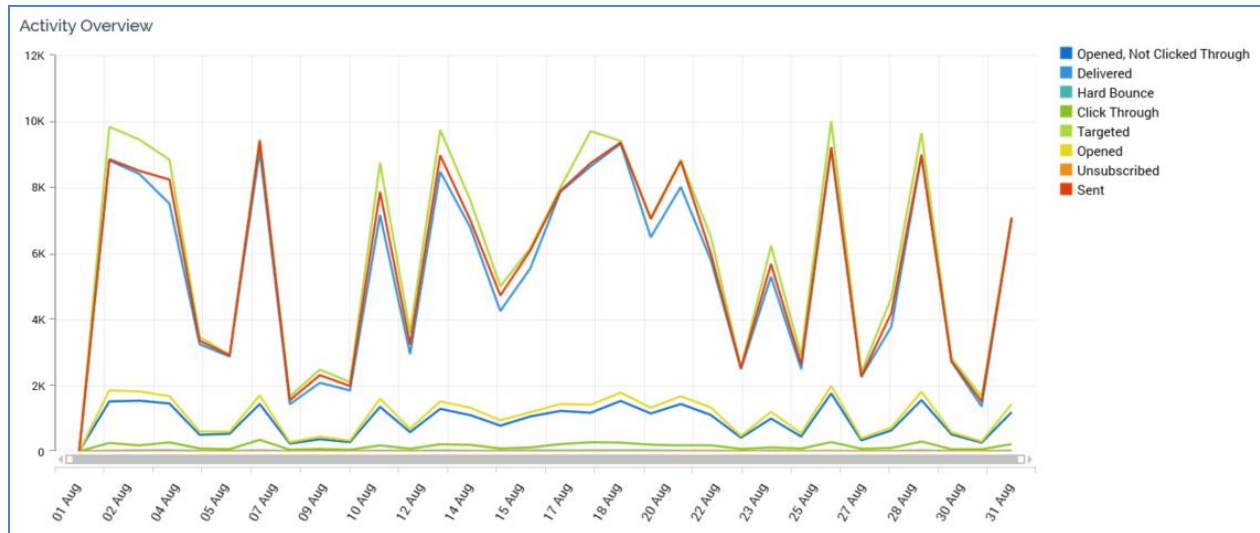
This section is displayed when the Referrals node is selected in the treeview, and a segment is selected in the Total Version Referrals pie chart.



It displays the Full referral context represented by the pie segment, along with a count of visitors referred from the same.

15.29 Activity Overview

This line chart is displayed when an interaction activity is selected in the treeview. It displays results for the selected activity over time.



15.30 Landing Page - Default Content

This section is only displayed when a landing page version is displayed in the Realtime Details report. It displays a screenshot of the rendered landing page, with any default content rendered therein. Note that the screenshot's availability is contingent on the landing page's Generate preview checkbox having been checked at the time of its being published.

A button is displayed to the top right of the section:

- Show/hide Dynamic Content locations on this Landing Page: clicking this button displays a numbered overlay over each smart asset included within the landing page.

15.31 Utilization Over Time

This line chart displays the trend of content served by the smart asset being rendered, by landing page version, across the selected date range.

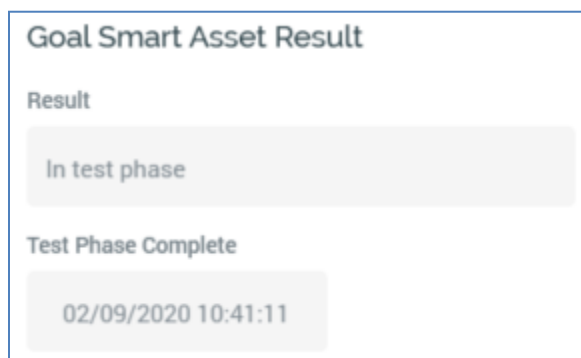
A tooltip is shown when you hover over the chart, at which are displayed the landing page versions in which the smart asset was used, along with a count of impressions of the smart asset at a given date.

15.32 Utilization

This pie chart that displays the landing pages in which content was served by a smart asset, as a proportion of all impressions.

15.33 Goal Smart Asset Result

This section is shown to the bottom left of the Realtime Details report when a landing page version is displayed therein, and a goal smart asset is selected in the treeview.



It displays the following:

- Result: this property displays the most recent result of the goal smart asset's being tested:
 - In test phase.
 - No Winner: indicates that the most recent test was unable to establish a winning content element.
 - Winner selected: indicates that one content element was determined to be statistically significantly better than the alternatives.
- Winning asset: the name of the winner is displayed. You can navigate to the asset's latest version using the button supplied.
- Information: provides additional detail to help qualify the result.
- Last evaluation: date/time

- Next evaluation: date/time
- Test phase complete: date/time

15.34 Message Impressions By Variant

This bar chart lists an advanced smart asset's variants.

For each, the count of message impressions (plus impressions of the default variant content) for the current smart asset version is displayed.

15.35 Message Impressions By Variant Over Time

This line chart displays the count of impressions of each message at each variant (plus each variant's default content) over time.

15.36 Message Impressions Over Time

This line chart displays the count of message impressions (plus impressions of default content) at the selected variant, across time.

15.37 Message Impressions

This pie chart displays the count of rendered message impressions at the current variant.

The count of impressions of the variant's default content can also be shown (if appropriate).

15.38 Selected Variant Preview

This section displays a preview of the message content selected within the Message Impressions pie chart.

When a pie chart segment is not yet selected, a message is shown:

When a pie chart segment is selected, a preview of the selected content is displayed.

The following buttons are available in respect of the content element:

- Open latest version of the advanced smart asset
- Open this version of the advanced smart asset
- View file information...

16 Single Customer View

The Single Customer View interface allows you to search for records from the data warehouse – typically customers – and then choose one of the records to view in detail in the Single Customer View interface,

Note that the Single Customer View is supported in both SQL and NoSQL mode.

The screenshot displays the Redpoint Interaction Single Customer View for Client A. The interface is divided into several sections:

- Customer Attributes:** A table listing customer details such as CustomerKey (11,000), First Name (Jiminyx), Last Name (Hinder), English Education (Bachelors), English Occupation (Professional), YearlyIncome (£80,000.00), and Email Address (jim.hinder@redpointglobal.com).
- Sales Group:** A table with columns PK, Sales Order Number, Sales Order Line Number, and List Price. It lists several sales orders, including SO43793 and SO57418.
- Events Timeline:** A list of events related to the customer, such as 'Targeted by Control in 332', 'Visited https://landingpages.rphelios.net/SmartAssetLandingPage.htm', and 'Decision made for RDR ASA'.
- Selected Event Details:** A detailed view of a specific event, showing its Type (Fulfillment state), Timestamp (27/08/2020 09:56:51), Activity name (Data Extract Offer), State name (Foo One), File (332), Channel (Data Extract), and Delivery method (Data Extract).

The interface can display:

- Properties relating to the selected customer.
- Details of records related to the customer – e.g. her products purchased or transactions made.
- A timeline of events related to the selected customer (including his having been targeted by interaction activities, having assumed a fulfillment state (e.g. 'Opened Email'), having visited a landing page and having been the subject of a realtime decision).
- Expanded details of the currently-selected event (including the ability to navigate to a related file).

Note that the Single Customer View is not just limited to the display of customer records...depending on your particular requirements, it might be set up to display details of other entities, such as prospects or accounts.

Note also that the Single Customer View is not available when working in a NoSQL environment.

16.1 Invoking the Single Customer View

You can invoke the Single Customer View in the following ways:

- From a widget. More details are provided in the Dashboard Designer documentation. Selecting the Single Customer View option displays the interface in a new tab in RPI. You can open more than one Single Customer View at the same time, if required.
- From the same option, exposed within the quick access menu

Note that access to the Single Customer View is controlled via the Single Customer View functional permission. If none of the user groups of which you are a member are associated with this permission, you will not be able to access the Single Customer View.

16.2 Closing the Single Customer View

You can close the Single Customer View at any time by closing the tab within which it is displayed, or by shutting down RPI itself.

16.3 Single Customer View Basics

The Single Customer View is displayed in a separate tab in the RPI framework.

It consists of the following elements:

- Search overlay
- Toolbar
- Attribute Groups
- Events Timeline
- Selected Event Details

Each of these is documented separately.

16.4 Search Overlay

The Search overlay is displayed on initial invocation of the Single Customer View, and subsequently when the Search button is clicked in the main interface.

The Search overlay interface consists of a search form and a search results section. The search form has the following fields:

- CustomerKey: 11000
- First Name: [Empty]
- Last Name: [Empty]
- English Education: [Empty]
- English Occupation: [Empty]
- YearlyIncome: [Empty]

Buttons: Clear, Search

Search Results

CustomerKey	First Name	Last Name	English Education	English Occupation	YearlyIncome
11,000	Jiminyx	Hinder	Bachelors	Professional	

Buttons: Cancel, Choose

It allows you to specify one or more search criteria, then execute a search for records matching those criteria. If one or more matching records is found, they are listed in the Search Results section, from where you can choose a single record in respect of which to view details in the main Single Customer View interface.

The Search overlay contains a toolbar, search criteria fields and Search Results sections. Each is described separately.

16.4.1 Toolbar

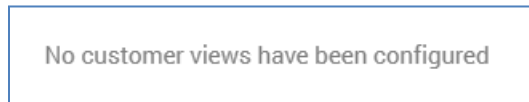
The Search overlay toolbar exposes the following options:



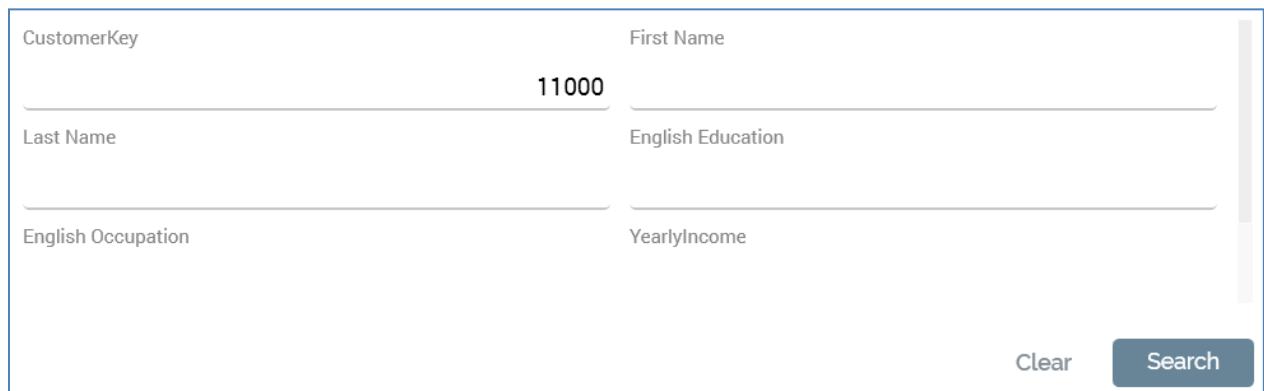
- **View:** this dropdown facilitates selection of a customer view. A customer view defines the set of search criteria that can be used to search for records and, having located a record to show in the main Single Customer View interface, the properties to be displayed for the chosen record. It is set to the default customer view, if one exists, else to the first customer view in the list. Note that customer views are managed within their own dedicated configuration interface.
- **Scope:** this dropdown facilitates selection of an attribute group within the selected customer view that will be used to provide the set of search criteria fields. It is set by default to the attribute group that is defined as the Default search scope.

16.4.2 Search Criteria

If the Single Customer View is invoked without any customer views having been defined, a message is shown at the Search Criteria section within the Search overlay:



The fields displayed within the search criteria section are defined by the selected View and Scope property values. Data type masks are provided as appropriate. Note that searches are case-dependent, and that the use of wildcard characters (e.g. '%') is not required.

A search criteria form with six input fields arranged in a 3x2 grid. The top-left field is labeled 'CustomerKey' and contains the value '11000'. The top-right field is labeled 'First Name'. The middle-left field is labeled 'Last Name'. The middle-right field is labeled 'English Education'. The bottom-left field is labeled 'English Occupation'. The bottom-right field is labeled 'YearlyIncome'. At the bottom right of the form are two buttons: a 'Clear' button and a 'Search' button.

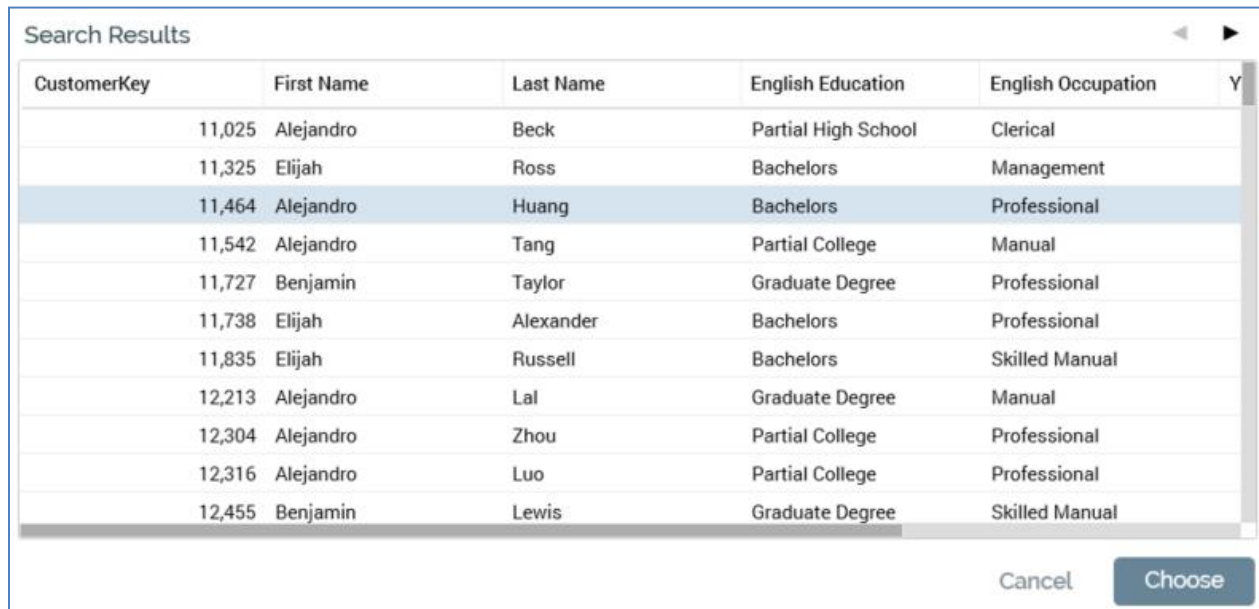
In addition, two buttons are shown below the search criteria:

- **Clear:** this button is enabled on a value being entered in a search criterion field. Clicking it removes from display all entered search criteria, as well as Search Results (if any are shown).

- Search: this button is enabled on a value being entered in a search criterion field. Clicking it displays a 'Refreshing' icon at the Search Results section and creates a Customer View Search job (note that the My Jobs dialog is not displayed). Once the job has completed, any matching search results are displayed in the Search Results section. If no results are found, a message is displayed instead.

16.4.3 Search Results

This section is initially blank. It is populated using the Search button, displayed below the search criteria. When results are shown, they are displayed in a grid, and are ordered by resolution key.



CustomerKey	First Name	Last Name	English Education	English Occupation	Y
11,025	Alejandro	Beck	Partial High School	Clerical	
11,325	Elijah	Ross	Bachelors	Management	
11,464	Alejandro	Huang	Bachelors	Professional	
11,542	Alejandro	Tang	Partial College	Manual	
11,727	Benjamin	Taylor	Graduate Degree	Professional	
11,738	Elijah	Alexander	Bachelors	Professional	
11,835	Elijah	Russell	Bachelors	Skilled Manual	
12,213	Alejandro	Lal	Graduate Degree	Manual	
12,304	Alejandro	Zhou	Partial College	Professional	
12,316	Alejandro	Luo	Partial College	Professional	
12,455	Benjamin	Lewis	Graduate Degree	Skilled Manual	

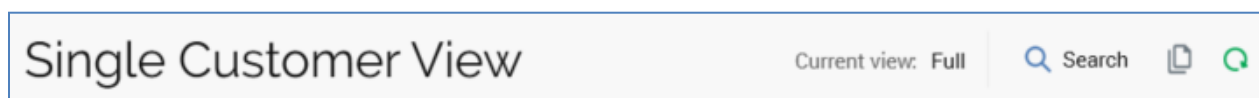
The columns shown are defined by the selected Scope. Paging is supported, with Previous/Next page buttons providing access to the same (the page size is set to 50)

Two buttons accompany the Search Results grid:

- Cancel: clicking this button removes the Search overlay from display and displays an empty Single Customer View interface.
- Choose: this button is enabled when a Search Results record is selected. Invocation removes the Search overlay from display and creates a Customer View job (note that the My Jobs dialog is not displayed). Once the job has completed, the chosen record is displayed in the main Single Customer View interface. Double-clicking a search result has the same effect as clicking Choose.

16.5 Toolbar

The Single Customer View toolbar exposes the following options:



- Current View: a read-only representation of the customer view selected in the Search overlay, which provided the properties now displayed in the Single Customer View.

- Search: clicking this button redisplay the Search overlay.
- Copy results to clipboard: clicking this button copies all of the information displayed in the Single Customer View to the clipboard.
- Refresh: clicking this button creates a Customer View job in respect of the currently-selected record and displays the record's most up-to-date details on its completion.

16.6 Attribute Groups

This section displays values for the current record for each of the attribute groups (Properties list and/or Table) defined in the current customer view.

If the Search overlay was cancelled prior to choosing a record, a message is displayed instead:

Please click Search to locate a record to view

If a record is displayed, each attribute group is displayed in the order defined at the customer view. All data is read-only and formatted appropriately. The name of each attribute group is displayed at the top of each.

If the attribute group is shown as a Properties list, it contains a list of properties displayed in the order defined at the attribute group:

Customer Attributes	
CustomerKey	11,000
First Name	Jiminyx
Last Name	Hinder
English Education	Bachelors
English Occupation	Professional
YearlyIncome	£80,000.00
Email Address	jim.hinder@redpointglobal.com

If the attribute group is to be used to list related records (e.g. details of transactions or products purchased by a customer), it can be shown as a Table.:

Sales Group

PK	Sales Order Number	Sales Order Line Number	List Price
88	S043793	1	£3,399.99
6,368	S051522	1	£2,319.99
6,369	S051522	2	£21.98
19,113	S057418	1	£2,384.07
19,114	S057418	2	£28.99
19,115	S057418	3	£4.99
19,116	S057418	4	£34.99
19,117	S057418	5	£53.99

A series of records is displayed, with the columns and order thereof being as defined at the attribute group in the customer view. The maximum number of related records that can be displayed in a table attribute group is defined by its Maximum number of rows property.

16.7 Events Timeline

This section displays, in reverse chronological order, all instances of the current customer's having been touched using a medium known to RPI.

Events Timeline	
↓ Foo One Data Extract Offer	27/08/2020 09:56:51 ^
📄 Targeted by Control in 332	27/08/2020 09:53:49
↓ Targeted by Data Extract Offer in 332	27/08/2020 09:51:31
📄 Targeted by Control in 352	26/08/2020 19:49:25
🌐 Visited https://landingpages.rphelios.net/SmartAssetLandingPage.htm	21/08/2020 10:26:27
🌐 Decision made for RDR ASA	21/08/2020 10:26:27
🌐 Decision made for Realtime in Outbound Rule Smart Asset	21/08/2020 10:26:27
🌐 Visited https://landingpages.rphelios.net/SmartAssetLandingPage.htm	21/08/2020 09:52:10
🌐 Decision made for GoalSA01	21/08/2020 09:52:10
🌐 Decision made for RDR ASA	21/08/2020 09:52:10
🌐 Decision made for Realtime in Outbound Rule Smart Asset	21/08/2020 09:52:10
🌐 Visited https://landingpages.rphelios.net/SmartAssetLandingPage.htm	20/08/2020 17:16:22
🌐 Decision made for GoalSA01	20/08/2020 17:16:22

The following event types are shown:

- Fulfillment activity: representing a customer having been targeted by a Production fulfillment activity (e.g. an offer, export or control) within an interaction. The following is displayed at a fulfillment activity:

'Targeted by [Activity name] in [Interaction name]'

- Fulfillment state: representing a customer assuming a fulfillment state following being targeted by a fulfillment activity. For example, a user would assume the 'Opened' state following receipt, and opening, of an email offer. The following is displayed at a fulfillment state:

'[Fulfillment state] [Activity name]'

Note that only explicitly-assumed states stored in Offer History States (such as Opened, Clicked Through, etc.) are shown in the Events Timeline.

- Page visit: representing a customer having visited an RPI landing page. The following is displayed at a page visit:

'Visited [URL]'

- Realtime decision: representing a customer having been the subject of a realtime decision (effected via a smart asset). A realtime decision event is also created in respect of the customer having been the subject to a call to an RPI file via the RPI Realtime API. The following is displayed at a realtime decision:

'Decision made for [Asset name]'

Note that page visit and realtime decision events are only listed when the currently-selected customer view's Enable realtime lookup property is checked.

16.8 Selected Event Details

The section displayed to the right of the Events Timeline displays additional details of the currently-selected event. The following properties can be displayed:

- Type: one of the following:
 - Fulfillment activity
 - Fulfillment state
 - Page visit
 - Realtime decision
 - Decision result
- Timestamp
- Activity name: only shown if a Fulfillment activity or Fulfillment state event.
- State name
- State detail
- File: the type of file shown is dependent on the type of event:
 - If a Fulfillment activity or Fulfillment state, the related interaction is shown.
 - If a Page visit, the related landing page is shown.
 - If a Realtime decision, the related smart asset is shown.

For each file, you can invoke the following functionality using the buttons provided:

- Open latest version
- Open file location
- Asset Preview: shown only if a Realtime decision event, this property displays a representation of the content that was rendered to the user.
- Channel: shown only if a Fulfillment activity or Fulfillment state event.
- Realtime decision type: shown only if a Realtime decision event.
- Delivery method: the value displayed is dependent on the type of event shown:
 - If a Fulfillment activity or Fulfillment state, the related interaction activity's delivery method is shown.
 - If a Page visit, delivery method is set to 'Web Page'.

- If a Realtime decision, delivery method is set to 'Realtime'.

17 File Approval

RPI optionally supports approval processes for two file types (offers and interactions).

- When approval is enabled for offers, you cannot execute an offer activity based on an offer that does not have an approved version. If the current version of an offer is not approved, but a previous approved version exists, the latter will be used at offer activity execution.

(For details of versioning within the RPI file system, please see the RPI framework documentation.)

- When approval is enabled for interactions, you cannot execute an interaction workflow in production mode unless the interaction within which it exists is approved.

Approval of a file can be requested by any user, but only those users designated as approvers have the ability to approve or deny approval in respect of a file. The rules governing the requirements for approval of a given file type are configured on a file type-by-file type basis.

A number of approval statuses support the RPI file approval process:

- Not approved
- Approval requested
- Awaiting approval
- Approved
- Approval denied

Each of these is documented separately.

File approval touches upon a number of areas, each of which is also documented separately:

- File System – Approve File functional permission
- File Type Approval configuration interface
- Approval panel
- Manage File Approval dialog
- Interaction Designer – file approval ramifications
- File Approval widget
- Operations Interface – Approval Summary tab
- Approval auditing

17.1 Approve File Functional Permission

The File System – Approve File functional permission is available when configuring user groups in the User Groups configuration interface.

It is used to grant to users the ability to approve files. If a user is a member of a user group associated with the functional permission, and that user group is in turn associated with the file type approval record for a given file type, then that user is deemed to be an approver for the file type in question. He or she may approve files of that type and deny approval in respect of the same.

Note that the ability to request approval of a file is not controlled by this functional permission, being open to all RPI users.

17.2 File Type Approval Configuration Interface

A dedicated configuration interface (File Type Approval) is provided in the Configuration Workbench. Its purpose is to control whether file approvals are enabled or disabled for the file types for which approvals are supported (currently limited to offers and interactions), and also to define the approval criteria that govern each.

File Type Approval

File Type	Approval Type	Enabled	State
Interaction	User group	<input type="checkbox"/>	Unchanged
Offer	User group	<input checked="" type="checkbox"/>	Unchanged

Selected File Type Approval Details

File type: Offer The type of file that supports approval

Approval type: User group The approval process used to perform approvals on this file type

Enabled: Specifies whether approvals are enabled for this file type

Require staged offers: Require email offers to be staged for review before they can be approved

User groups: The groups used to source the list of approvers

Choose User Groups

System Administrators

Approve file when:

Everyone in the user group(s) must approve

At least the following number of users approve:

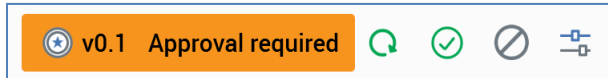
user(s)

Allow self-approval: If checked, file approval requester can also approve file

Full details of the interface can be found in the Configuration Workbench documentation.

17.3 Approval Panel

The approval panel is the primary mechanism by which file approval is requested, granted and denied.



It is found to the right of the toolbar in the Interaction and Offer Designer.

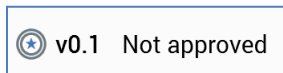
The approval panel is displayed when approval is enabled for the file type in question, once a file has been saved for the first time.

The approval panel consists of the following elements:

17.3.1 Approval Status

The color used provides an indication of the current file version's approval status. The panel's background appears:

- White if approval status is Not approved:



- Orange if approval status is Awaiting approval or Approval required:



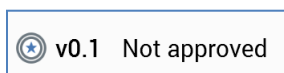
- Green if approval status is Approved



- Red if approval status is Approval denied

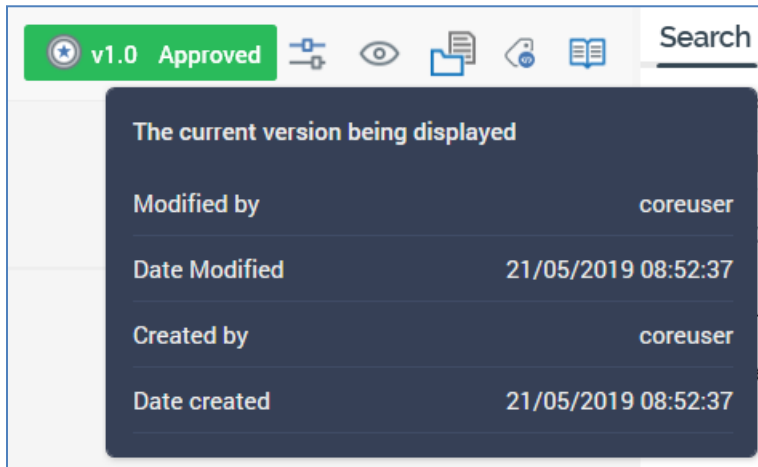
17.3.2 Current Version

Details of the current version of the file being displayed are always shown in the main and mini approval panels.



In the main panel, an icon indicates the file's type. The current version number is shown, as is the file's current approval status.

A tooltip is shown when you hover over the version number:



17.3.3 Open Latest Approved Version

This is displayed at the main approval panel when the version of the file currently being viewed is not approved, and another, approved version of the file exists (if several approved versions exist, the most recent is referenced in this context).

If you are viewing an offer, Open latest version is a button, and you can click it to open the latest approved version of the offer in a new Offer Designer instance (note that it is not possible to open a previous version of an interaction, and, as such, a non-clickable icon is shown instead of a button in the Interaction Designer). If the version of the offer in question is already displayed, it receives the focus.

17.3.4 Open Latest Version

This button applies to offers only and is displayed at the main approval panel when the version currently being viewed is not the latest, and the latest version of the file is not approved.

Clicking the button displays the latest version of the offer in a new Offer Designer instance. If the version of the offer is already displayed, it receives the focus.

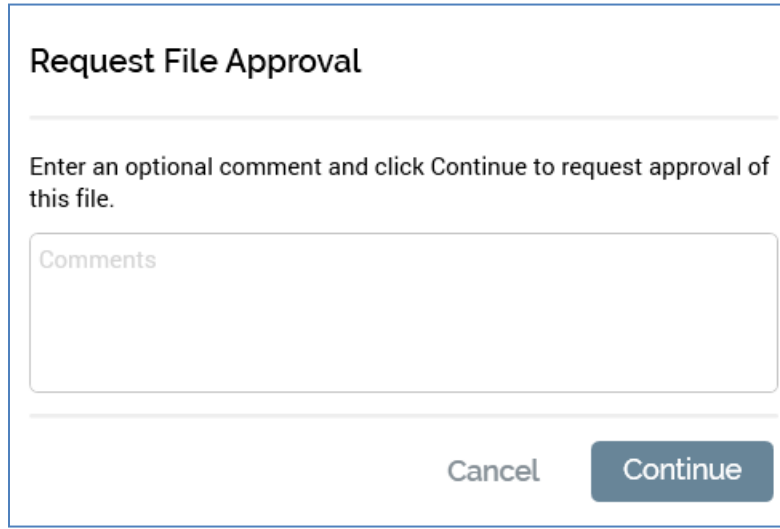
17.3.5 Request Approval

This button allows you to initiate the file approval process for the file you are currently viewing.



The button is displayed when the file has been saved and no outstanding changes exist within it. If you attempt to invoke Request Approval when the file is invalid, a warning message is displayed.

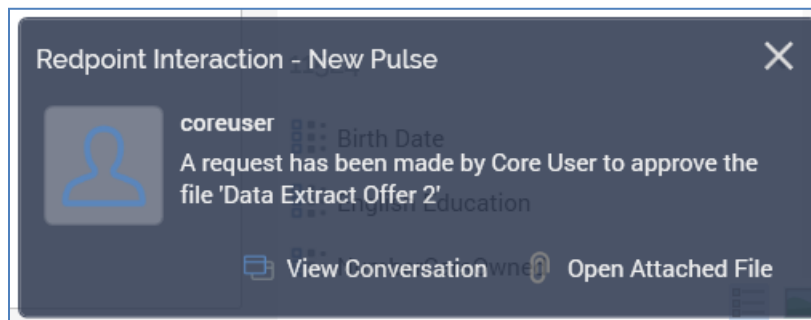
Invocation of Request Approval displays the Request File Approval dialog.



The image shows a dialog box titled "Request File Approval". It contains a text input field labeled "Comments" and two buttons at the bottom: "Cancel" and "Continue".

If you wish, you can enter an optional comment to accompany your file approval request (the comment can be a maximum of 1000 characters in length).

You can then click Continue, which sets the file's status to Awaiting approval, and displays the Revoke Approval button. A direct pulse notification is sent to all potential approvers (notifications are not sent if system configuration setting EnablePulseMessages is set to False). If a potential approver is logged in, he or she receives a desktop notification.



Note that, from the potential approver's perspective, the file's approval status is Approval required.

An email notification (entitled 'Approval request') is also sent to all potential approvers:

'A request has been made by [Approval requester] to approve the file '[filename]'

'[Comments]'

'File details:'

'Server'

'File name'

'File type'

'Version'

'Online approval link'

'Links For Review'

If an email offer was staged at its approval request, the email also contains a Links for Review section, which lists each staged file's URL. The recipient can click each hyperlink to review the email's content in his or her default browser. The same section is also included in the email sent on a file's approval being re-requested.

If the file type's approval criteria are defined such that they cannot be met (due to there being an insufficient number of users in the pool of potential approvers), a warning message displayed ('There are insufficient users to meet the minimum required approvers configured for this approval type').

If you elect not to proceed with launching the file approval process, you can click Cancel, which removes the dialog from display without proceeding with the approval request.

17.3.6 Revoke Approval

This button is used to cancel a request for approval made by the current user.



The button is displayed when the file's approval status is Awaiting approval, and when approval was requested by the current user.

Invocation of Revoke Approval displays the Revoke File Approval Request dialog.

Revoke File Approval Request

Revoke File Approval Request

Comments

Cancel Continue

If you wish, you can enter an optional comment to accompany your file approval revocation request (the comment can be a maximum of 1000 characters in length).

You can then click Continue, which sets the file's status to Not approved and displays the Request Approval button. A direct pulse notification is sent to all potential approvers (notifications are not sent if system configuration setting EnablePulseMessages is set to False). If a potential approver is logged in, he or she receives a desktop notification.

An email notification (entitled 'Approval request cancelled') is also sent to all potential approvers:

'The request to approve the file [filename] has been cancelled by [Approval requester]: [Comments]'

'File details:'

'Server'

'File name'

'File type'

'Version'

'Online approval link'

Note that, if you attempt to revoke an approval request in respect of a file with an approval status that has changed to other than Awaiting approval, a warning message is displayed:

'The file is no longer in a state to cancel the approval request. Your approval status may need to be refreshed'.

If you elect not to proceed with revoking the file approval request, you can click Cancel, which removes the dialog from display.

17.3.7 Resend Request

This button is used to remind those potential approvers who have yet to respond that approval of a file remains outstanding



The button is displayed when the file's approval status is Awaiting approval. Note that you do not have to have initiated a file's approval in order to invoke Resend Request.

Invocation of Resend Request displays the Revoke File Approval Request dialog.

Resend File Approval Request

Enter an optional comment and click Continue to resend the approval request for this file to approvers who have not yet responded.

Cancel Continue

If you wish, you can enter an optional comment to accompany your resending of the file approval request (the comment can be a maximum of 1000 characters in length).

You can then click Continue, which sends a direct pulse notification to all potential approvers (notifications are not sent if system configuration setting EnablePulseMessages is set to False). If a potential approver is logged in, he or she receives a desktop notification.

An email notification (entitled 'Approval request') is also sent to all potential approvers:

'This is a reminder from [Approval requester] that the file [filename] is awaiting approval]:
[Comments]'

'File details:'

'Server'

'File name'

'File type'

'Version'

'Online approval link'

If you elect not to proceed with sending the reminder, you can click Cancel, which removes the dialog from display.

Note that Resend Request need not be invoked by the user who originally requested the file's approval – it could, for example, be used to send a reminder by an approver to another approver whose approval remains outstanding.

17.3.8 Approve

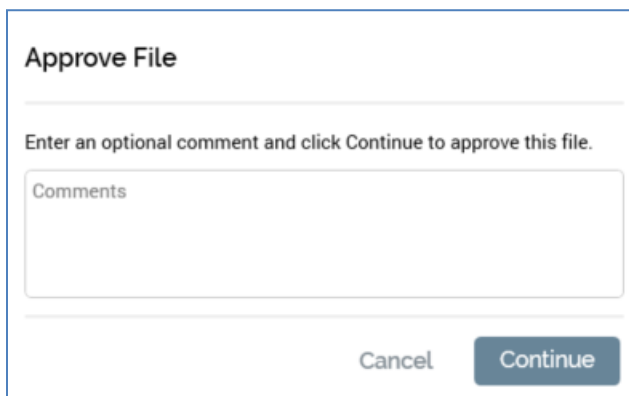
This button allows you, as an approver, to grant your approval in respect of the file you are currently viewing



The button is displayed when the file's Approval status is Approval required. The current user must be a member of a user group associated with the File System - Approve File functional permission, and the user group must be associated with the File Type Approval record for the file in question.

Note the list of a file's potential approvers is set at the point at which the approval request is made. If changes to the pool of candidate approvers occur, it is necessary to cancel the original approval request and re-request approve to ensure the changes are taken into account.

Invocation of Approve displays the Approve File dialog.



If you wish, you can enter an optional comment to accompany your approving the file (the comment can be a maximum of 1000 characters in length).

On clicking Continue, the file's approval status is updated:

- If all of the file's approval criteria are satisfied, its approval status is set to Approved. The file's version is incremented to the next major version (e.g. a file previously at version 0.1 becomes version 1.0...note that a new version is not created at this point, as the file itself has not changed, and, as such, version 0.1 is no longer accessible).
- If a file's approval criteria not satisfied, its approval status is set to Awaiting approval.

A direct pulse notification is sent to all other potential approvers (notifications are not sent if system configuration setting EnablePulseMessages is set to False). If a potential approver is logged in, he or she receives a desktop notification.

An email notification is also sent to all potential approvers:

If all file approval criteria are satisfied:

'The file '[filename]' has been approved'

If file approval criteria are not satisfied:

'[Approver] has approved the file [filename]'

[Comments]

'Now waiting for [n] more approver(s)'

A pulse and advisory email are also sent to the approval requester. In addition to the detail included in the previous pulse message and email, the following are also included:

Approver details

Username

Status

Response date

If you elect not to proceed with granting file approval, you can click Cancel, which removes the dialog from display.

When attempting to approve an email offer when the Offer file type approval's Require staged offers property is checked, the offer must be staged for review prior to being approved. If you attempt to approve an email offer that has not been staged in this context, a warning message is displayed.

17.3.9 Deny

This button allows you, as an approver, to deny approval of the file you are currently viewing



The button is displayed when the file's Approval status is Approval required. The current user must be a member of a user group associated with the File System - Approve File functional permission, and the user group must be associated with the File Type Approval record for the file in question.

Invocation of Deny displays the Deny Approval dialog.

If you wish, you can enter an optional comment to accompany your denial of file approval (the comment can be a maximum of 1000 characters in length).

On clicking Continue, the file's approval status is updated:

- If file type approval criteria can no longer be satisfied (e.g. Everyone must approve or an insufficient approvers remain available), the file's approval status is set to Approval denied.
- If file type approval criteria are still able to be satisfied (i.e. there remain sufficient approvers to meet the approval criteria), its approval status remains at Awaiting approval.

A direct pulse notification is sent to the user who requested approval of the file (notifications are not sent if system configuration setting EnablePulseMessages is set to False). If the user is logged in, he or she receives a desktop notification.

- If the file's approval status was set to Awaiting approval, the pulse states:
'[Approver] has denied the approval of file '[filename]. Waiting for [n] more approver(s)'
- If the file's approval status was set to Approval denied, the pulse states:
'The approval of file [filename] has been denied: [Comments]'

An advisory email (entitled 'File approval denied') is also sent to the approval requester. In addition to the contents of the pulse message, the following are also included:

Approver details

Username

Status

Response date

If you elect not to proceed with denying file approval, you can click Cancel, which removes the dialog from display.

17.3.10 One Click Approval

'One click' file approval is supported, and is enabled when all of the following conditions are satisfied:

- File type approval is enabled for the current file type.
- The current user is a member of an approval user group.
- Self-approval is enabled.
- One of the following conditions is met:
 - Everyone in the approval user group(s) must approve, and the current user is the only member of the group(s).
 - At least the following number of users must approve is set to 1.
- The current user has the File System – One Click Approval functional permission.

If the one click approval conditions are satisfied, on invocation of Request Approval, the Request File Approval dialog is displayed; on clicking Continue at the same, the file's approval status is set immediately to Approved.

If one click approval conditions are not satisfied, the file's approval status is set to Awaiting approval.

17.3.11 Dependent Files Changed Warning Indicator

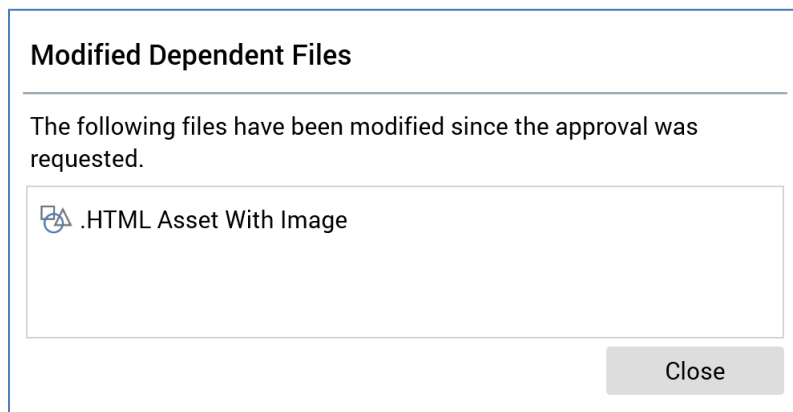
A warning triangle indicator is used to advise you that a file upon which the current file depends has been saved since approval was requested for the current file.



The warning indicator is displayed in the following circumstances:

- The current offer version contains one or more assets, smart assets or attributes that have been modified since the offer was approved.
- The interaction contains one or more offers containing assets, smart assets or attributes modified since the interaction was approved, or one or more other files (e.g. audiences) modified since the interaction was approved.

Clicking the triangle displays the Modified Dependent Files dialog.



Modified dependent files are listed. For each, the following are displayed:

- Icon
- Name

When you hover over a dependent file, an Open latest version button is displayed. Invocation thereof displays the file in question in an appropriate designer (unless non-navigable (e.g. an attribute)).

When you are viewing an email or SMS offer containing modified dependent files, viewing a preview of the final offer content takes into account the latest state of the modified dependent files. However, you can also invoke Open latest approved version to view the offer content at the time of approval (note that the resultant offer version will have the same version number as the current version, even though the rendered content differs).

17.3.12 View/Manage the Approval of this File

This button is shown to the right of the main approval panel:



Invocation displays the Manage File Approval dialog (covered separately).

17.3.13 Implicit Approval Cancellation

If you change and save file with an Awaiting approval approval status, a direct pulse notification is sent to its potential approver(s) (notifications are not sent if system configuration setting EnablePulseMessages is set to False).

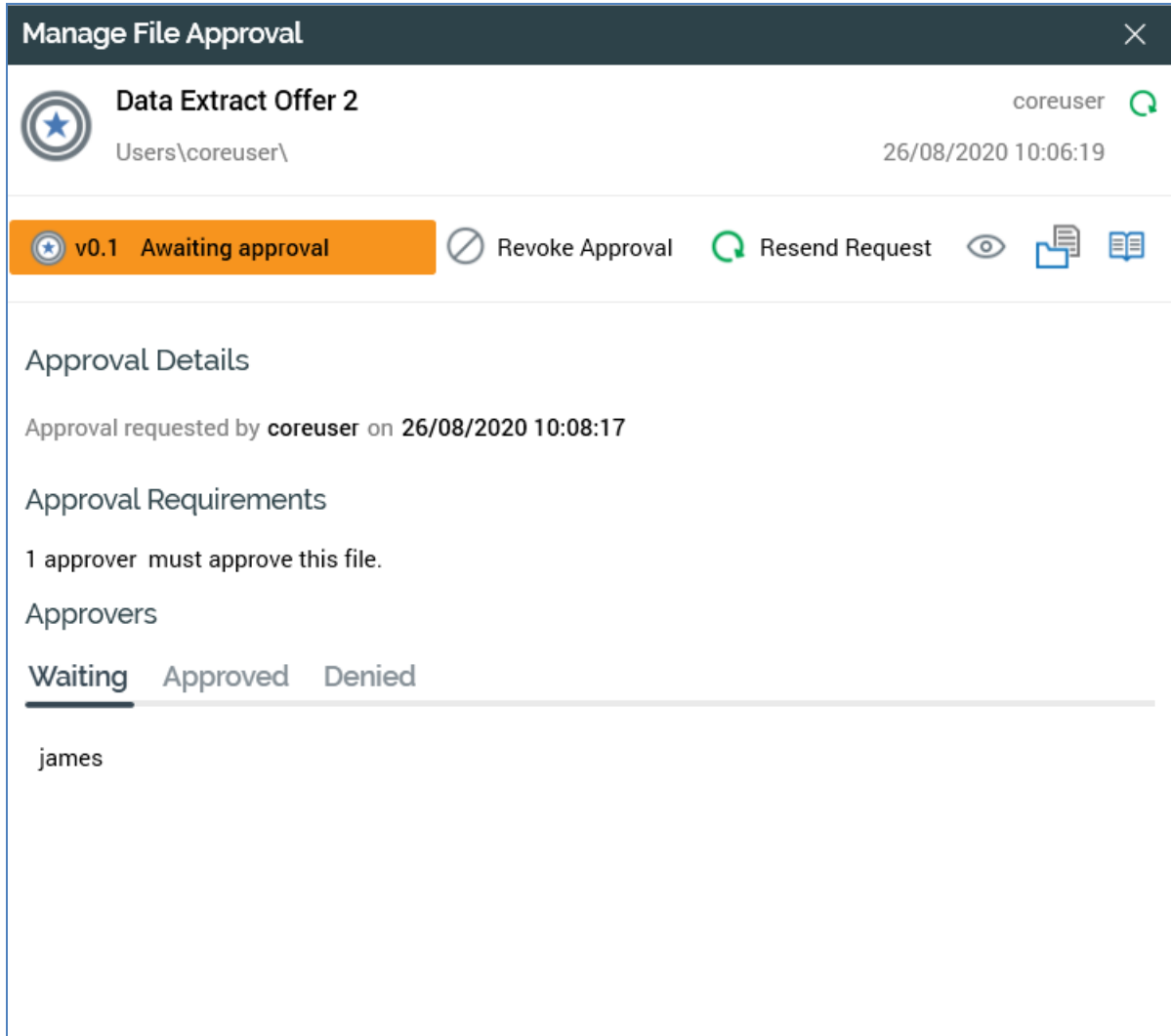
An email (entitled 'Approval request cancelled') is also sent.

17.3.14 Auto-Refresh

The approvals panel is auto-refreshed every 10 seconds, meaning that a user who requested a file's approval can be automatically made aware of a change in its approval status if the file is currently open.

17.4 Manage File Approval Dialog

The Manage File Approval dialog is accessed via the View/manage approval of this file button, shown to the right of the approval panel.



It is a non-modal dialog that provides a summary of the current approval status of the file in respect of which it was invoked. The dialog contains the following:

17.4.1 Refresh Approval Status

A Refresh button is shown to the top right of the dialog.



Clicking it immediately updates the file's approval status as displayed at the Manage File Approval dialog, and, if open, also in the underlying designer in which the file version shown in the dialog is displayed.

17.4.2 File Details

This section contains the following read-only information:

- File type icon
- File name
- Folder path
- Created by (user)
- Date created

17.4.3 Approval Panel

A simplified version of the approval panel (as displayed to the right of the Offer and Interaction Designer toolbar) is displayed below the file details section in the Manage File Approvals dialog. It behaves as its equivalent displayed in those contexts, with the following exceptions:

- The Open latest approved version and Open latest version buttons are not displayed.
- The View/manage the approval of this file button is not displayed.
- In contrast with the approval panel shown at the designer toolbars, if you invoke an approval action (such as requesting a file's approval) from the dialog's approval panel, you are not precluded from doing so if outstanding changes are present within the currently displayed version of the file. For example, you cannot initiate approval of an offer containing an unsaved change from the Offer Designer approval panel; however, you can do so from the Manage File Approval dialog (in this case the approval is carried out in respect of the version of the file as shown in the dialog).

17.4.4 Approval Details

This is displayed just below the approval panel and displays a textual summary of the current approval state of the file.

In addition, any comment included with the approval request is displayed. If an approval request is resent and a comment supplied, it is prefixed to the original comment (this can be repeated if necessary)

17.4.5 Approval requirements

This section appears just below the approval synopsis.

Its contents are dependent on the file type's approval criteria

- If Everyone in the user group(s) must approve the file:
'All approvers must approve this file'
- If At least the following number of user(s) must approve:
'[n] approver(s) must approve this file'

17.4.6 Approvers

This tabset appears at the bottom of the Manage File Approvals dialog.

It consists of three tabs:

- Waiting: this tab lists potential approvers who have yet to approve the file
- Approved: this tab lists those users who have granted approval of the current file
- Denied: this tab lists those users who have denied approval of the current file

17.4.7 Auto-Refresh

The Manage File Approval dialog is auto-refreshed every 10 seconds, meaning that a user who requested a file's approval can be automatically made aware of a change in its approval status if the file is currently open.

17.5 Interaction Designer – File Approval Ramifications

The following sections discuss the ramifications of file approval within the Interaction Designer.

17.5.1 Offer Approval and the Interaction Designer

File approvals are not taken into account when executing offers in Test mode.

However, in Production mode, when executing offers:

- If both interaction and offer approval are disabled, approvals are disregarded when executing workflows in Production mode.
- If interaction approval is disabled and offer approval enabled, it is not possible to execute an offer activity without an approved version of the offer template with which it is configured.

If an approved offer template version exists:

- If the current version is approved, it is used at offer activity execution.
- If a previous version is approved (but the current is not), the previous version is used at offer activity execution.

- If interaction approval is enabled and offer approval is disabled, it is not possible to execute a workflow unless the interaction within which it exists has been approved. Any offers' approval statuses are not taken into account.
- If both interaction and offer approval are enabled:
 - It is not possible to execute a workflow unless the interaction within which it exists is approved.
 - It is not possible to execute an offer without an approved version. If an approved version exists it is used (whether the current version, or a previous version (if the current version is not approved)).

17.5.2 Offer Approval and Interactive Activity Execution

If offer approval is enabled and a long-running interactive activity, which triggers downstream execution of an offer activity, is running, the offer activity will use content based on the most recent approved version (as might be expected).

If the offer activity's template is updated and approved, on the next occurrence of the offer activity's execution, the newly approved content will be used. If the offer template is updated but not approved, the older, approved version will continue to be used.

17.5.3 Offer Activity Configuration Panel – Approval Status Icon

Also, within the Interaction Designer, the icon displayed within an offer activity's configuration panel gives a visual indication as to the approval status of the offer template with which it is configured. Note that this only applies if offer approval has been enabled.

The following summarizes the display of the icon in this context:

- Not approved: gray/yellow icon
- Awaiting approval: amber icon
- Approval denied: red icon
- Approved: green icon
- Not approved (previous version approved): half green, half grey/yellow icon
- Awaiting approval (previous version approved): half green, half amber icon
- Approval denied (previous version approved): half green, half red icon.

17.6 File Approval Widget

A file approval widget is available at the Dashboard Designer. It provides the ability to customize a dashboard to display lists of files in respect of which a user's attention is required, either as an approver, or as an approval requester.

Full details of the file approval widget are provided in the Dashboards documentation.

17.7 Operations-Approval Summary Tab

An Approval Summary tab is provided within the Operations Interface.

Name	File Type	Folder	Latest	Approved	Approval Status	Date Modified	Modified by	Description
Data Extract Offer 2	Offer	coreuser		0.1	Awaiting approval	25/08/2020 10:06:19	coreuser	
11909	Offer	coreuser		0.5	Not Approved	25/08/2020 09:10:04	coreuser	
RSA in QA Email	Offer	coreuser		0.1	Not Approved	24/08/2020 09:36:59	coreuser	
Realtime in Outbound Email...	Offer	coreuser		0.1	Not Approved	20/08/2020 16:07:17	coreuser	
11920	Offer	coreuser		0.2	Not Approved	20/08/2020 13:48:28	coreuser	
11909a	Offer	coreuser		0.1	Not Approved	18/08/2020 11:41:36	coreuser	
11730	Offer	coreuser		0.1	Not Approved	14/08/2020 14:49:01	coreuser	
Birds e0	Offer	coreuser		0.2	Not Approved	31/07/2020 11:07:42	coreuser	
Finishing ASAs e0	Offer	coreuser		0.2	Not Approved	31/07/2020 10:38:50	coreuser	
11782	Offer	coreuser		0.1	Not Approved	31/07/2020 09:16:18	coreuser	
Smart Asset Email Offer	Offer	coreuser		0.5	Not Approved	29/07/2020 09:24:53	coreuser	
SARO Email Offer	Offer	coreuser		0.2	Not Approved	28/07/2020 10:43:40	coreuser	
11734a	Offer	coreuser		0.1	Not Approved	28/07/2020 08:47:58	coreuser	
11734	Offer	coreuser		0.1	Not Approved	28/07/2020 08:47:52	coreuser	
Save As 2	Offer	coreuser		0.1	Not Approved	23/07/2020 16:19:03	coreuser	
Save As 1	Offer	coreuser		0.1	Not Approved	23/07/2020 16:18:57	coreuser	
Rule SA RDR e0	Offer	coreuser		0.2	Not Approved	23/07/2020 15:42:30	coreuser	

It provides an at-a-glance summary of the current state of files' approval statuses to operational users.

Full details of the Approval Summary tab are provided in the Operations Interface documentation.

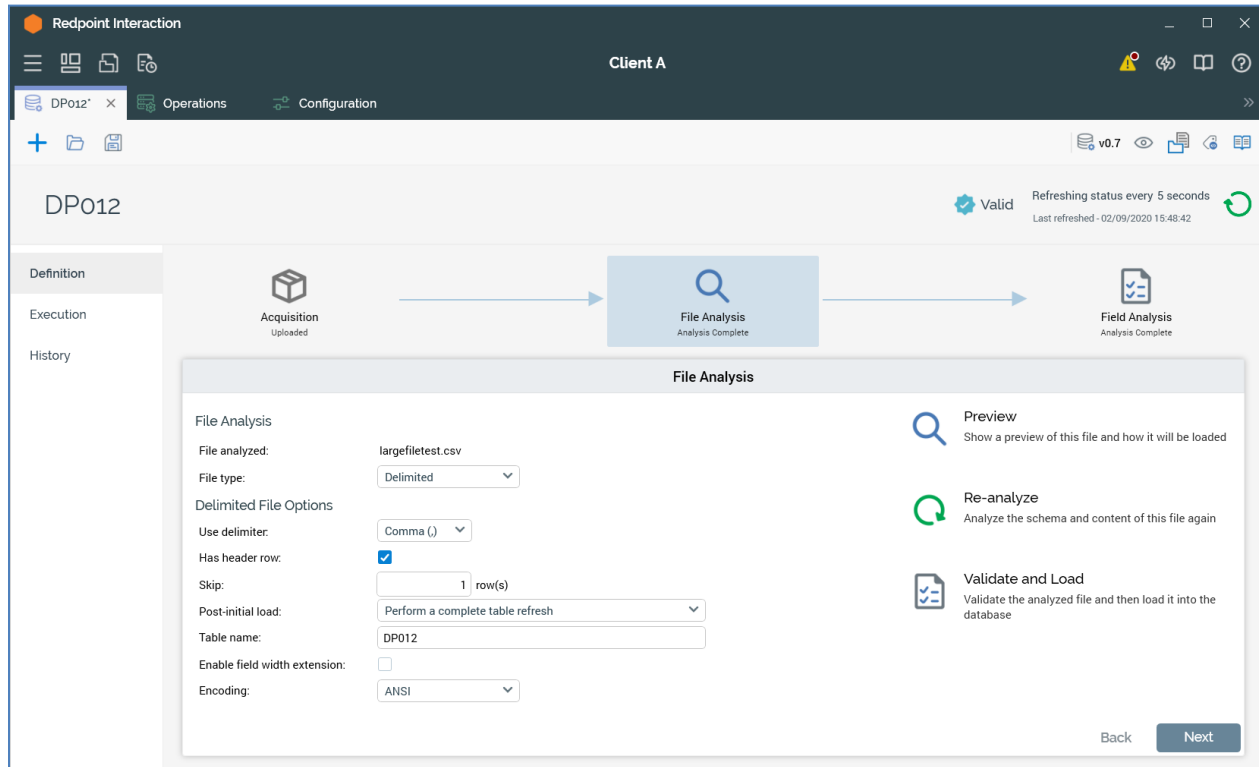
17.8 Approval-Auditing

Audit log records are generated when the following approval activities are undertaken:

- File Access - Request File Approval
- File Access - Cancel File Approval Request
- File Access - Resend File Approval Request
- File Access - Approve File
- File Access - Deny File Approval Request

18 Data Project Designer

The RPI Data Project Designer allows you to load your own data into the RPI data warehouse so that you can then use it to build and execute interactions.



Key to the intake of data in this way is the data project. Data projects are defined using the Data Project Designer. When you define a data project you upload a data file and then describe its layout and contents (with some assistance from RPI). You can then execute the data project to load your data into the data warehouse.

Having established a data project in this way you can then upload and process additional files that conform to the data project's definition. This is carried out manually, by uploading the file directly from the Data Project Designer.

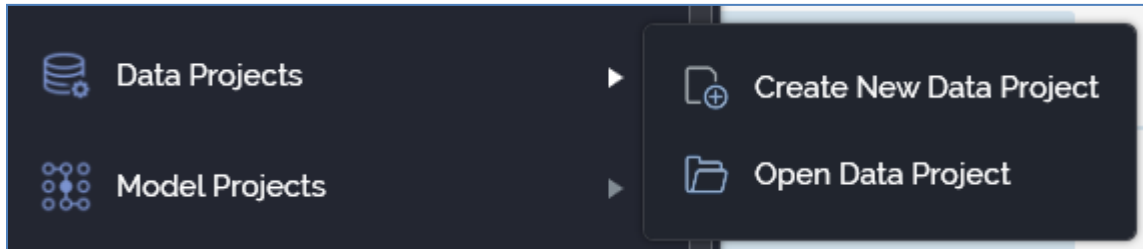
The Data Project Designer provides support for delimited and fixed-width files. In addition, having established a data project, updates to its definition are not permitted.

The Data Project Designer is not available when working in a NoSQL environment.

18.1 Invoking the Data Project Designer

You can invoke the Data Project Designer in the following ways:

- From the quick access menu's Data Projects menu. The menu exposes the following options:



- From a Tasks or File Type widget. Typically, these might be displayed at your Home Page. For more information on widgets, please see the Dashboard Designer documentation.
- By double-clicking a Data Project file in the File System Dialog, or by highlighting a Data Project and clicking OK in the same context.

Note that access to the Data Project Designer is controlled via the Data Project – Design functional permission. If none of the user groups of which you are a member are associated with this permission, you will not be able to access the Data Project Designer.

18.2 Closing the Data Project Designer

You can close the Data Project Designer by closing the tab within which it is displayed, or by shutting down RPI itself. If you do so when the Designer contains a data project with unsaved changes, a dialog is shown, within which you can choose to do the following:

- Save the changes and proceed with closing the Data Project Designer
- Abandon the changes and proceed with closing the Data Project Designer

Cancel closing the Data Project Designer or RPI.

18.3 Data Project Designer Basics

The Data Project Designer is displayed in a separate tab in the RPI framework.

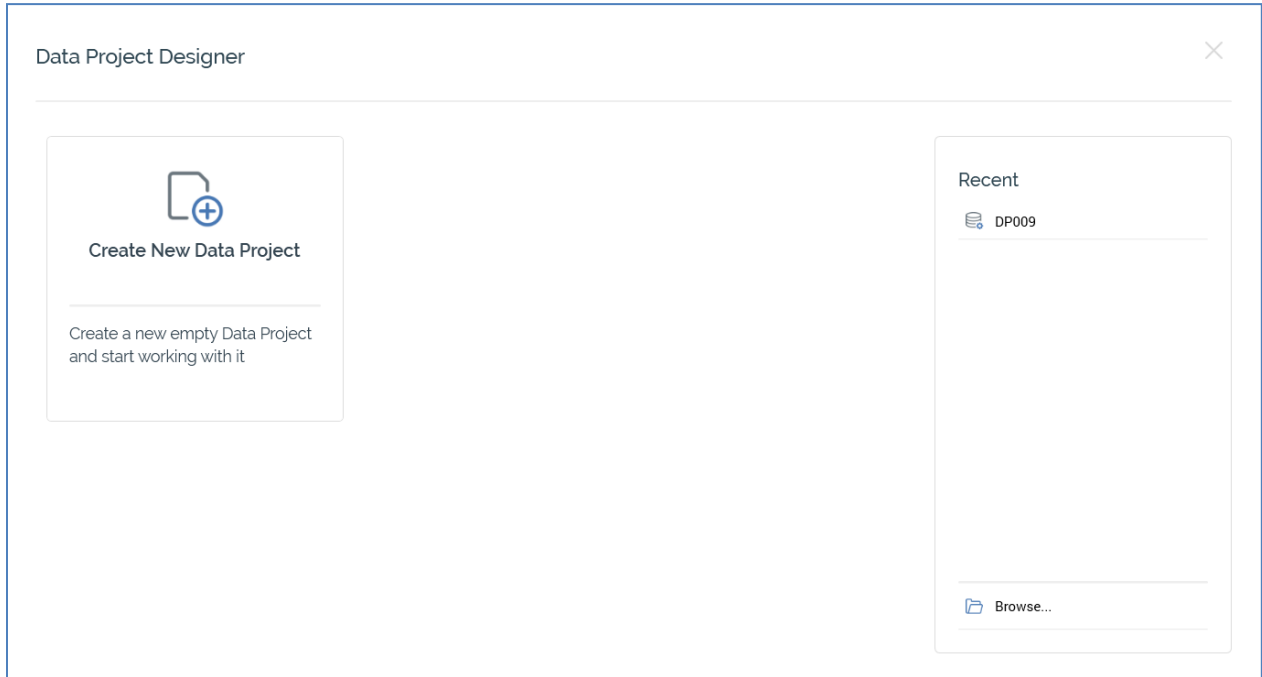
It is composed of the following elements:

- Toolbar
- Properties Panel
- Tabset

Each is documented separately.

18.4 Start Page

The Data Project Designer Start Page is shown upon invocation of Data Projects at the quick access menu, and also on clicking Create new Data Project at the Data Project Designer toolbar. It contains the following:



- Create New Data Project button. Clicking the button displays the Save Data Project As File System Dialog, in which you can specify a name for the new data project, and click Save to write it to the RPI file system. Having done so, the new data project is displayed in the Data Project Designer.
- Recent: lists recently-accessed data projects, facilitating the opening of the same.
- Browse: displays the Open Data Project File System Dialog, allowing you to select a data project to open.

A Cancel button is shown at the top of the Start Page. Clicking it removes the Start Page from display, and redisplay the Data Project Designer. The Cancel button is only shown on invocation of the Start Page by clicking Create new Data Project at the Data Project Designer toolbar.

18.5 Toolbar

The Data Project Designer toolbar exposes the following options:



- Create new Data Project: clicking this button displays the Data Project Designer Start Page. A close button is shown to its top right; clicking it removes the overlay from display. If a Data Project containing unsaved changes is displayed at invocation of Create New, an 'Are You Sure?' dialog is shown, from which you can:
 - Save the changes
 - Abandon the changes
 - Abandon creation of the new Data Project
- Open existing Data project: upon invoking this option, if any outstanding changes exist within the currently-displayed data project, an 'Are you sure?' dialog is displayed. You can:
 - Save the changes to the existing and proceed with opening the selected data project.
 - Abandon the changes you made to the existing and proceed with opening the selected data project.
 - Cancel opening the data project.

The RPI File System Dialog is displayed immediately allowing you to navigate those folders within the RPI file system to which you have access in order to locate a data project to open. Only data project files are displayed in the File System Dialog. Having selected a data project and invoked OK, it is displayed within the Data Project Designer.

If the data project has yet to be established (i.e. is still being defined), the Definition tab's Acquisition panel is displayed. If the data project is established (i.e. at least one file has been processed), the Execution tab's Acquisition panel is shown instead.

- Save Data Project: this option saves the current data project to an existing filename; if the data project is yet to be saved, Save behaves like Save as.... Save is only enabled when outstanding changes exist within the data project.

If the data project's name has been updated, it is saved to same file, and the filename updated accordingly. When you save a data project its version number is incremented. Validation of the data project's name and description length is performed at Save. When a data project is persisted within the RPI file system, its file type is Data Project.

- Version number: a read-only representation of the data project's version is displayed towards the right of the toolbar.

- Follow/Unfollow File: please see the RPI Framework documentation.
- File Options: please see the RPI Framework documentation.
- File Metadata: please see the RPI Framework documentation.
- Linked Page Options: please see the RPI Framework documentation.

18.6 Configuring a Data Project's Name

A Data Project's name is configured in the large property shown at the top of the Data Project Designer, below the toolbar:



Provision of a name is mandatory, and the value provided may be a maximum of 100 characters. The Data Project's name is the same as the filename under which it is saved within the RPI file system. As such, it must be unique amongst the Data Projects in the folder within which saved.

You can edit a Data Project's name by clicking the property. Complete the edit by clicking off the property, or by hitting return.

18.7 Data Project Validation

Before a Data Project can be used, it must be valid.

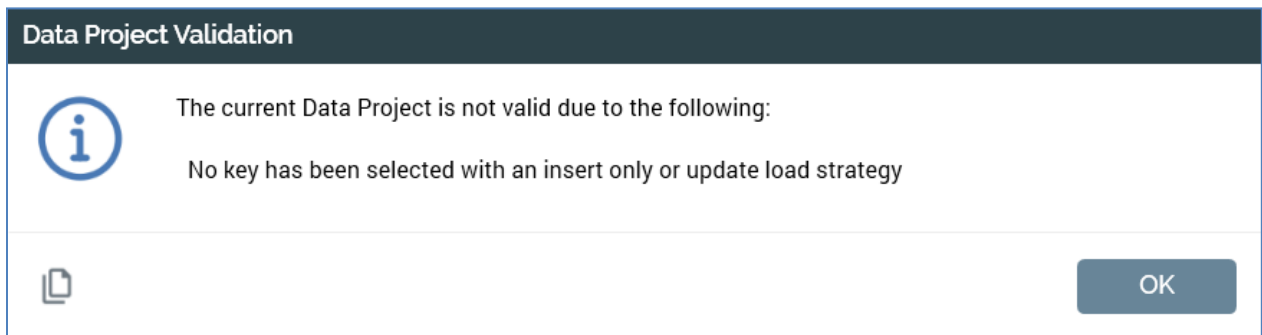
A validation status indicator is displayed to the right of the Data Project's name. When the Data Project is valid and contains no validation errors, the validation status indicator is shown as follows:



Specific validation errors are outlined in the Data Project documentation. When one or more validation errors is present, a validation error indicator is shown:



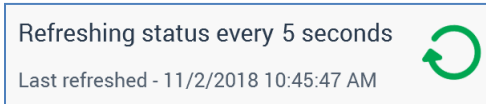
Clicking the indicator lists the validation errors in a dialog:



You can use the button at the bottom left of the dialog to copy the validation error details to the clipboard. You can close the dialog using the OK button.

18.8 Refresh

The Data Project Designer's refresh frequency is set, and information relating to the last refresh displayed, to the right of the properties panel.



You can select the frequency at which the Designer will be automatically refreshed from 5 seconds (the default), 10 seconds or 30 seconds. Note that the setting you choose is persisted when the Data Project Designer is next invoked. The date and time at which the Data Project Designer was last refreshed is also displayed.

You can also invoke a manual refresh of the Data Project Designer by clicking on the Refresh icon itself.

18.9 Tabset

The majority of the Data Project Designer is occupied by the tabset. The tabset contains three tabs:

- Definition
- Execution
- History

Each is documented separately.

18.10 Definition and Execution Overview

Before delving into the tabset in detail, it is worth spending time summarizing the steps involved in both defining a data project and processing its subsequent files manually. Note that the following sequences reference interfaces and functionality from across the Data Project Designer, all of which are described elsewhere.

18.10.1 Defining a Data project

Definition of a new data project is carried out as follows:

1. Create and save a new data project.
2. Invoke Upload and Analyze File in the Definition tab's Acquisition panel to identify a delimited or fixed-width file upon which to base the new data project.
3. View a sample of the file's contents and verify that it is accordant with expectations in the File Upload Preview dialog.
4. In Definition.Acquisition, watch as RPI uploads the file to the RPI server and then analyzes its contents.
5. If the file is delimited:
 - a. In the Definition tab's File Analysis panel, specify the data project's high-level properties.
 - b. In the Definition tab's Field Analysis panel, verify RPI's analysis of the file's field structure, making any changes as necessary, and specify any required field-level properties.
6. If the file is fixed-width:
 - a. In the Definition tab's File Analysis panel, specify the data project's high-level properties.
 - b. Invoke Preview to view a preview of RPI's automatic determination of the file's field boundaries in the Preview dialog and make manual adjustments as required.
 - c. Invoke Re-analyze to allow RPI to reflect the defined field boundaries by populating the Definition tab's Field Analysis panel's Fields grid.
 - d. In Definition.Field Analysis, specify any required field-level properties.
7. Invoke Validate and Load to ensure that all rows within the file are accordant with its defined structure, and to initiate loading of the data project's initial file into the database.

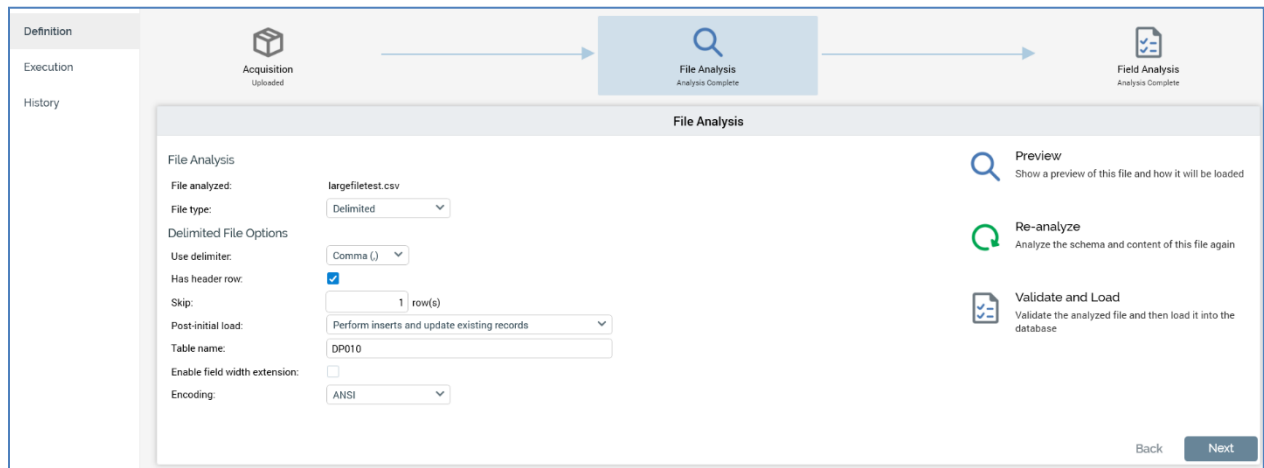
18.10.2 Manually Executing Subsequent Files within a Data project

Manual execution of the second or a subsequent file in a data project is carried out by following these steps.

1. In the Execution tab's Acquisition panel, click Upload, Validate and Load to locate a file that matches the data project's definition.
2. Watch as RPI automatically validates and loads the file.

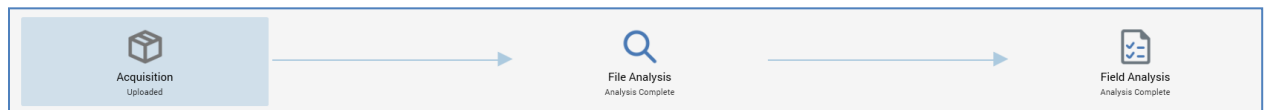
18.11 Definition Tab

The Definition tab is used to define a new data project.



When defining a new data project, the Definition tab is updateable. Following processing of the data project's initial file, it is displayed as read-only.

Definition of a data project is carried out using a wizard-like series of steps. Each step is illustrated using an icon shown at the top of the Definition tab.



Each icon corresponds to a separate panel that occupies the body of the tab.

Three icons are shown in the Definition tab:

- Acquisition
- File Analysis
- Field Analysis

After a data project has been established, the Definition tab's Analysis panels remain available for reference purposes.

The current process step's icon is selected. Status information is provided at each step. This information is both graphical, via provision of a halo around the icon as follows:

- Green: the process step is currently in progress
- Amber: the process step is in a waiting state

- Red: the process step has failed
- No halo: the process step has either not yet started or is complete.

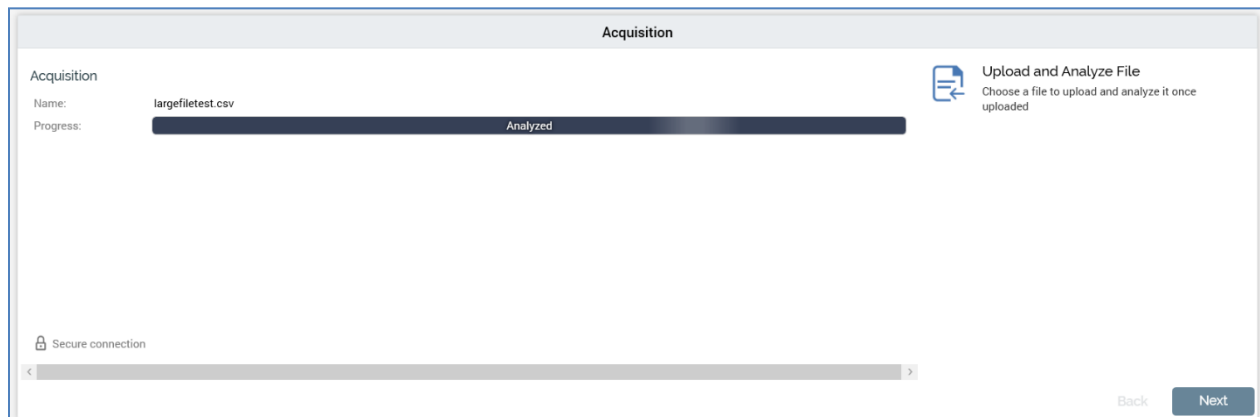
...and verbal, via provision of a description of the step's current status. Relevant statuses are listed below:

- Definition - Acquisition
 - File Not Uploaded
 - Uploading
 - Upload Failed
 - Uploaded
- Definition - File Analysis
 - Not Analyzed
 - Analysis Complete
 - Analysis Failed
- Definition - Field Analysis
 - Not Analyzed
 - Analysis Complete
 - Analysis Failed

You can navigate between process steps by clicking on icons. You can also use the Back and Next buttons displayed to the bottom right of each panel. Access to certain process steps may be precluded, depending on the current status of the data project (for example, you cannot access File Analysis until you have uploaded and analyzed a file).

18.11.1 Definition Tab – Acquisition Panel

The Definition tab's Acquisition panel is used to start the process of defining a data project.



Within the panel, you can:

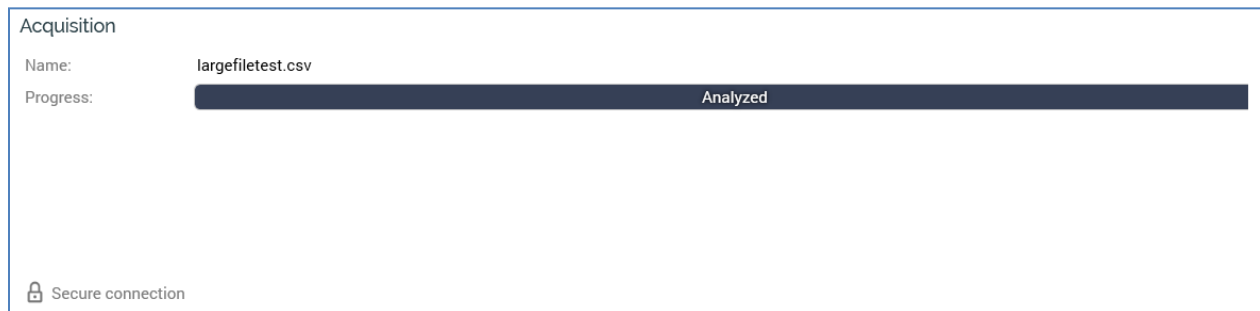
- Select a local file to upload that will form the basis of the data project's definition.
- Having uploaded the file, commence RPI's automated analysis of it.

Note that when the Definition tab's Acquisition panel is displayed after a data project's second or a subsequent file acquisition has started, its contents are replaced with a message advising that the data project has already been defined.

During definition of a data project, the Acquisition panel consists of the following elements:

18.11.1.1 Acquisition Section

This section keeps you informed about the progress of file upload and analysis.



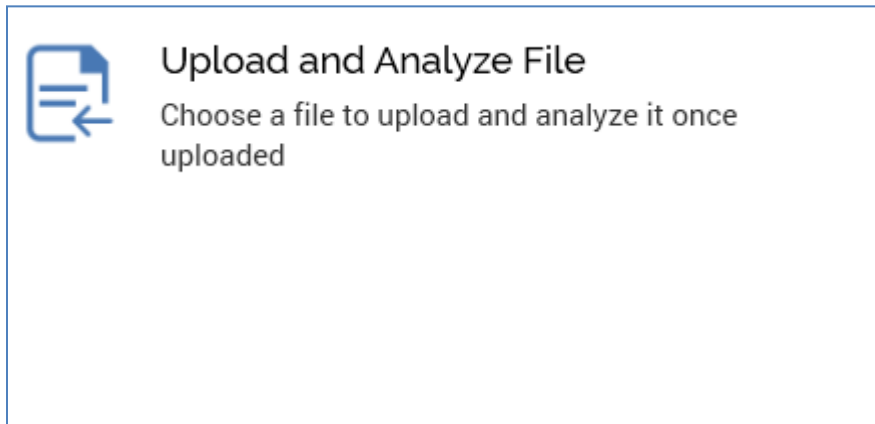
It contains the following:

- **Name:** a read-only label that displays the name of the file you have chosen to acquire. Name is populated once you have invoked Upload and Analyze File and selected a file to upload from your local or network Windows file system. Note that the file's name must not contain invalid characters.
- **Progress:** this section contains a progress bar that is populated during the compression, upload and analysis processes. The progress bar provides a visual indication as to the current stage within the process and is updated automatically.
- The fact that upload is carried out using a secure connection is confirmed via a padlock icon and "Secure connection" label.



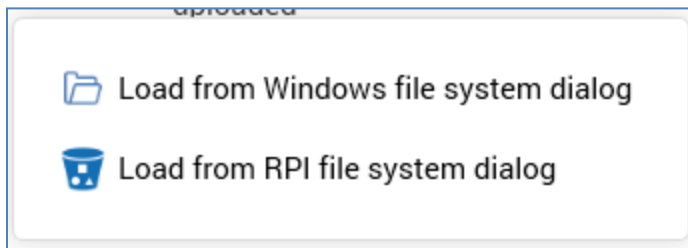
18.11.1.2 Actions Panel

The Actions panel is shown to the right.



The panel is only displayed if defining the data project. The panel contains the following button, which is enabled or disabled in accordance with the current status of the data project:

- Upload and analyze file: on clicking this button, two additional options are shown:



- Load from Windows file system dialog: clicking this option displays the Choose File to Upload Windows file system dialog, within which you can locate a file to upload. By default, only text files (*.txt, *.csv) are shown. You can change the default filter to display compressed files (*.zip, *.rar, *.7z), or all files.
- Load from RPI file system dialog: clicking this option displays the RPI file system dialog. Only Amazon AWS S3 buckets are supported – if you try loading a file from another external content provider, a warning will be shown. You can select an encrypted or unencrypted S3 file as required.

As soon as you select a file and click Open, the upload process begins.

Note that the selected file must not contain the following column names: SEQ_NUM, BRAND_DT, BRAND_FILE and JOBID.

If the selected file is a text file, RPI performs a quick analysis of 100 of the file's rows. This "sanity check" is used to determine whether the file appears to be legitimately delimited or

fixed-width. Following the sanity check, a sample of 20 records from the file is displayed in the File Upload Preview dialog.

File Upload Preview - largefiletest.csv

Are you sure you want to upload largefiletest.csv?

✔ No major issues were found with this file.

```

Partner Name,Sales Year,Sales Month,Revenue,Number of Sales,Commission Percentage, Date of Sale,Boolean Test
MMIFIJML,2007,1,2869366,51361,0.125,1/27/2007,1,1,19.95,19.95,19.95,0.125,ABC,ABC,ABC,ABC,10,12,12,12,1/27/2
MMI,2007,2,2189547.65,35033,0.125,2/27/2007,0,0,21.95,21.95,21.95,0.125,DEF,DEF,DEF,DEF,11,13,13,13,2/27/200
MMI,2007,3,1806044,40006,0.125,3/27/2007,1,1,32.5,32.5,32.5,0.125,GHI,GHI,GHI,GHI,12,14,14,14,3/27/2007,3/27
MMI,2007,4,2473636,36780,0.125,4/27/2007,0,0,23,1/27/2007,1,0.125,JKL,JKL,JKL,JKL,13,0,15,15,4/27/2007,4/27/
MMIDJKFJILME,2007,5,2596495,46131,0.125,5/27/2007,1,0,12345678,2/27/2007,0,0.125,23,27.5,0,1/27/2007,14,1,Y,
MMI,2007,6,2643000,53505,0.125,6/27/2007,0,0,19.95,3/27/2007,1,ABCD,ABC,ABC,1,2/27/2007,abc,0,N,2/27/2007,de
MMI,2007,7,2519000,54464,0.125,7/27/2007,1,0,21.95,21.95,21.95,0.125,DEF,DEF,2,3/27/2007,abcdef,1,Y,3/27/200
MMI,2007,8,2359000,46667,0.125,8/27/2007,0,0,32.5,32.5,32.5,0.125,Johm,Johm,Johm,Johm,15,0,17,17,8/27/2007,8
MMI,2007,9,2819000,59783,0.125,9/27/2007,1,1,19.95,19.95,19.95,0.125,Jane,Jane,Jane,Jane,16,1,18,18,9/27/200
MMI,2007,10,3534000,68456,0.125,10/27/2007,0,1,21.95,21.95,21.95,0.125,Mary,Mary,Mary,Mary,12345678,12345,19
MMI,2007,11,2574000,52349,0.125,11/27/2007,1,Y,32.5,32.5,32.5,0.125,Jim,Jim,Jim,Jim,18,16,207,207,11/27/2007
MMI,2007,12,3259000,51060,0.125,12/27/2007,1,1,15,15,15,0.125,Bob,Bob,Bob,Bob,19,17,1245,1245,12/27/2007,12/
MMIFIJML,2007,1,2869366,51361,0.125,1/27/2007,1,1,19.95,19.95,19.95,0.125,ABC,ABC,ABC,ABC,10,12,12,12,1/27/2
MMI,2007,2,2189547.65,35033,0.125,2/27/2007,0,0,21.95,21.95,21.95,0.125,DEF,DEF,DEF,DEF,11,13,13,13,2/27/200
MMI,2007,3,1806044,40006,0.125,3/27/2007,1,1,32.5,32.5,32.5,0.125,GHI,GHI,GHI,GHI,12,14,14,14,3/27/2007,3/27
MMI,2007,4,2473636,36780,0.125,4/27/2007,0,0,23,1/27/2007,1,0.125,JKL,JKL,JKL,JKL,13,0,15,15,4/27/2007,4/27/

```

Start Upload
Cancel

The sanity check results are shown as follows:

- If the file is determined to be delimited or fixed-width: 'No major issues were found with this file'.
- If RPI was unable to identify the file as delimited or fixed-width: 'It is not recommended that you upload this file as the file type could not be determined'.
- If an error occurred during analysis: 'An unexpected error occurred while analyzing the file'.

Based on the information at your disposal, you can then invoke Start or Cancel Upload (note that, if desired, you can still proceed with upload if RPI failed to identify the file's type).

If you elect to proceed, the file is compressed before uploading, and decompressed on the server when fully uploaded. If the selected file is already compressed, RPI proceeds without showing a preview (note that RPI supports the following compressed file types: .7z, .gz, .pkg, .rar, .sit, .sitx, .zip and .zipx).

You can upload both unprotected and password-protected compressed files (RPI decrypts using the password value stored in system configuration setting ZipPassword; if the password is incorrect, the Acquisition process step's status becomes Upload Failed).

For other file types, RPI displays a message indicating that the file extension was not recognized and it is likely that analysis will fail. You are still at liberty to proceed with uploading the file if you so choose (for example, your organization may maintain data file in a proprietary format).

The file is uploaded from your local file system or network, via a secure link, to a folder on the RPI server defined by system configuration setting DataIntakeLandingDirectory.

As soon as the file is uploaded, the process of analyzing it begins. RPI employs a series of checks to determine the type, structure and content of the file. Details of the analysis processes are documented separately.

If upload and analysis is successful, the File and Field Analysis panels are populated. The File Analysis panel is displayed immediately.

Note that you can upload and analyze another file even though a file has already been uploaded.

18.11.1.3 Navigation Buttons

The navigation buttons provide an alternative way of navigating through the wizard-style sequence of data project definition process steps. They are displayed at the bottom right of the panel.



In the Definition tab's Acquisition panel, the Back button is disabled, as Acquisition represents the first step in the data project definition process. Clicking Next displays the File Analysis panel.

18.11.2 Definition Tab – File Analysis Panel

The Definition tab's File Analysis panel is used to provide visibility of the results of RPI's analysis of the high-level properties of the file you uploaded.

[TBD – image]

Within the panel, you can:

- Make changes to the initial analysis results and invoke Re-analyze to observe the ramifications of your decisions in terms of the constitution of the data project's fields.
- If a delimited file, view a raw or parsed preview of the file's contents.
- If a fixed-width file, invoke a dialog within which you can specify field boundaries.
- Initiate validation of the file against the data project's definition, and load data into the data warehouse.

The File Analysis panel consists of the following elements:

18.11.2.1 File Analysis Section

This section contains a high-level synopsis of the file that was analyzed.

File Analysis

File analyzed: C:\Users\JimHinder\OneDrive - Red Point Global Inc\Desktop\TestFiles\largefiletest.csv

File type:

It contains the following:

- File analyzed: the name of the file. Read-only.
- File type: a drop-down list, set to one of Fixed-width or Delimited in accordance with RPI's initial file analysis. Depending on the value to which File type is set, Delimited File Options or Fixed-width File Options are displayed. If RPI's attempts to determine the file's type proved inaccurate, you can override this setting manually. If you do so, you will need to invoke Re-analyze to cause the ramifications of your change to be displayed across the File and Field Analysis panels. Note that a single-column file can be treated as fixed-width or delimited.

18.11.2.2 Delimited File Options Section

This section presents a series of fields used to describe the high-level qualities of a delimited file.

Delimited File Options

Use delimiter:	<input type="text" value="Comma (,)"/>
Has header row:	<input checked="" type="checkbox"/>
Skip:	<input type="text" value="1"/> row(s)
Post-initial load:	<input type="text" value="Perform inserts and update existing records"/>
Override table prefix:	<input type="checkbox"/>
Table prefix:	<input type="text" value="UD"/>
Table name:	<input type="text" value="DP016"/>
Enable field width extension:	<input type="checkbox"/>
Encoding:	<input type="text" value="ANSI"/>

- Use delimiter: updateable. Set automatically during initial file analysis. Note that RPI will not be able to determine the delimiter if a custom character is used. A drop-down list exposes the following values:
 - Comma
 - Pipe
 - Tilde
 - Slash
 - Backslash
 - Semicolon
 - Colon
 - Space
 - Tab
 - Other

When you select Other, you must specify a single custom delimiter character in the field provided.

- Has header row: an updateable checkbox; checked if all of the first row's fields contain string values, and at least one other row contains a non-string value.
- Skip [n] row(s): updateable; this integer field is set to 1 if a header row is present, and to 0 if otherwise. It defines the number of initial rows within the file that are to be disregarded during file analysis.
- Post-initial load: this updateable drop-down field is used to define how RPI will handle the loading of a data project's second or subsequent files. Available options are:
 - Perform a complete table refresh
 - Insert Only (Ignore Duplicates)
 - Perform inserts and update existing records (default)
 - Only perform updates
 - Always Insert
 - Perform deletes & insert records

Note that if either "update" option, or "Perform deletes..." is selected and no key is defined within the Field Analysis panel, a validation error is raised.

- Override table prefix: this checkbox is unchecked by default. When checked, the supplied Table prefix will be used. If unchecked, the value provided at system configuration setting DataProjectTablePrefixDefault will be used instead.
- Table prefix: this mandatory property can be a maximum of 5 characters in length. It defaults to the value of system configuration setting DataProjectTablePrefixDefault, which, in turn, defaults to the value 'UD'. It allows you to specify a prefix to be applied to the name of the table to be created at data project execution.
- Table name: the name of the table into which data is to be loaded defaults to the name of the data project. It can be a maximum of 50 characters in length and cannot contain database-invalid characters. A validation error is raised if these conditions are not met.
- Enable field width extension: this checkbox is unchecked by default. When checked, it facilitates editing of the data projects' fields' Data Type, Size, and Scale properties on subsequent loads.

The following data type changes are supported:

- Time to Datetime
- Date to Datetime
- Integer to Decimal
- Decimal to Integer

- Integer to String
- Decimal to String

A validation error is raised when attempting to convert a data type to an incompatible value. A validation error is also raised when decreasing a field's length on a subsequent load.

If you make changes to one or more of Use delimiter, Has header row or Skip [n] row(s), you will need to invoke Re-analyze to observe the ramifications of your modifications within the File and Field Analysis panels.

18.11.2.3 Fixed-width File Options Section

This section presents a series of fields used to describe the high-level qualities of a fixed-width file.

Fixed-width File Options

Preview the file to confirm column breaks and then re-analyze.

Allow short lines:

Post-initial load:

Table name:

Enable field width extension:

Encoding:

Immediately following initial file analysis, the orange message shown above is displayed at the top of the section. The message is removed from display after invocation of Re-analyze. It will subsequently be redisplayed should field boundaries be changed again.

The following options are all populated during initial analysis:

- Allow short lines: a checkbox, checked if RPI determines during initial file analysis that the final field in a fixed-width file contains data of differing lengths. It may be overridden manually if required.

If you make changes to Allow short lines, you will need to invoke Re-analyze to observe the ramifications of your modifications within the File and Field Analysis panels.

- Post-initial load: this drop-down field is used to define how RPI will handle the loading of a data project's second or subsequent file. Available options are:
 - Perform a complete table refresh
 - Insert Only (Ignore Duplicates)
 - Perform inserts and update existing records (default)

- Only perform updates
- Always Insert
- Perform deletes & insert records

Note that if either “update” option is selected and no key is defined within the Field Analysis panel, a validation error will be raised.

- Table name: the name of the table into which data is to be loaded defaults to the name of the data project. It can be a maximum of 50 characters in length and cannot contain database-invalid characters. A validation error is raised if these conditions are not met.
- Enable field width extension: this checkbox is unchecked by default. When checked, it facilitates editing of the data projects' fields' Data Type, Size, and Scale properties on subsequent loads.

The following data type changes are supported:

- Time to Datetime
- Date to Datetime
- Integer to Decimal
- Decimal to Integer
- Integer to String
- Decimal to String

A validation error is raised when attempting to convert a data type to an incompatible value. A validation error is also raised when decreasing a field's length on a subsequent load.

18.11.2.4 Update Existing Table Options section

This section [TBD]

[TBD – image]

- Update column: this dropdown property exposes the following values:
 - None (the default)
 - Add Column
 - Remove Column

It is disabled initially, and is enabled after the data project's first execution when the File type is Delimited and Has header row is set to true.

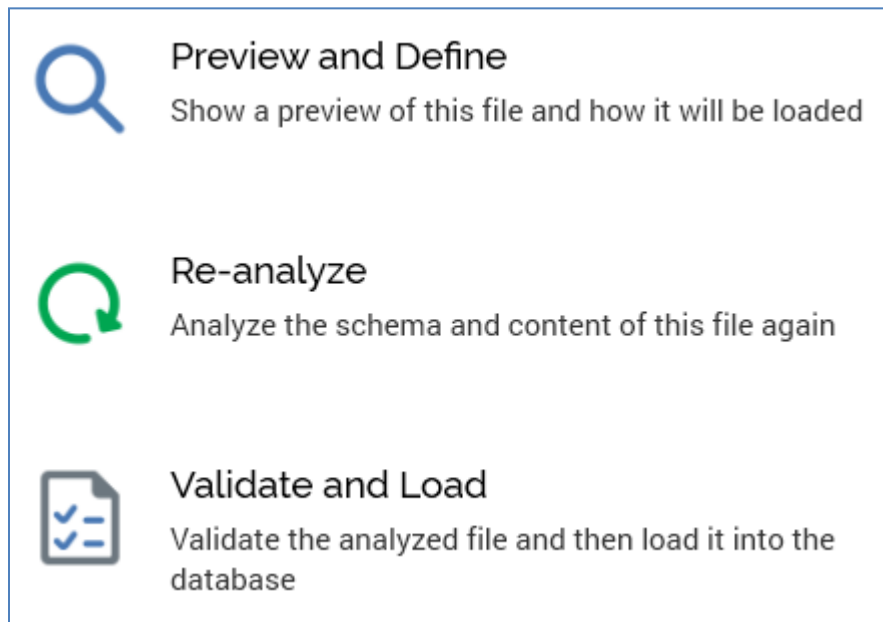
On second or subsequent data project execution:

- When Update column is set to 'Add column', any new columns discovered in the source file will be added if do not already exist in the data project table.
- When Update column is set to 'Remove column', [TBD – Mervin/Aira – if one or more data project table columns don't exist in the source file will be dropped]

[TBD – Mervin/Aira – LIMITATION - Alter Table Drop Column is not supported in yellowbrick to mitigate the feature column will be renamed as dropped_coulmn_GUID]

18.11.2.5 Actions Panel

The Actions panel is shown to the right.



The panel contains the following buttons, which are always enabled.

- **Preview:** shown only for delimited files. Displays the Preview dialog to provide visibility of the raw or parsed contents of the file (dialog covered separately). A warning is displayed at invocation if the current data project is not valid or is running.
- **Preview & Define:** shown only for fixed-width files. Displays the Preview dialog to facilitate definition of the file's field boundaries (dialog covered separately). A warning is displayed at invocation if the current data project is not valid or is running.
- **Re-analyze:** if a delimited file, re-analyzes the file's schema and content, taking into account any changes made within the File Analysis panel. A warning is displayed at invocation if the current data project is not valid, contains unsaved changes, or is running.

If a fixed-width file, also takes into account any changes made to field boundaries in the Preview dialog, and displays all columns in the Field Analysis panel, as well as enabling Execution.Validation. This option is protected by an "Are you sure?" dialog.

- **Validate and Load** initiates the process of validating that the file is accordant with the data project's definition, and, having done so, loads it. For a fixed-width file, it is disabled after subsequent field boundary changes, and enabled post-re-analysis. A warning is displayed at invocation if the current data project is not valid, contains unsaved changes, or is running.

18.11.2.6 Navigation Buttons

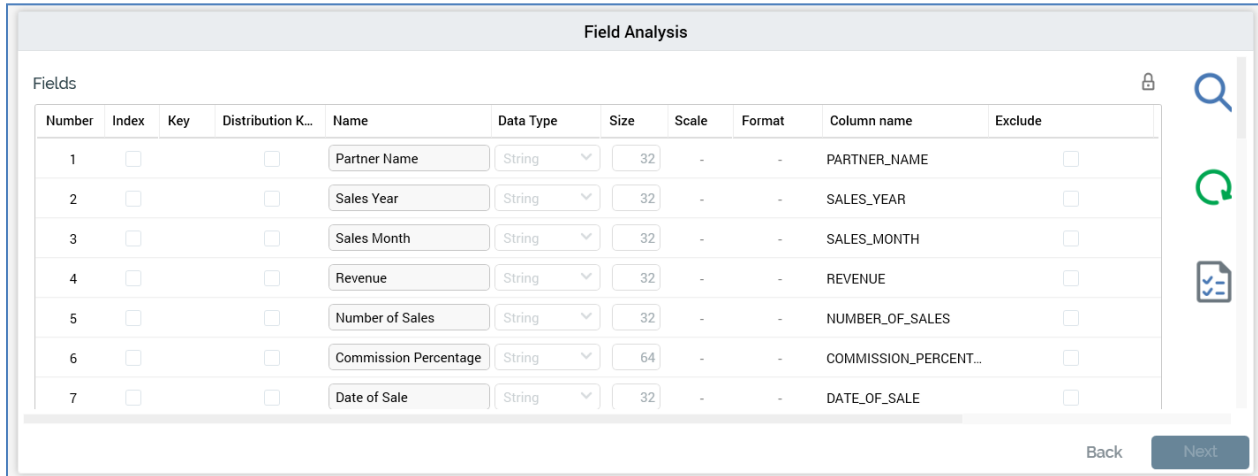
The navigation buttons provide an alternative way of navigating through the wizard-style sequence of data project definition process steps. They are displayed at the bottom right of the panel.



In the Definition tab's File Analysis panel, the Back button is enabled, and displays the Acquisition panel. Clicking Next displays the Field Analysis panel.

18.11.3 Definition Tab – Field Analysis Panel

The Definition tab's Field Analysis panel is used to provide visibility of the data project's fields.



The screenshot shows the 'Field Analysis' panel with a table of fields. The table has the following columns: Number, Index, Key, Distribution K..., Name, Data Type, Size, Scale, Format, Column name, and Exclude. The data rows are as follows:

Number	Index	Key	Distribution K...	Name	Data Type	Size	Scale	Format	Column name	Exclude
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Partner Name	String	32	-	-	PARTNER_NAME	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sales Year	String	32	-	-	SALES_YEAR	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sales Month	String	32	-	-	SALES_MONTH	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Revenue	String	32	-	-	REVENUE	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Number of Sales	String	32	-	-	NUMBER_OF_SALES	<input type="checkbox"/>
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Commission Percentage	String	64	-	-	COMMISSION_PERCENT...	<input type="checkbox"/>
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Date of Sale	String	32	-	-	DATE_OF_SALE	<input type="checkbox"/>

Within the panel, you can:

- Make changes to the field structure determined by RPI's initial analysis of the file.
- If a delimited file, view a raw or parsed preview of the file's contents.
- If a fixed-width file, invoke a dialog within which you can specify field boundaries.
- Invoke Re-analyze to observe the ramifications of any changes made to the data project's high-level properties (and field boundaries, if a fixed-width file).
- Initiate validation of the file against the data project's definition, and load data into the data warehouse.

The Field Analysis panel consists of the following:

18.11.3.1 Fields Grid

A single button is displayed above the fields grid:



- Lock or unlock fields properties: this toggle button is shown above and to the right of the Fields grid. It allows you to control as to whether it is possible to make changes to the properties of the fields listed in the Fields grid at second or subsequent data project execution.

At the second or subsequent execution of a data project, if the Lock or Unlock... property is set to Unlocked, a field's Data Type can be changed. However, only the following changes are supported:

- If an Integer, can only be converted to Decimal
- If Date, can only be converted to Date Time

Note that the Data Type of the table's primary key cannot be changed.

The fields grid itself contains a list of the fields in the uploaded file. It is populated during the file's initial analysis. However, its initial contents vary depending upon whether the file is delimited or fixed-width.

- If the file is delimited, a full set of columns is displayed in the grid.

Number	Index	Key	Distribution K...	Name	Data Type	Size	Scale	Format	Column name	Exclude
1	<input type="checkbox"/>		<input type="checkbox"/>	Partner Name	String	32	-	-	PARTNER_NAME	<input type="checkbox"/>
2	<input type="checkbox"/>		<input type="checkbox"/>	Sales Year	String	32	-	-	SALES_YEAR	<input type="checkbox"/>
3	<input type="checkbox"/>		<input type="checkbox"/>	Sales Month	String	32	-	-	SALES_MONTH	<input type="checkbox"/>
4	<input type="checkbox"/>		<input type="checkbox"/>	Revenue	String	32	-	-	REVENUE	<input type="checkbox"/>
5	<input type="checkbox"/>		<input type="checkbox"/>	Number of Sales	String	32	-	-	NUMBER_OF_SALES	<input type="checkbox"/>
6	<input type="checkbox"/>		<input type="checkbox"/>	Commission Percentage	String	64	-	-	COMMISSION_PERCENT...	<input type="checkbox"/>
7	<input type="checkbox"/>		<input type="checkbox"/>	Date of Sale	String	32	-	-	DATE_OF_SALE	<input type="checkbox"/>

You can make changes therein as required.

- If the file is fixed-width, a limited set of read-only columns is displayed in the grid after initial analysis.

Preview the file to confirm column breaks and then re-analyze.			
Number	Start Position	Length	
1	1	7	
2	8	18	
3	26	24	
4	50	9	
5	59	8	

Note the message displayed above the grid. The message is removed from display after invocation of Re-analyze. It will subsequently be redisplayed should field boundaries change again.

The grid is populated as follows:

- Number: an incrementing integer value that begins at 1. Number maps to the watermark number displayed in the fixed-width Preview dialog.
- Start Position: the position within the file at which the field begins. In all fields except the first, Start Position equals the previous field's Start Position plus its Length.
- Length: the length of the field in characters.

The limited column set is replaced with the full set of columns following successful re-analysis of the file.

Typically, you will invoke Preview & Define to view a sample of the file in the Preview dialog, make manual adjustments to field boundaries, and then invoke Re-analyze to confirm your stipulations. Note that you can make subsequent changes to field boundaries using Preview & Define, but, if you do so, the limited column set will be redisplayed and any manual changes made within the full column set (e.g. to a field's Data Type or Classification) will be lost. The 'Preview the file...' message will also be redisplayed.

When all columns are displayed, you can make amendments to the file's schema directly within the grid. The following columns are presented:

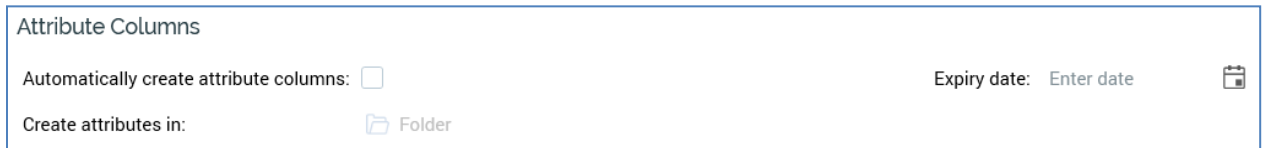
- Number: a read-only, incrementing integer indicating the field's ordinal position within the file. Note that Number corresponds to the watermark displayed when Preview & Define is invoked for a fixed-width file.

- **Index:** this checkbox allows you to specify that a field is to be used for table indexing. Post-validate and load, for each field checked as an Index, a database index will be created on the data project table.
- **Key:** clicking a cell within the Key column allows you to define that the selected field is a key field. When clicked, a key icon is displayed in the column (clicking it again removes the icon from display). You can specify that a file has a compound key by clicking on more than one field. A SQL Server primary key constraint is created at load of the initial data project file in accordance with your specifications. If no fields are defined as key, a primary key is not created.
- **Name:** a mandatory text field that can be a maximum of 50 characters in length. Name is used to specify column names within the table into which data will be loaded. Name is either set by default in accordance with a file's header row or set to a default value if no header row exists (full details of how this is carried out are provided elsewhere). Note that a field's name must be unique within the data project.
- **Data Type:** set automatically during file analysis (full details of the logic employed by RPI in doing so are provided elsewhere). Data type can be set manually using a drop-down that exposes the following options:
 - Date
 - DateTime
 - Decimal
 - Integer
 - String
 - Time
- **Size:** relevant for data types String, Integer and Decimal. Different validation criteria are enforced depending on the field's data type:
 - String: must be an integer, with a minimum value of 1 and a maximum value of 4000.
 - Integer/Decimal: must be an integer, with a minimum value of 1 and a maximum value of 16. In the case of a decimal, size represents the field's precision (the total number of digits before and after the decimal point in a number).
- **Scale:** relevant only if Decimal; an integer, with a minimum value of 0, and a maximum value of 38. Scale represents the number of digits after the decimal point in a number.
- **Format:** only enabled (and mandatory) when the field's data type is one of Date, Time or DateTime. Format can be a maximum length of 30 characters. Format is used to define how data within the field is to be structured – e.g. "d/M/yyyy". Full details on supported date formats are provided elsewhere.
- **Column Name:** displays a read-only representation of the final column name. Based on Name, but with the following caveats:


- Shown in upper case
- Any database-incompatible characters are replaced with underscores
- If a Name is set to a reserved word, a validation error is raised
- If Name begins with a numeric character, a 'X' is added as its first character
- Exclude: a checkbox, unchecked by default. If you exclude a field, it will not be exposed through the creation of an RPI attribute after data is loaded. Right-clicking this column provides access to Exclude all rows and Clear all excluded rows options.
- Distribution Key: this checkbox is used when importing data into a Netezza data warehouse only It is unchecked by default. Up to four fields can be selected to serve as a data project's distribution key. When a data project at which distribution keys are defined is executed, distribution keys will be created for the data project's 'UD_XXXXX' table.


18.11.3.2 Attribute Columns Section

This section is shown below the Fields grid. It contains the following



Attribute Columns

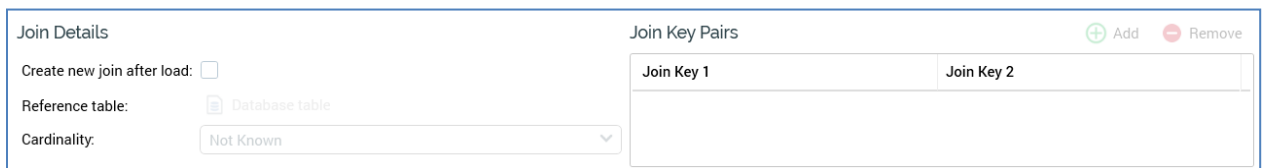
Automatically create attribute columns: Expiry date: Enter date 

Create attributes in:  Folder

- **Automatically create attribute columns:** this checkbox is unchecked by default. It allows you to specify that database column attributes representing the data project's fields are to be created automatically. It is accompanied by a Create attributes in property, which is enabled and mandatory when Automatically... is checked, which allows you to select the (non-external) folder in which attributes are to be created.
- **Expiry date:** this optional property allows you to specify a date at which the data project will expire.
- **Create attributes in:** allows you to specify the folder in which attributes will be created.


18.11.3.3 Join Details Section

This section is shown below the Attribute Columns section. It contains the following:





Join Details

Create new join after load:

Reference table:  Database table

Cardinality: Not Known

Join Key Pairs  Add  Remove

Join Key 1	Join Key 2

It is used to define the simple join between the table into which data is to be loaded and an existing reference table. The section consists of Join Details and Join Key Pairs sub-sections.

The Join Details sub-section contains the following:

- **Create new join after load:** this checkbox is unchecked by default. When checked, a join between an existing reference table and the uploaded data's table will be created when the data is loaded. Checking the property enables Reference table.
- **Reference table:** this property is mandatory when enabled. It represents the existing database table to which the uploaded data's table will be joined. It is populated using the Choose Database Item dialog, which lists all tables in the data warehouse. On changing the selected table:
 - Any existing join key pairs are removed.
 - A new join key pair is added, following the rules documented at the Join Key Pairs table's Add button (see below for details).

- Cardinality: this dropdown list allows you to define the nature of the join between the reference and data tables. It exposes the following values:
 - Not known (the default)
 - One to one
 - One to many
 - Many to one
 - Many to many

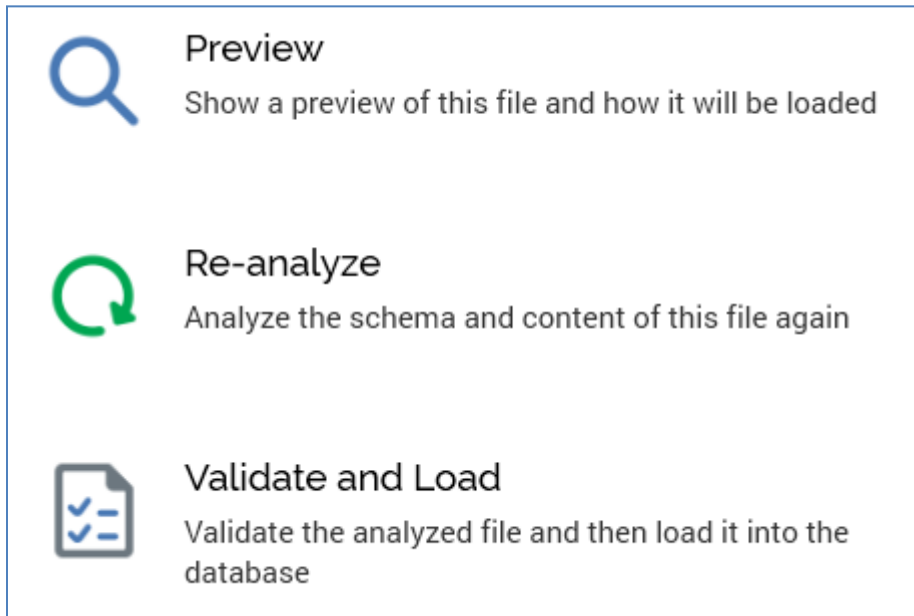
The Join Key Pairs sub-section allows you to define the pairs of keys that will be used to create the join between reference and data tables. It consists of a toolbar and a table.

- Toolbar: exposing the following:
 - Add: this button is enabled when a Reference table has been chosen. Clicking it adds a new join key pair to the table. Join Key 1 is set to the data table's primary key (or first alphabetical column if a primary key is not defined). Join Key 2 is set to a matching column at the reference table, else to its primary key, else to the first column alphabetically.
 - Remove: this button is enabled when a join key pair is selected. Invocation removes the currently-selected join key pair without display of an 'Are You Sure?' dialog.
- Table: listing all existing join key pairs. The table contains two columns:
 - Join Key 1: this column represents a key from the data table. It is set using a dropdown, which exposes values representing each of the data table's columns.
 - Join Key 2: this column represents a key from the reference table. It is set using the Choose Database Item dialog, which is constrained to display only columns from the selected Reference table.

Provision of at least one join key pair is mandatory.

18.11.3.4 Actions Panel

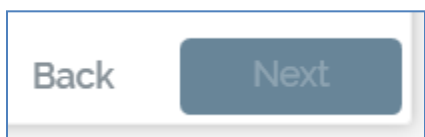
The Actions panel is shown to the right.



It is only displayed prior to starting the acquisition of the data project's second or a subsequent file. The buttons that it contains are enabled, disabled or made visible in accordance with the current status of the data project. The buttons shown are as per the File Analysis panel.

18.11.3.5 Navigation Buttons

The navigation buttons provide an alternative way of navigating through the wizard-style sequence of data project definition process steps.

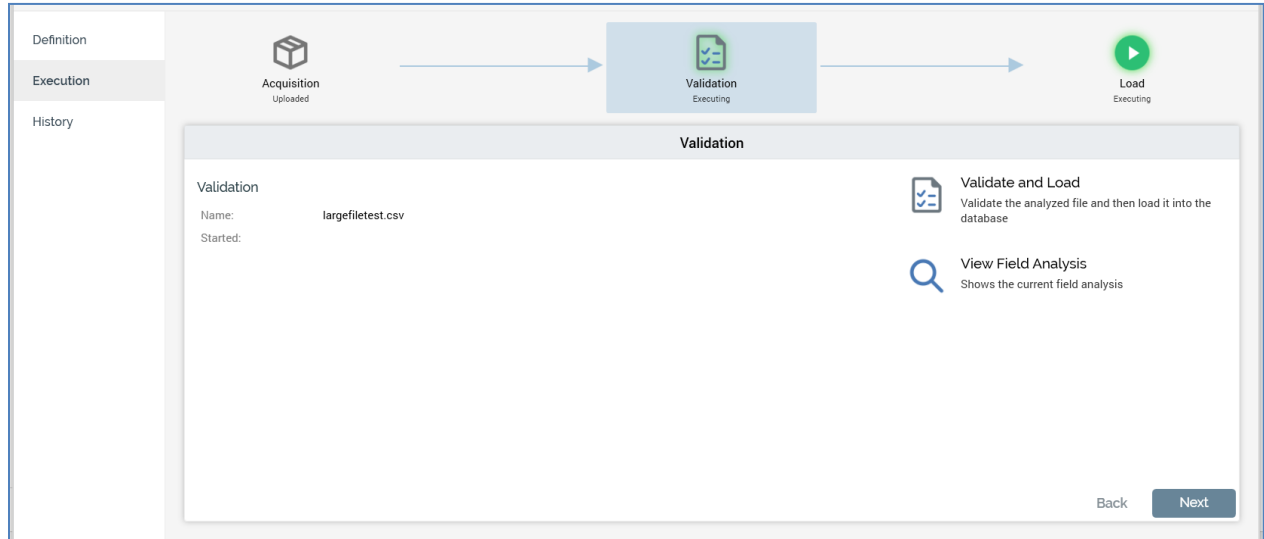


They are displayed at the bottom right of the panel.

In the Definition tab's Field Analysis panel, the Back button is enabled, and displays the File Analysis panel. Next is disabled, as Field Analysis represents the final step in the definition process.

18.12 Execution Tab

The Execution tab is used to execute a data project. Specifically, it is used to validate and load a data project's initial file, and upload, validate and load a data project's second or subsequent files.



The Execution tab is displayed at a new data project once a file has been uploaded and analyzed.

Execution of a data project is carried out in two or three steps, depending on whether the initial or a subsequent file is being processed:

- Acquisition: only relevant if processing the data project's second, or a subsequent, file
- Validation
- Load

Each step is illustrated using an icon shown at the top of the Execution tab. Each icon corresponds to a separate panel that occupies the body of the tab.

Note that the Definition tab is still available when working in Execution. However, once a data project is established following load of its initial file, its definition may not be changed.

Navigation within the Execution tab is handled differently depending on whether the initial data project file is being processed.

- If the initial file is being processed, navigation is carried out manually, as per the Definition tab.
- If the second or a subsequent file is being processed, manual navigation between tabs is not usually required, should execution prove trouble free. As soon as you upload a file, validation and load are carried out seamlessly. Only in cases where validation or load failures occur is manual intervention required.

The current process step's icon is selected. Status information is provided at each process step. This information is both graphical, via provision of a halo around the icon representing:

- Green: the process step is currently in progress
- Red: the process step has failed
- Amber: the process step is in a waiting state
- No halo: the process step has either not yet started or is complete.

...and verbal, via provision of a description of the step's current status. Relevant statuses are listed below:

- Execution - Acquisition
 - File Not Uploaded
 - Uploading
 - Upload Failed
 - Uploaded
- Execution - Validation
 - Not Validated
 - Waiting to Validate
 - Validating
 - Validation Complete
 - Validation Failed
- Execution - Load
 - Not Loaded
 - Waiting to Load
 - Loading
 - Loaded
 - Load Failed

Irrespective of whether processing the initial or a subsequent file, you can always choose to navigate between panels by clicking on icons. You can also use the Back and Next buttons displayed to the bottom right of each panel.

18.12.1 Execution Tab – Acquisition Panel

The Execution tab's Acquisition panel is only used when processing a second or subsequent data project file. It is used to manually start the acquisition of a new file, and to locate the file to be uploaded, validated and loaded.



The Acquisition panel consists of the following elements:

18.12.1.1 Acquisition Section

This section shows details of the data project's most recently-processed file. It contains:

- Name: a read-only representation of the name of the current or most recently-acquired file.
- Progress: this section contains a progress bar that is populated during the compression and upload processes. The progress bar provides a visual indication as to the current stage within the process
- The fact that upload is carried out using a secure connection is confirmed via a padlock icon and "Secure Connection" label.

18.12.1.2 Actions Panel

The Actions panel is shown to the right.

The panel contains the following button, which is enabled or disabled in accordance with the current status of the data project:

- Upload, validate and load: this button initiates the following activities:

A Windows file system dialog is displayed, within which you can locate a file to upload. By default, only text files (*.txt, *.csv) are shown. You can change the default filter to display compressed files (*.zip, *.rar, *.7z), or all files.

As soon as you select a file and click Open, the upload process begins.

If the selected file is a text file, RPI performs a quick analysis of 100 of the file's rows. This "sanity check" is used to determine whether the file appears to be legitimately delimited or fixed-width. Following the sanity check, a sample of 20 records from the file is displayed in the File Upload Preview dialog.

The sanity check results are shown as follows:

- If the file is delimited or fixed-width: "No major issues were found with this file".
- If RPI was unable to identify the file as delimited or fixed-width: "It is not recommended that you upload this file as the file type could not be determined".
- If an error occurred during analysis: "An unexpected error occurred while analyzing the file".

Based on the information at your disposal, you can then invoke Start or Cancel Upload (note that you can still proceed with upload if RPI failed to identify the file's type).

If you elect to proceed, the file is compressed before uploading, and decompressed on the server when fully uploaded. The Compress file and Decompress file progress checkpoints are updated accordingly. During compression, the progress bar is updated, and the legend "Compressed [x] bytes out of [y]" is shown.

If the selected file is compressed, RPI proceeds without showing a preview of the file (note that RPI supports the following compressed file types: .7z, .gz, .pkg, .rar, .sit, .sitx, .zip and .zipx). The following message is displayed at the Compress file progress checkpoint: "File already compressed; no further compression needed".

You can upload both unprotected and password-protected compressed files (RPI decrypts using the password value stored in system configuration setting ZipPassword; if the password is incorrect, the Acquisition process step's status becomes Upload Failed).

For unknown file types RPI displays a message indicating that the file extension was not recognized and it is likely that analysis will fail. You are still at liberty to proceed with uploading the file if you so choose.

The file is uploaded from your local file system or network, via a secure link, to a folder on the RPI server defined by system configuration setting DataIntakeLandingDirectory.

If you attempt to upload a file with a size larger than the maximum permitted (as defined by system configuration setting MaximumDirectUploadFileSize), a warning message is displayed and you are unable to upload the file.

- The file is validated against the data project's definition. If either of the validation thresholds (soft or hard) are breached, you can view details of the validation failures in the Validation panel. Note that if the hard threshold is breached you cannot proceed with loading the file.

- The file is loaded into the database table that was created during data project definition.
- Cancel current upload: causes cessation of the current upload.

18.12.1.3 Navigation Buttons

The navigation buttons provide an alternative way of navigating through the wizard-style sequence of data project execution process steps. They are displayed at the bottom right of the panel.

In the Execution tab's Acquisition panel, the Back button is disabled, as the panel represents the first stage in the execution process. Clicking Next displays the Validation panel.

18.12.2 Execution Tab – Validation Panel

The Execution tab's Validation panel is shown automatically following invocation of Validate when defining a data project.

It is not automatically displayed during the data project's second or subsequent file execution. Rather, it only becomes relevant if errors occur during file validation. It may, however, be accessed manually at any point when the Execution tab is displayed.

The Validation panel consists of the following elements:

18.12.2.1 Validation

This section is shown when the current file is being or is about to be validated. It contains the following read-only fields:

- Name: the name of the file being validated
- Started: the date and time at which validation started

18.12.2.2 Validation Results

This section is shown when the current file validation is complete. It contains the following read-only fields:

- Total rows: the number of rows within the file
- Processed: the number of rows actually validated
- Validated successfully: the number of rows that passed validation
- Validation failures: the number of rows that failed validation, details of which are shown in the section below

18.12.2.3 Details

This is a read-only grid that lists individual validation errors. It contains the following columns:

- Row: the number of the row in the file where the validation error occurred
- Field Name: name of the field within which the validation error occurred
- Message: details of the validation failure

You can page through validation failure details, 50 records at a time.

18.12.2.4 Breached Validation Thresholds

If the soft validation threshold (defined by system configuration setting `WarningPercentValidationFailures`) is breached, validation error details are displayed. You can proceed with loading the file; however, any invalid rows are not loaded.

If the hard validation threshold (defined by system configuration setting `MaximumPercentValidationFailures`) is breached, the Validation panel assumes the Validation Failed status. You cannot proceed with loading the file.

18.12.2.5 Actions Panel

The Actions panel is shown to the right.

It contains the following button, which is enabled as appropriate:

- View Field Analysis: clicking this button displays the Field Analysis panel in the Definition tab.

18.12.2.6 Navigation Buttons

The navigation buttons provide an alternative way of navigating through the wizard-style sequence of data project execution process steps. They are displayed at the bottom right of the panel.

In the Execution tab's Validation panel, clicking Back displays the Acquisition panel and clicking Next the Load panel.

18.12.3 Execution Tab – Load Panel

When defining a data project, you must navigate to the Execution tab's Load panel manually following the initial file's validation.

The Load panel is not automatically displayed during execution of a data project's second or a subsequent file. It may, however, be accessed manually at any point when the Execution tab is shown.

The Load panel consists of the following elements:

18.12.3.1 Data Load Section

This read-only section displays details of the current or most recent data load.

It contains the following:

- Drop table: this button allows you to initiate the dropping of the table associated with the data project. It is protected by an 'Are You Sure?' dialog. Clicking the button creates a Data project drop table job and displays it in the My Jobs Dialog. The job handles deletion of the table.

After the table has been deleted, a check is performed prior to a subsequent data to ensure that the table is created again before the data project's execution.

- Name: the name of the file
- Started: the date and time at which the load started

18.12.3.2 Results

This section displays the results of loading a file. The following read-only results are shown:

- Rows read
- Rows filtered
- Rows loaded
- Rows updated

A Log of events that occurred during the load is displayed at the bottom of the Results section. A read-only list of log messages relating to the current data project file, is displayed in chronological order.

When errors occur during load, an orange advisory message is displayed above the Log. When you click the message, a context menu is displayed, exposing a single option:

- Download...: selecting this option displays a Windows file system dialog to allow you to select a location to which to download the error file. By default, the file is named "Error log for [data project name].txt". You can download the file to your local or network file system. Following successful download, an advisory message is displayed.

The error file's structure is as follows:

- Header
 - Error Message
 - Redpoint Data Management Job ID
 - Double-quoted, comma delimited list of fields in file
- One entry per row not loaded, in a two-column, comma-separated format:
 - The first column contains the error message, including the line number where the error occurred.
 - The second column contains the full text of the input record in its original format.

18.12.3.3 Navigation Buttons

The navigation buttons provide an alternative way of navigating through the wizard-style sequence of data project execution process steps. They are displayed at the bottom right of the panel.

In the Execution tab's Load panel, clicking Back displays the Validation panel. Next is disabled, as Load represents the final step in the execution process.

18.13 History Tab

The Data Project Designer's History tab is used to view details of the files loaded within a data project. It is available immediately upon creating and saving a new data project.

The tab consists of:

- Data Project History list
- Selected History Details panel

Each is discussed separately.

18.13.1 Data Project History List

The left-hand side of the History tab displays a read-only list of the data project's files. Files are displayed in reverse chronological order. For each, the following read-only details are displayed:

- File name
- Status icon:
 - Completed: tick
 - Failed: cross
- Status
 - Failed: a failure occurred and further progress is not possible without manual intervention
 - Completed: the load completed successfully
- Started: the date/time file processing began
- Completed: the date/time file processing ended

You can highlight a file to view its details in the Selected History Details panel to the right.

18.13.2 Selected History Details Panel

The following toolbar buttons are shown at the top of the panel:

- **View sample:** this button is available when the selected file load has completed. Clicking this button shows a sample of the data in the read-only Loaded Data Sample dialog. Note that the SEQ_NUM, BRAND_DT, JOBID and BRAND_FILE columns are created automatically by RPI during data load.

You can close the dialog by clicking the OK button.

- **Download:** on invocation of this option, you can download the file stored in the FileAssets folder within the current RPI server's FileOutputDirectory. A Download file job is initiated at the My Jobs dialog (for more information, please see that interface's documentation). On its completion, you can open the downloaded file.

The Selected History Details section contains the following:

- **Started:** the date/time file processing began
- **Completed:** the date/time that the load completed
- **Validation Results section:**
 - Processed
 - Successes
 - Failures
- **Load Results section:**
 - Total rows
 - Rows read
 - Rows filtered
 - Rows loaded
 - Rows updated
- **Log Details:** presented in chronological order

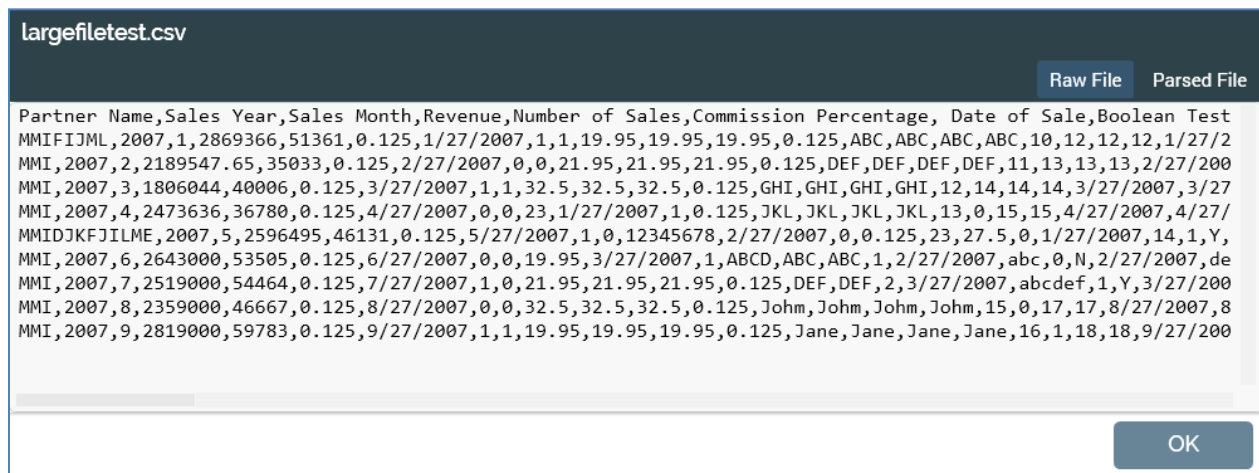
18.14 Preview Dialog

The Preview dialog is displayed in a modeless state (you can keep it open while accessing other RPI interfaces).

It serves two distinct purposes, depending on the type of file that you uploaded.

18.14.1 Delimited File

When invoked for a delimited file, the Preview Dialog displays a read-only sample of data from the file.

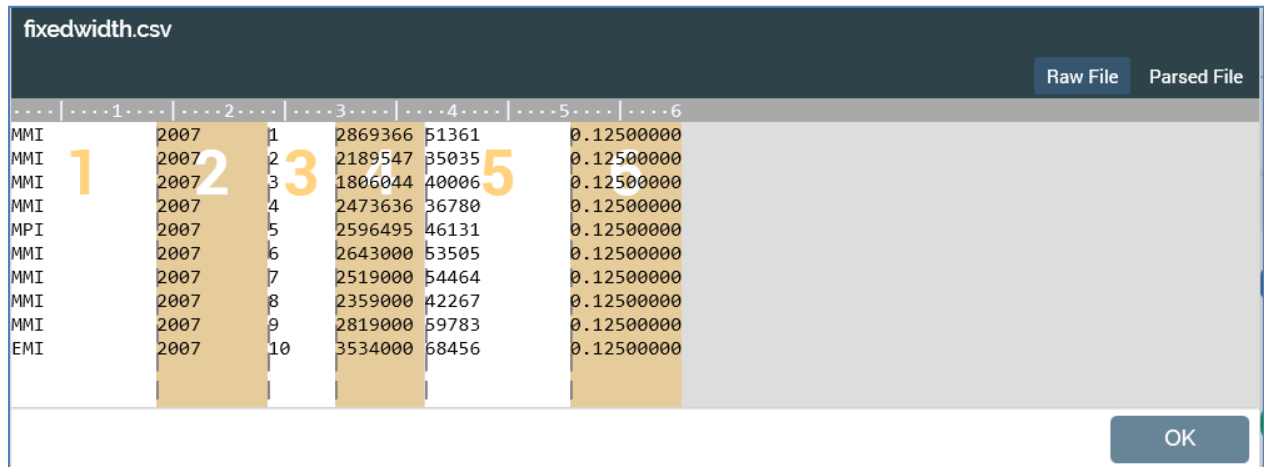


The dialog contains:

- File name
- A toolbar that contains the following buttons:
 - Raw File: selected by default; shows the contents of file “as is” (as per image above).
 - Parsed File: when selected, displays the contents of file are parsed into separate columns. Field names are shown as headers.
- File contents: raw or parsed, depending on the button selected. [n] rows are displayed (where [n] is defined by system configuration setting NumberOfPreviewRows). If a parsed file is shown, “<<Error>>” represents a validation error within a field in the file.

18.14.2 Fixed-width File

When invoked for a fixed-width file, the Preview Dialog's primary role is to allow you to observe the decisions made by RPI in determining the field boundaries within the file, and to make any necessary manual adjustments.



The dialog contains:

- File Name
- A toolbar that contains the following buttons:
 - Raw File
 - Parsed File

See below for details of each.

- File contents:
 - Raw File: separate fields are identified using a dashed grey vertical separator and alternating white/brown backgrounds. A number watermark (which corresponds with the Number column in Definition.Field Analysis' Fields grid) is displayed in a negative color.

You can click within the dialog to identify field boundary positions. A numerical positional indicator 'ribbon' is displayed across the top of the dialog. The click position is identified using a red line.

Clicking other than on an existing separator adds a new grey vertical separator.

Clicking an existing separator removes it from display. Adding/removing columns affects columns to the right of the point where clicked, with existing downstream fields being adjusted to reflect a field's insertion or removal. Any changes to column structure are mirrored immediately in the Fields grid in the Field Analysis panel.

Note that you cannot create a field boundary at position 0 or at the end of the file.

- Parsed File: when re-analysis is pending (i.e. following initial analysis, or after having made manual adjustments to field boundaries), displaying the File Preview dialog in Parsed view causes a 'Please re-analyze the file...' message to be shown.

Post-re-analysis, Parsed File displays the contents of file parsed into separate columns. Field names are shown as headers.

18.15 Data Project Processing

The following sections provide more detail on the activities undertaken by RPI during data project definition and execution.

18.15.1 File Analysis

The current RPI release supports the processing of delimited and fixed-width files. RPI attempts to determine the nature of a file during file analysis. Checks are undertaken in the following sequence:

1. If all lines are the same length, and noticeable spacing patterns (at least 50% of lines have a minimum of one common space) are present, the file is deemed to be fixed-width.
2. If the file can be parsed as delimited, it is defined as such.
3. If the file has variable line lengths, but also contains noticeable spacing patterns, it is determined to be fixed width.

18.15.1.1 Delimited File Analysis

If the file is delimited, the system analyzes the first [x] records, then every 1 record in [y] (where [x] is defined by system configuration setting NumberFirstLinesToRead, and [y] is defined by system configuration setting AnalyzeEveryNLines).

RPI is able to determine the following high-level information during analysis of a delimited file:

- Delimiter: supported delimiters are defined by the system configuration settings FileAnalysisDelimiters and FileAnalysisDelimitersSeparator (the latter is used to parse the list of delimiters provided in the former). If the file happens to be delimited using another character, RPI is unable to analyze it. In this case, it is necessary to define the delimiter manually, and invoke Re-analyze. Note that the Tab character is defined using "\t".
- Header row: RPI is able to determine whether the file has a header row by testing for the following conditions:
 - If all of the first row's fields contain string values, and at least one other row contains a non-string value, the file is determined to contain a header row.

- Skip lines: RPI can make a rudimentary determination of the number of rows at the beginning of a file to disregard as non-data in nature. If a header row is present, Skip lines is set to 1; if a header rows is not present, it is set to 0.

18.15.1.2 Fixed-width File Analysis

If the file is fixed-width, RPI undertakes initial determination of its field boundaries. The first [x] rows of file are analyzed (where [x] is defined by system configuration setting NumberFirstLinesToRead). Note that the file's first line is not skipped.

RPI looks for the occurrence of spaces at the same location within more than [y]% of file (where [y] is defined by system configuration setting FixedWidthSpaceThreshold) to determine locations of likely field boundaries. No initial schema or content analysis is performed. The file's schema is only analyzed during re-analysis.

18.15.2 Schema Analysis

As well as determining high-level information relating to the file as a whole, RPI is able to make an "educated guess" as to the fields the file contains.

Note that a file's schema is only analyzed at initial analysis when the file is delimited. If the file is fixed-width, its schema is analyzed at re-analysis (post-confirmation of the file's field boundaries).

Note also that there exist a few subtle differences between the actions undertaken during delimited and fixed-width schema analysis – these are described at the end of this section.

For each field in the file, RPI can determine:

- Name: if the file has a header row, the field names it contains are used. Any database-incompatible characters are replaced with underscores. If any non-unique names are present, a space and integer (starting with 2, and incremented if necessary) are appended to ensure field name uniqueness.

If a field name in the header is blank, a "filler" name is used. The filler name consists of a prefix (defined by system configuration setting DefaultFillerFieldNames) and an integer with leading zeroes (starting at 001 and incremented as required).

If no header row is present in the file, fields are named automatically. Automatic field names consist of a prefix (defined by system configuration setting DefaultFieldNames) and an integer with leading zeroes (starting at 001 and incremented as required).

- Data type: RPI is able to determine a field's data type using the following rules:
 - String: a field is determined to be a string if it contains alphanumeric data or a mixture of data. A completely blank column is determined to be String(64).
 - Integer: an integer field contains only integer data. In addition, the field name must end with one of the following:

- CNT
- COUNT
- PRICE
- AMOUNT
- NUMBER
- AMT

If field appears to be Integer but contains one or more leading zeroes, it is typed as String.

- Decimal: all data within the fields must be either integer or decimal. Integers with commas or currency symbols are parsed as decimal. Leading zeroes are disregarded. No field name checking is performed.
- Date: all values must conform to one of the following date formats:
 - M/d/yyyy
 - M/d/yy
 - dddd, MMMM d, yyyy
 - d.M.yyyy
 - d-M-yyyy
 - d/M/yyyy
 - d.M.yy
 - d-M-yy
 - d/M/yy
 - d MMM yyyy
 - d MMMM yyyy
 - d MMMM yy
 - d MMM yy
 - d-MMM-yy
 - yyyy-M-d

If two competing formats are found, the field defaults to String.

- Time: values must conform to one of the following time formats:
 - H:m:s.fff
 - H:m:s
 - h:m:s.ffff
 - h:m:stt
 - h:m:s.fff tt
 - h:m:s tt
 - H:m
 - h:mtt
 - h:m tt

If two competing formats are found, the field defaults to String.

DateTime: all data conforms to a combination of one of the supported Date and one of the Time formats, separated by a space. If two competing formats are found, the field defaults to String.

- Size: only relevant for data types String, Integer and Decimal.
 - String: size is set in accordance with the maximum observed string length within the file. If the size exceeds 4000 characters, data is truncated. If greater than 4, size is rounded up to the nearest power of 2 (i.e. 8, 16, 32, 64, 128, 256, 512, 1024, 2048 up to 4000).
 - Integer: size is set in accordance with maximum number of digits observed.
 - Decimal: size is set to the field's precision – the maximum number of pre-decimal digits plus the maximum number of post-decimal digits.
- Scale: only relevant for Decimal data. Scale is set to the maximum number of post-decimal digits.

Schema analysis performed in respect of fixed-width files differs from delimited files as follows:

- Fields cannot be analyzed as integer due to the absence of a header record.
- A numerical field is determined to be a decimal if it contains at least one decimal value (i.e. one value with at least one digit to the right of the mantissa).
- An empty string field's size is determined by the actual field width, rather than being set to 64.
- A string field's size is set to the actual field width, as opposed to using the "power of two" rule.

18.15.3 Validation

RPI performs validation to ensure that records within the file to be loaded conform to the rules specified within the data project's definition.

The first [n] records from the file are validated, followed by every 1 record in [x]. [n] is defined by system configuration setting NumberFirstLinesToRead. [x] is defined by system configuration setting ReadEveryXLines.

A number of types of validation are performed:

- Row-level validation: RPI must be able to parse the row. Validation fails if too many or too few fields are present.
- Data type validation: the validation checks undertaken are determined by the type of data:
 - String: the data must fit the defined size
 - Integer: the data must be a valid integer, and must fit the defined size
 - Decimal: the data must be a valid decimal or integer, and must fit the defined size
 - Date: the data must be a valid Date, and no Time component may be present
 - Time: the data must be a valid Time, and no Date component may be present
 - DateTime: the data must be a valid DateTime, Date or Time.
- Key constraint validation: a record must not violate any user-specified primary key constraint.

18.15.4 Load

When RPI loads a file into the data warehouse, a number of steps are undertaken:

- When loading the data project's first file:
 - A database table is created. The table is named "UD_ + [table name]" ([table name] being supplied by the user in the Definition tab's File Analysis panel). All fields within the table are created as nullable. Fields are created in accordance with the data type and size stipulated at definition. If a table of the same name already exists, it is dropped and replaced.
 - Data is loaded into the table.
 - To support future Redpoint Data Management functionality, the following fields are always added to the custom table into which data is loaded:
 - BRAND_FILE (Nvarchar (128))
 - SEQ_NUM (Bigint)
 - BRAND_DT (DateTime)

- JOBID (Nvarchar (64))
 - A SQL Server primary key is created in accordance with any specified Key settings.
 - If loading a second or subsequent file within a data project:
 - The actions undertaken are dependent on the value selected for Post-initial load behavior in the Definition tab's File Analysis panel:
 - Insert new, update existing: new records are inserted into the table. Existing records (as defined by the data project's key) are updated.
 - Insert only: new records are inserted. Any existing records are treated as errors.
 - Update only: existing records are updated. Any new records are treated as errors.
 - Complete refresh: the existing contents of the table are erased and replaced by the records in the file.
- Note that, in all cases, only valid records are loaded. Any trailing and preceding spaces within the data are trimmed.
- The data file is archived, being copied to the folder defined by system configuration setting DataIntakeArchiveDirectory. Each data file is stored in a uniquely-name subfolder.

18.16 Audit

In keeping with other RPI functional areas, significant actions undertaken within the Data Project Designer result in the automatic creation of audit records within the AuditHistory table in the client's logging operational database. All audit records' AuditType values are set to "Data Intake", and AuditSubType values are set as follows:

- Invalid data source
- Data load started
- Load complete
- Validation failure (soft or hard limit breach)
- Load failed

19 Dashboards

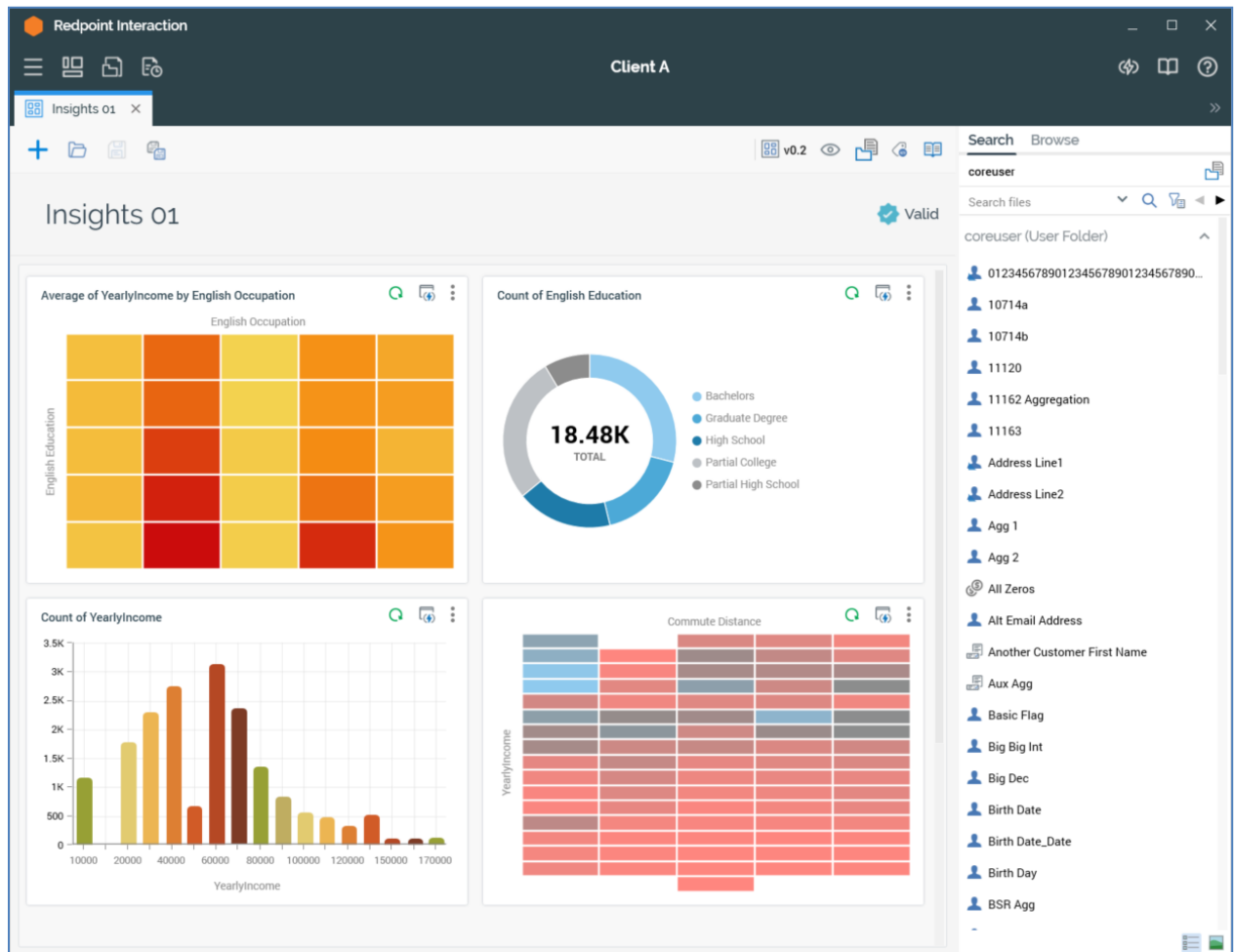
RPI dashboards allow you to collate a series of widgets, and display them within a single tab in the RPI user interface.

19.1 Dashboards

Dashboards are stored as files in the RPI file system, the same way as any other file type. Dashboards are created and edited in the Dashboard Designer interface. Dashboards are viewed in the Dashboard Viewer.

19.2 Dashboard Designer

The Dashboard Designer is displayed in its own tab in the RPI framework.



It is used to create and manage dashboards and the widgets that they contain.

The Dashboard Designer contains the following elements:

- Toolbar
- Properties
- Toolbox
- Widgets

Each of the above is documented separately.

19.3 Invoking the Dashboard Designer

You can invoke the Dashboard Designer in the following ways:

- From the quick access menu's Dashboards menu. The menu exposes the following options:



- From a Tasks or File Type widget. Typically, these might be displayed at your Home Page. For more information on widgets, please see the Dashboard Designer documentation.
- By double-clicking a dashboard file in the File System Dialog, or by highlighting a dashboard and clicking OK in the same context.

Note that access to the Dashboard Designer is controlled via the Dashboard – Design functional permission. If none of the user groups of which you are a member are associated with this permission, you will not be able to access the Dashboard Designer.

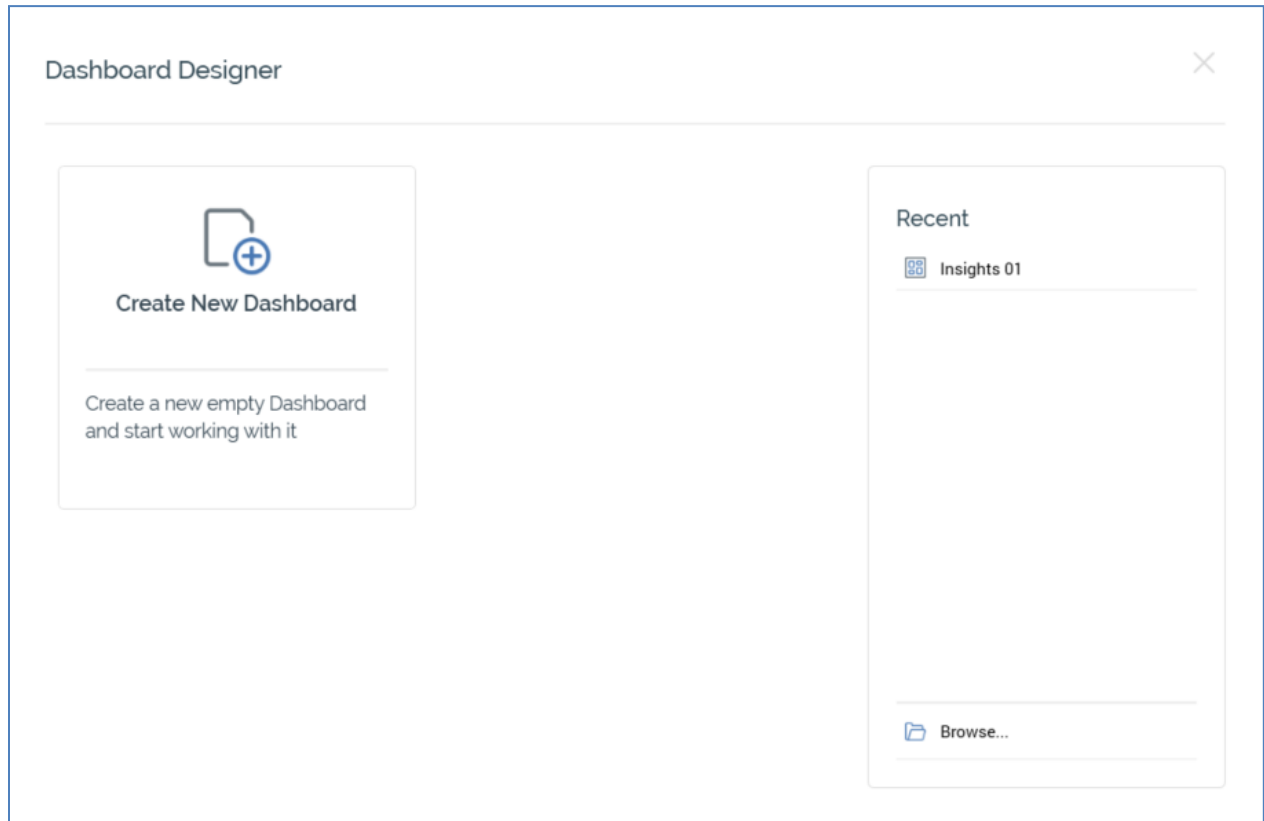
19.4 Closing the Dashboard Designer

You can close the Dashboard Designer by closing the tab within which it is displayed, or by shutting down RPI itself. If you do so when the Designer contains a dashboard with unsaved changes, a dialog is shown, within which you can choose to do the following:

- Save the changes and proceed with closing the Dashboard Designer
- Abandon the changes and proceed with closing the Dashboard Designer
- Cancel closing the Dashboard Designer or RPI.

19.5 Start Page

The Dashboard Designer Start Page is shown upon invocation of Dashboards at the quick access menu, and also on clicking Create new Dashboard at the Dashboard Designer toolbar. It contains the following:



- Create New Dashboard button. Clicking the button displays a new, unconfigured Dashboard in the Dashboard Designer.
- Recent: lists recently-accessed dashboards, facilitating the opening of the same.
- Browse: displays the Open Dashboard File System Dialog, allowing you to select a dashboard to open.

A Cancel button is shown at the top of the Start Page. Clicking it removes the Start Page from display, and redisplay the Dashboard Designer. The Cancel button is only shown on invocation of the Start Page by clicking Create new Dashboard at the Dashboard Designer toolbar.

19.6 Toolbar

The Dashboard Designer toolbar exposes the following options:



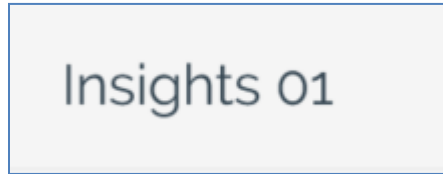
- Create new Dashboard: clicking this button displays the Dashboard Designer Start Page. A close button is shown to its top right; clicking it removes the overlay from display. If a dashboard containing unsaved changes is displayed at invocation of Create New, an 'Are You Sure?' dialog is shown, from which you can:
 - Save the changes
 - Abandon the changes
 - Abandon creation of the new Dashboard
- Open an existing Dashboard: invocation of this option displays the Open Dashboard File System Dialog. You can navigate accessible folders in the RPI file system to locate the dashboard that you wish to open. Only dashboard files are shown. Having located a dashboard, you can click OK or double click it to display it in the Dashboard Designer. You can also click Cancel to close the File System Dialog without opening a dashboard.

If a dashboard or containing unsaved changes are displayed, you can:

- Save the changes
- Abandon the changes
- Abandon opening the dashboard
- Save the current Dashboard: this option is disabled when no outstanding changes are present within the dashboard. If the dashboard has not been saved, Save behaves like Save As.... If dashboard has previously been saved, invocation of this option saves any dashboard changes to the existing dashboard file.
- Save the current Dashboard as...: invocation of this option displays the Save Dashboard As... File System Dialog, allowing stipulation of the filename to which to save the new dashboard file.

19.7 Configuring a Dashboard's Name

A dashboard's name is configured in the large property shown at the top of the Dashboard Designer, below the toolbar:



Provision of a name is mandatory, and the value provided may be a maximum of 100 characters. The dashboard's name is the same as the filename under which it is saved within the RPI file system. As such, it must be unique amongst the dashboards in the folder within which saved.

You can edit a dashboard's name by clicking the property. Complete the edit by clicking off the property, or by hitting return.

19.8 Dashboard Validation

Before a dashboard or widget can be used, it must be valid.

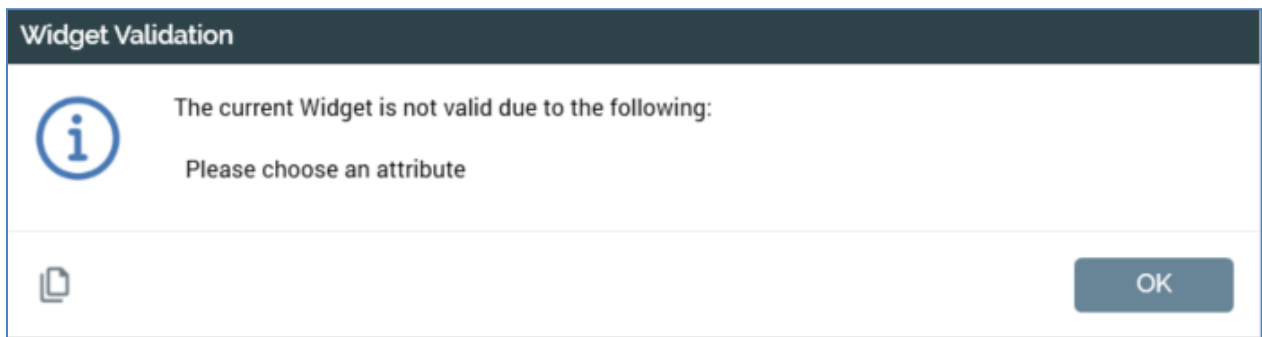
A validation status indicator is displayed to the right of the dashboard's name, and at certain widgets' footers. When the dashboard or widget is valid and contains no validation errors, the validation status indicator is shown as follows:



Specific validation errors are outlined in the dashboard documentation. When one or more validation errors is present, a validation error indicator is shown:



Clicking the indicator lists the validation errors in a dialog:



You can use the button at the bottom left of the dialog to copy the validation error details to the clipboard. You can close the dialog using the OK button.

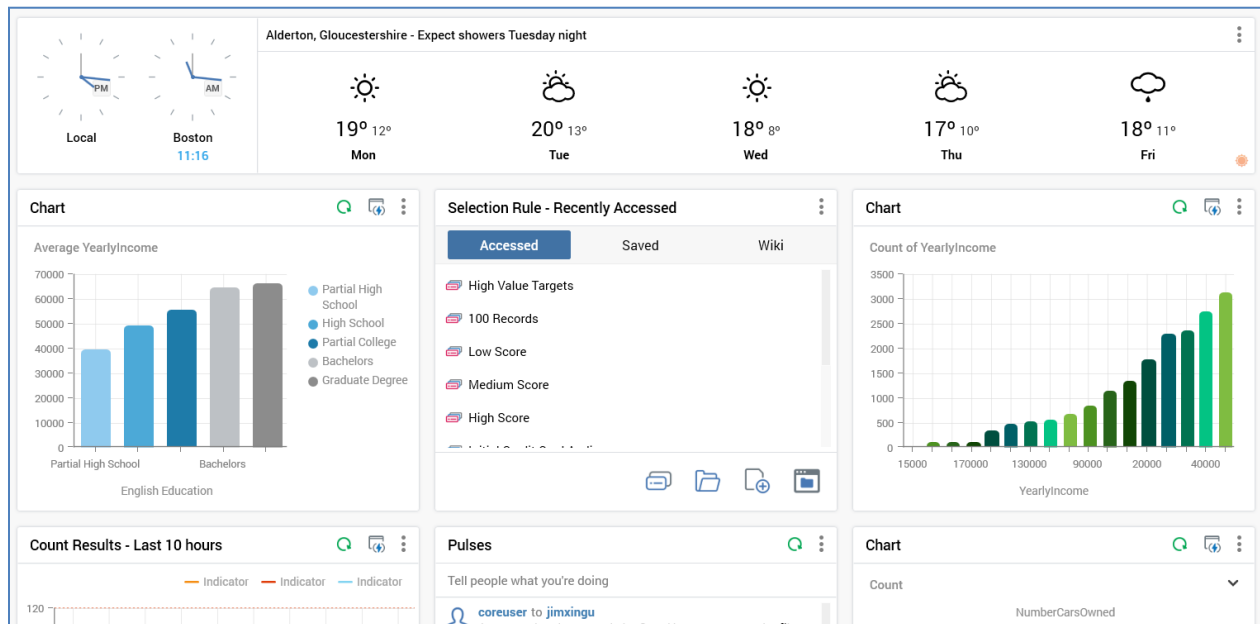
19.9 Toolbox

The Dashboard Designer toolbox contains a the standard RPI Folder Search component, which is covered in the Framework documentation.

The toolbox is constrained to display only attribute, interaction, offer and selection rule files.

19.10 Widgets

A dashboard is made up of a series of widgets.



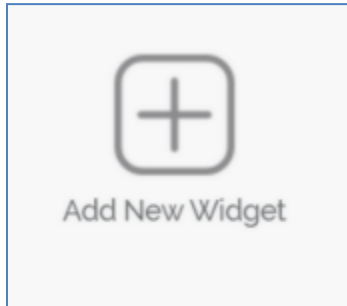
The following types of widget are available:

- **Channel Overview:** this widget allows you to select a channel, and then view its results over time using chart types of your choosing.
- **Chart:** allows you to select an attribute and view a visual representation of the breakdown of its values. You can optionally select a function attribute, and view aggregated counts based on the same.
- **Count Results:** this widget allows you to choose one or more selection rules, and the view counts and aggregated counts across time using chart types of your choosing.
- **File Approval:** displays lists of files in respect of which a user's attention is required, either as an approver, or as an approval requester.
- **File Type:** allows you to choose a file type in respect of which to gain easy access to tasks, recent examples thereof, linked widget pages, etc., all from the context of a dashboard.
- **News Reader:** this widget allows you display entries from an RSS feed in a dashboard.
- **Pulses:** facilitates communication between team members using RPI's Pulses feature.
- **Tasks:** this widget can be configured with a series of tasks (e.g. Open Audience) and/or files of your choosing, thereby providing easy access to the same from a dashboard.
- **Time and Weather:** this widget allows you to display world clocks, and/or a weather forecast for a location of your choice.

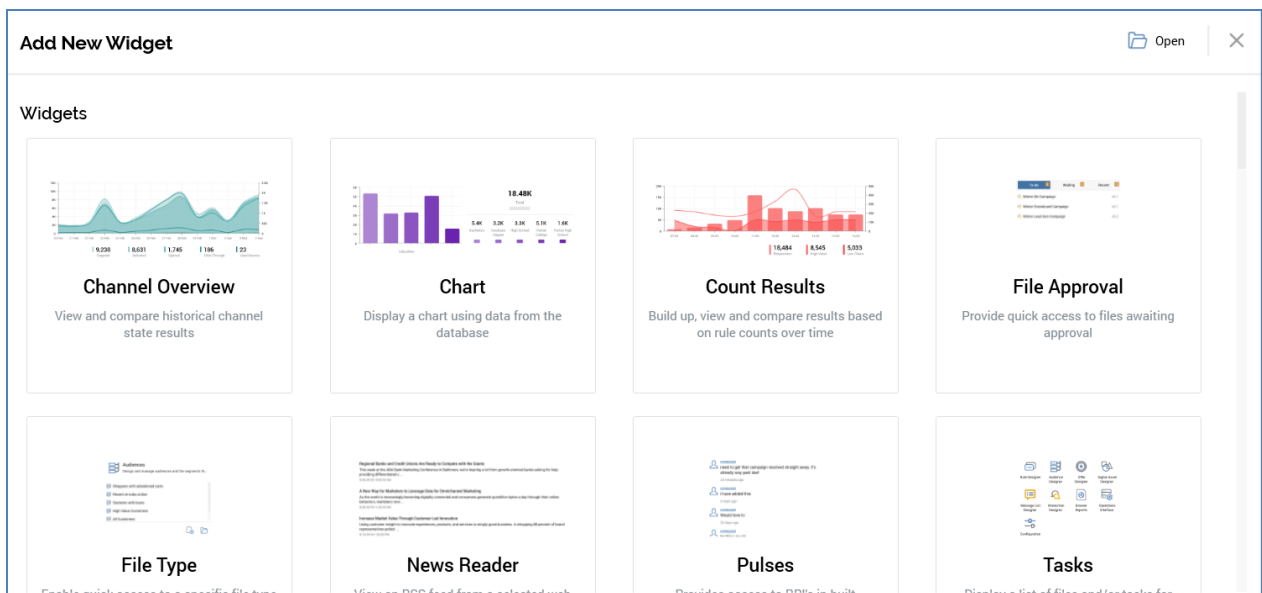
- Twitter Feed: allows you to select a Twitter channel, associated with a Twitter feed, and then view the tweets made by that channel. Also allows you to specify a keyword, search for Twitter posts containing the same, and display them in the widget.

19.11 Adding Widgets

A dashboard consists of a number of widgets, each configured as required. No widgets are initially present within a new dashboard. You can click the Add New Widget button to initiate the process of adding a new widget to a dashboard.



When you do, the Add New Widget overlay is shown.



The overlay allows you to add a new or saved unconfigured or pre-built widget to the dashboard. It contains the following:

- **Open:** this button allows you to add a widget to the dashboard from a file saved to the RPI file system. Clicking the button presents an Add Widget File System Dialog. Only Widget files are displayed therein. You can select a saved widget and click OK to add it to the current dashboard. Note that any changes made to a widget sourced from the file system are not saved back to the persisted file.
- **Cancel:** removes the overlay from display without adding a widget.
- The initial Widgets section allows you to add the following types of widget:

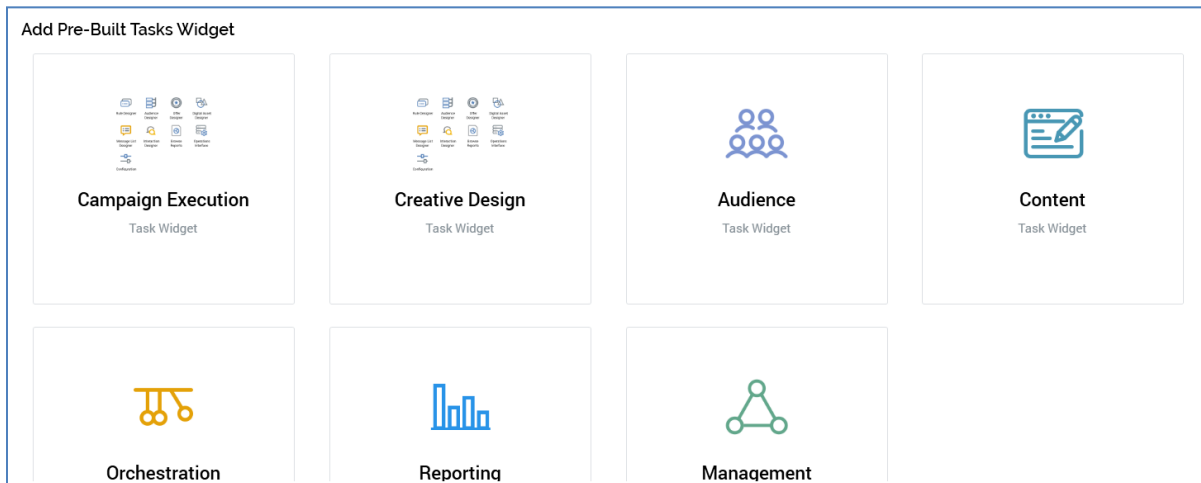
- Channel Overview
- Chart
- Count Results
- File Approval
- File Type
- News Reader
- Pulses
- Tasks
- Time and Weather
- Twitter Feed

You can also add a Header.

Having elected to build your own widget, a configuration overlay is displayed. Each widget type's configuration is documented separately.

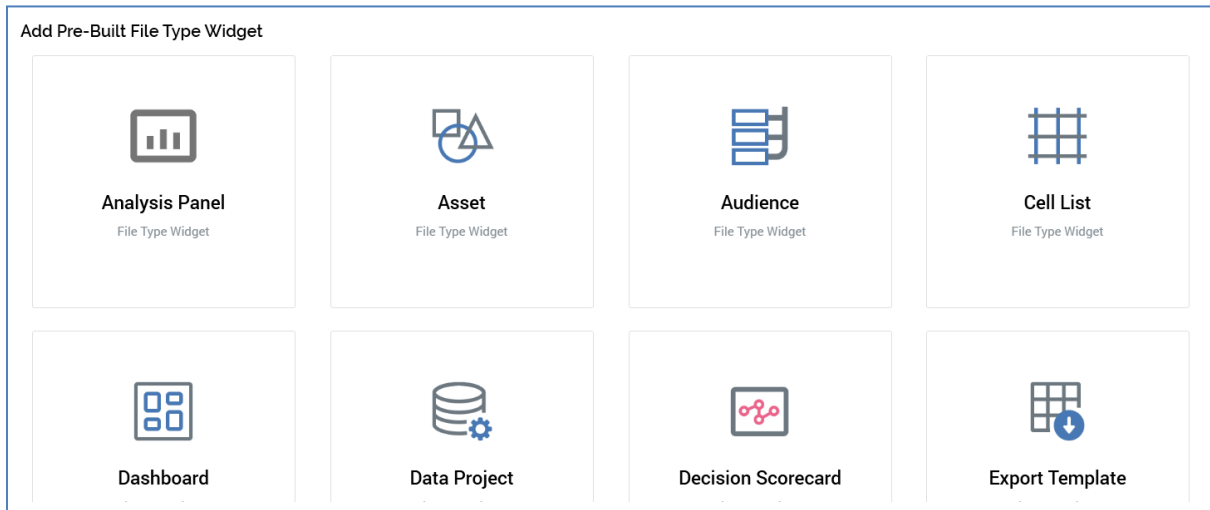
The subsequent sections allow you to add pre-configured widgets to the dashboard:

- Add Pre-Built Tasks Widget: a series of options are displayed:



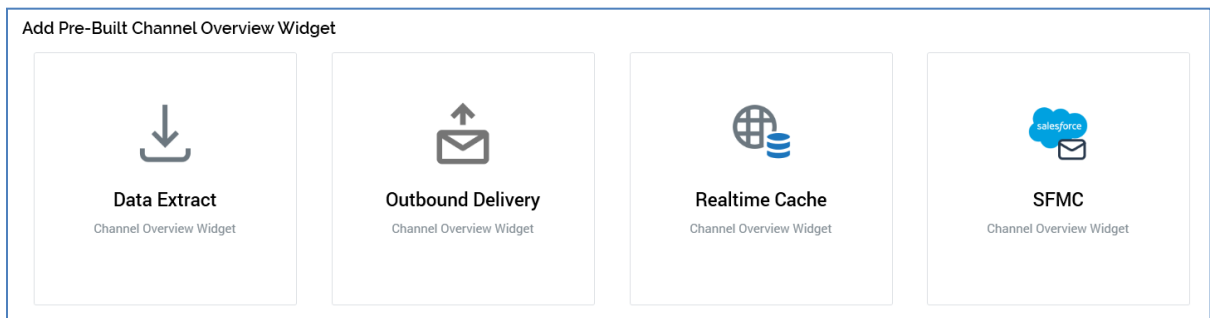
- Campaign Execution
- Creative Design
- Audience
- Content

- Orchestration
- Reporting
- Management
- Add Pre-Built File Type Widget



One option per file type (to which the user has access) is displayed. Choosing an option adds a file type widget to the dashboard, which is pre-configured with the selected file type.

- Add Pre-Built Channel Overview Widget

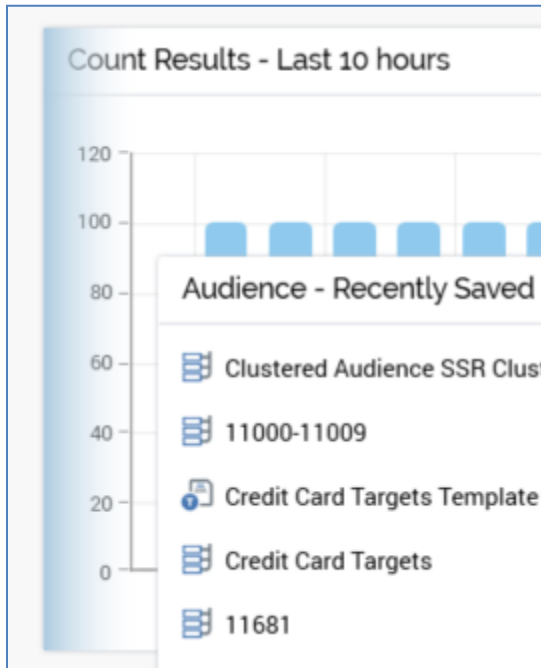


One option per existing channel is selected. Choosing an option adds a channel overview widget to the dashboard, which is pre-configured with the selected channel.

If you elect to add a pre-built widget, it is added immediately to the dashboard without display of its configuration overlay.

Note that the maximum number of widgets and headers that can be added to a dashboard is controlled by system configuration setting `MaxDashboardWidgets`.

You can re-order the widgets and headers shown within a dashboard using drag and drop. When you do so, shading indicates where the object being moved can be dropped.



A No drop cursor is shown where dropping would be inappropriate.

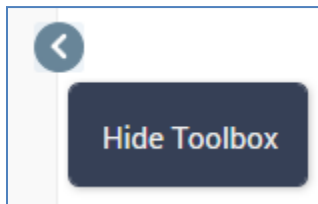
19.12 Configuration Overlay

All widgets are configured using a configuration overlay, which is displayed:

- On electing to build your own widget. The new widget is added to the bottom of all existing widgets with the configuration overlay visible.
- On clicking Configure at an existing widget displayed within a dashboard. The configuration overlay is displayed over the widget at its original position

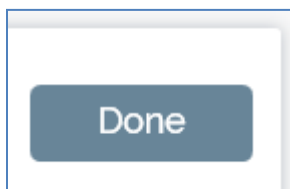
The widget configuration overlay consists of a header, left-hand properties toolbox and right-hand preview panel.

A button facilitates the hiding and showing of the properties toolbox at some widgets:



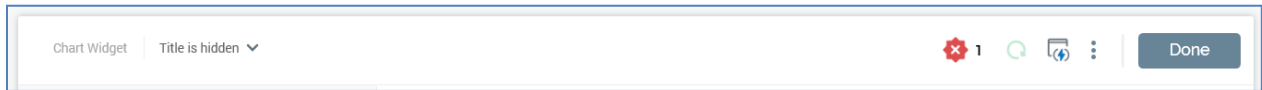
The header is shared by all widget configuration overlays; properties and preview panels are unique to each widget type, and are described on a widget-by-widget basis.

Having added a new widget, or having made changes to its configuration, you can click the Done button to the top right to save your changes and show the widget in display mode.



19.13 Configuration Overlay Header

The configuration overlay's header contains the following:

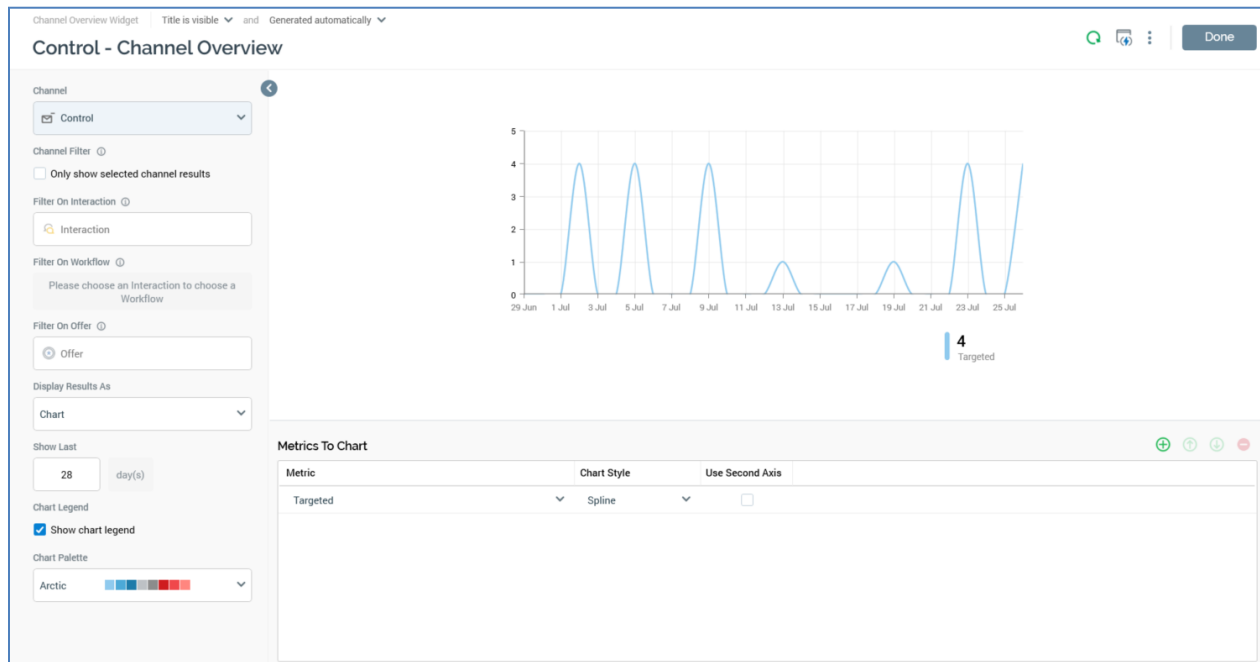


- Widget type: read-only
- Title is hidden/visible: this dropdown allows you to specify whether a title should be displayed at the widget. The title is visible at a new widget unless stated otherwise within this documentation. The widget's title is shown or hidden in both display and configure mode in accordance with this setting.
- Set manually/Generated automatically: this dropdown is displayed if the widget's title is visible. It is set to 'Generated automatically' unless stated otherwise within this documentation. If set manually, the Title property is writeable. If generated automatically, the widget's title is set by default to the name of the widget type unless stated otherwise in this documentation
- Title: if writeable, this property is optional, and accepts a maximum of 100 characters.
- Validation errors: this indicator is only displayed if one or more errors are present in the widget's configuration. You can click the indicator to view details of the validation issues in a dialog.
- Refresh: clicking this button refreshes the widget with its latest available data.
- Share as Pulse: this button is shown at the Chart, Count Results and Channel Overview widgets. It allows you to share an image of the current state of a widget as a Pulse message. Sharing of widget content as a Pulse is discussed in its own section within this documentation.
- Actions: this context menu exposes the following options:
 - Display Size: allows the widget's size to be defined as one of:
 - Normal
 - Wide
 - Entire Width
 - Copy Image to Clipboard: invocation copies an image of the widget to the clipboard and displays an informational message.
 - Save As: clicking this button displays the Save Widget As File System Dialog, facilitating the saving of the widget as an autonomous file in the RPI file system. When saved, the file has a type of Widget, and a sub-type as per the type of widget in question. Note that you cannot open a widget file directly.

- Clone: clicking this button creates an exact copy of the current widget, and places it in the next ordinal position in the current dashboard. Clone is not available when the maximum number of widgets are already present in the dashboard.
- Remove: clicking this button removes the widget (and all of its associated configuration) from the dashboard. Remove is protected by an 'Are You Sure?' dialog.
- Done: clicking this button removes the configuration panel from display, and presents the widget in display mode.

19.14 Configuration Overlay – Channel Overview Widget

The Channel Overview Widget configuration overlay contains the following:



Properties Toolbox

- **Channel:** this dropdown field lists all of the currently-configured channels. You can select a channel with which to configure the widget. When you do so, one or more Metrics to Chart, appropriate to the channel in question, are added to the grid of the same name. Any existing metrics in the same context are cleared automatically when you change Channel.
- **Channel Filter:** a checkbox, which is unchecked by default. If the property is checked, the widget chart displays results for only the selected channel; if not, results for all channels of that type are shown.
- **Filter On Interaction:** you can optionally browse for an interaction by which to filter the widget's results. Having selected an interaction, you can open its latest version in the Interaction Designer. You can also clear your selection.
- **Filter On Workflow:** prior to selection of an interaction at the Filter on interaction property, the message 'Please choose an Interaction' is displayed at this property. On selection of an interaction, the message is replaced by a dropdown, in which all workflows in the selected interaction are listed (along with a default blank value). Each is accompanied by a trigger-specific icon. You can optionally select a workflow by which to further filter the widget's results; having done so, you can clear your selection. Note that if the selected interaction contains no workflows, the message 'No workflows available' is displayed.

- **Filter On Offer:** you can also optionally browse for an offer by which to filter the widget's results. Having done so, you can open its latest version in the Offer Designer. You can also clear your selection.
- **Display Results As:** this dropdown field exposes values Chart (the default) and List of latest values.
 - When Chart is selected, the widget is rendered as a chart.
 - When List of latest values is selected, the Show last and Show chart legend properties are hidden at the widget configuration panel, and the Chart Style and Use Second Axis columns are disabled in the Rules to Chart grid.
- **Show Last...day(s) :** this integer property allows you to define the timespan over which channel results are to be displayed. It defaults to 14 days, and accepts values from 1 to 31.
- **Show chart legend:** this checkbox, checked by default, controls display of the chart legend at the widget.
- **Chart Palette:** this dropdown field allows you to choose the color scheme to be shown at the widget's chart. It defaults to the Arctic palette.

Preview

A preview of the widget is displayed to the top right.

Metrics to Chart

This property allows you select the channel-specific metrics that are to be displayed in the widget's chart. It consists of a toolbar and a grid.

- **Toolbar:** exposing to following options:
 - **Add new Metric to chart:** this button is enabled when a Channel has been selected. Clicking it adds a new row to the bottom of the grid. The new row's Metric property is set to a value appropriate to the selected channel, and its Chart Style is set to Spline.
 - **Move selected Metric up:** this button is enabled when a metric other than the first in the list is selected. Clicking it moves the selected metric up one position in the grid.
 - **Move selected Metric down:** this button is enabled when a metric other than the last in the list is selected. Clicking it moves the selected metric up one position in the grid.
 - **Remove selected Metric:** this button is enabled when a metric is selected in the grid. Clicking it removes the selected metric from the Metrics to Chart grid without display of an 'Are You Sure' dialog.
- **Grid:** containing the following columns:

- Metric: a dropdown, which lists the states and metrics associated with the currently-selected channel, along with some channel-specific derived states, any states from associated custom state flows and web adapters attached to the channel.
- Chart Style: another dropdown, exposing the following values:
 - Bar
 - Line
 - Area
 - Spline (the default)
 - Spline Area
- Use Second Axis: this checkbox is unchecked by default. If checked, when the widget's chart is rendered, a second axis is shown to the right. This allows you to display values from a second series with a differing scale to that shown at the left.

Note that a maximum of 6 metrics can be displayed at the same time in the widget's chart.

19.15 Configuration Overlay – Chart Widget

The Chart Widget configuration overlay contains the following:

The configuration overlay for the Chart Widget is shown. The main attribute is 'Commute Distance'. The heatmap attribute is 'Attribute'. The function attribute is 'YearlyIncome'. The aggregate function is 'Average'. The filter is 'Using all records'. The order by is 'Attribute value ascending'. The chart palette is 'Arctic'. The chart legend is 'Show legend'. The preview chart shows the average yearly income for different commute distances.

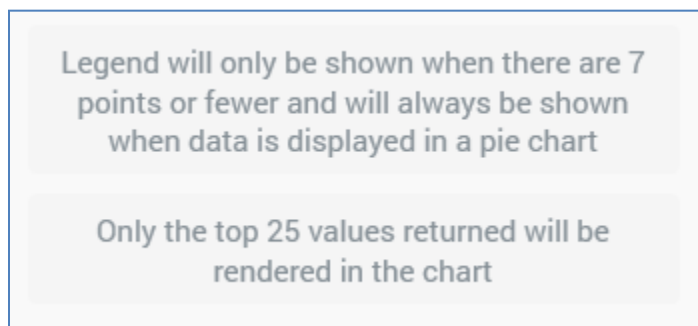
Commute Distance	Average YearlyIncome
1	50K
2	78K
3	50K
4	58K
5	62K

- Attribute: the main attribute to be displayed in the chart. Provision of an RPI attribute file is mandatory. You can browse for one, or supply one using drag and drop. The following attribute types are supported:
 - Database column
 - Flag
 - Function
 - Aggregation
 - Banding
 - SQL Expression

Once the property has been populated, you can open the attribute's file location in the File System Dialog. You can also clear your selection.

- Heatmap Attribute (Optional): you can optionally provide another attribute to display the chart as a heatmap. The attribute provided must be different to the supplied Attribute. You can browse for a Heatmap attribute, or supply one using drag and drop. Once the property has been populated, you can open the attribute's file location in the File System Dialog. You can also clear your selection. On provision of a Heatmap attribute, the Preview image displayed in the configuration panel is updated to show a sample heatmap image. In addition, the Order by and Using properties are hidden, and the Chart palette dropdown is updated to display the available range of heatmap colors. Finally, the 'Legend will only be shown...' explanatory text is removed from display at the Show chart legend checkbox.
- Function Attribute (Optional): you can optionally provide another attribute and view aggregated counts based on the same. Population of the property and restrictions in this context are as per the Attribute property. The attribute selected must be different to the Attribute provided and must be from the same database.
- Aggregates: this property is initially displayed when the widget's Attribute property has been populated. It allows you to select the aggregates that can be displayed in the chart. Each available attribute is accompanied by a checkbox. It is mandatory to select at least one Aggregate. The following aggregates are supported:
 - If only an Attribute is provided:
 - Count: selected by default
 - If an Attribute and an integer, decimal or bigint Function attribute is provided:
 - Count of Attribute values: if selected, the Function attribute is ignored, and a simple count of Attribute values displayed at the chart.
 - Count Distinct: the number of distinct instances of the Function attribute value for each Attribute value is displayed in the chart.
 - Minimum: the minimum Function attribute value for each Attribute value is displayed in the chart.
 - Maximum: the maximum Function attribute value for each Attribute value is displayed in the chart.
 - Sum: the sum of all Function attributes for each Attribute value is displayed in the chart.
 - Average: the average of all Function attribute values for each Attribute value is displayed in the chart
 - If an Attribute and a non-numeric Function attribute of a data type other than Boolean is provided:
 - Count of Attribute values

- Count Distinct
- If an Attribute and a Boolean Function attribute is provided:
 - Count
- Filter: you can optionally choose a selection rule with which to filter the chart. The rule must resolve to the same database as the selected Attribute. Having populated the property, you can open the rule's latest version in the Rule Designer. You can also clear your selection.
- Order By: this property allows you to specify the order in which data is shown in the chart. A dropdown field, it exposes the following values:
 - Attribute value ascending (the default)
 - Attribute value descending
 - Aggregate value ascending
 - Aggregate value descending
- Using: this property is shown when Order by is set to one of the Aggregate... values. A dropdown field, it lists the selected aggregates, and allows you to choose the aggregate by which values in the chart will be ordered.
- Chart Palette: this dropdown property allows you to choose the set of colors to be used when the chart is rendered. 'Reverse' options are provided when a heatmap is to be shown.
- Chart Legend: this checkbox is unchecked by default. If a Heatmap attribute has not been provided, it is accompanied by the following text:



Note that the value cited at the second statement is set in accordance with the current value of system configuration setting AnalyzePageSize.

Preview

A preview of the widget is displayed to the top right.

Notes

Note that the Chart widget is supported running in SQL and NoSQL environments.

Note also that you can configure a widget with an attribute exposing a column marked as PII data; however, a warning will be thrown when trying to refresh the widget.

19.16 Configuration Overlay – Count Results Widget

The Count Results Widget tab configuration overlay contains the following:

Rule	Aggregate Column	Aggregate Function	Title
11000 and 11003	Database column	Count	11000 and 1

Properties Toolbox

- **Display Results As:** this dropdown field exposes values Chart (the default) and List of latest values.
 - When Chart is selected, the widget is rendered as a chart.
 - When List of latest values is selected, the Show last and Show chart legend properties are hidden at the widget configuration panel, and the Chart Style and Use Second Axis columns are disabled in the Rules to Chart grid.
- **Count Frequency:** this property allows you to define the frequency at which the counts or aggregates displayed within the widget are to be calculated. A dropdown field, it exposes the following values:
 - Hourly (the default)
 - Daily

- Monthly
- Show Last: an integer property, which allows you to define the timespan over which results are to be displayed. For example, by setting Count Frequency to Daily and Show... to 10 days, the last 10 days' counts or aggregates will be shown in the widget (once available). The property defaults to 10 and accepts a range of values from 1 to 31 (inclusive). It is accompanied by a note below, which advises that, as counts are generated over time, they will only be displayed when available.
- Chart Legend: this checkbox, unchecked by default, controls the display of the chart legend at the widget.
- Chart Palette: this dropdown field allows you to choose the color scheme to be shown at the widget's chart. It defaults to the Arctic palette.

Preview

A preview of the widget is displayed to the top right.

Tabset

Displayed to the bottom right of the configuration overlay, the tabset exposes Rules and Indicators tabs.

Rules Tab

The tab contains a single property.

- Rules to Chart: this property allows you to choose from one to six selection rules that are to serve as the basis for the counts to be displayed in the widget's chart. It consists of a toolbar and a grid.
 - Toolbar: exposing the following options:
 - Add new Rule: clicking this button adds a new rule to the bottom of the grid. Its Aggregate Function is set to Count, and its Chart style is set to Bar.
 - Move selected Rule up: this button is enabled when a rule other than the first in the list is selected. Invocation moves the rule up one position in the list.
 - Move selected Rule down: this button is enabled when a rule other than the last in the list is selected. Invocation moves the rule down one position in the list.
 - Remove selected Rule: this button is enabled when a rule is selected. Invocation removes the rule without display of an 'Are You Sure?' dialog.
 - Grid: listing the rules to be charted. A maximum of 6 rules can be displayed in the widget. The grid contains the following columns:

- Rule: the selection rule in respect of which counts or aggregated values across time are to be displayed in the widget's chart. You can browse for a selection rule file or initiate the creation of a new rule. Having chosen a rule, you can open its latest version in the Rule Designer. You can also clear the property.
- Aggregate Column: prior to choosing a selection rule, the value 'N/A' is displayed in this column. Having chosen a selection rule, you can use the Choose Database Item dialog to select an aggregate column from the selection rule's resolution table. Having done so, you can clear your selection. Note that provision of an Aggregate Column is optional.

Aggregate Column is always set to 'N/A' when a NoSQL selection rule is to be charted.

- Aggregate Function: this property is initially set to the value Count. If you do not specify an Aggregate Column, it remains as Count. On choosing a non-numeric Aggregate Column, it is set to the value Count Distinct. On choosing a numeric Aggregate Column, a dropdown is made available, listing the following values:
 - Average
 - Count (the default)
 - Maximum
 - Minimum
 - Sum

Aggregate Function is always set to Count in respect of NoSQL selection rules.

- Title: the verbiage to be displayed at the series legend. Set by default to the rule's name.
- Chart Style: a dropdown field, exposing the following values:
 - Bar (the default)
 - Line
 - Area
 - Spline
 - Spline Area
- Use Second Axis: this checkbox is unchecked by default. If checked, when the widget's chart is rendered, a second axis is shown to the right. This allows you to display values from a second series with a differing scale to that shown at the left.

Indicators Tab

The tab contains a single property.

- Indicators to Chart: this property allows you to add one or more horizontal indicator lines to the chart. It consists of a toolbar and a list.
 - Toolbar, exposing the following:
 - Add new Indicator: clicking this button adds a new indicator to the list. Its Label is set to 'Indicator' (if this value exists, an incrementable integer is appended to ensure uniqueness), its Value to '0.00' and its Color to light blue.
 - Move selected Indicator up: this button is available when an indicator other than the first in the list is selected. Clicking it moves the selected indicator up one position in the list.
 - Move selected Indicator down: this button is available when an indicator other than the last in the list is selected. Clicking it moves the selected indicator down one position in the list.
 - Remove selected Indicator: this button is available when an indicator is selected in the list. Clicking it removes the selected indicator without displaying an 'Are You Sure?' dialog.
 - List, exposing the following:
 - Label: a string property. If not set, 'Use default label' text is shown (the default label is rendered as 'Indicator' at the displayed widget). The maximum supported Label length is 100 characters.
 - Value: a mandatory, decimal property, with a maximum permissible value of '999,999,999.99'.
 - Color: the color in which the indicator is to be rendered is shown at an inline button. Clicking it displays a color picker dialog, in which you can choose the color in which the indicator line is to be rendered.

Note that a maximum of 6 indicators can be defined.

Notes

Count results widget counts are calculated by the Calculate Count Results widget counts system task. At its execution, it snapshots counts or aggregate counts of the rules with which count results widgets are configured. The counts thus calculated are stored, so that they can be accessed as required by other users. They are also not deleted if their related widget is removed.

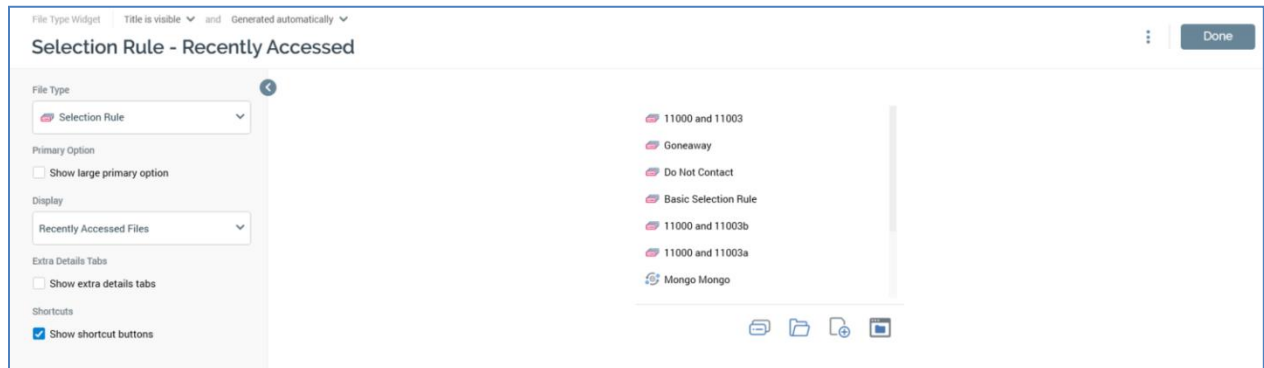
Note also that the ability to create a count results widget does not depend on the Selection Rule – Design functional permissions.

19.17 Configuration Overlay – File Approval Widget

The File Approval widget doesn't have any specific configuration.

19.18 Configuration Overlay – File Type Widget

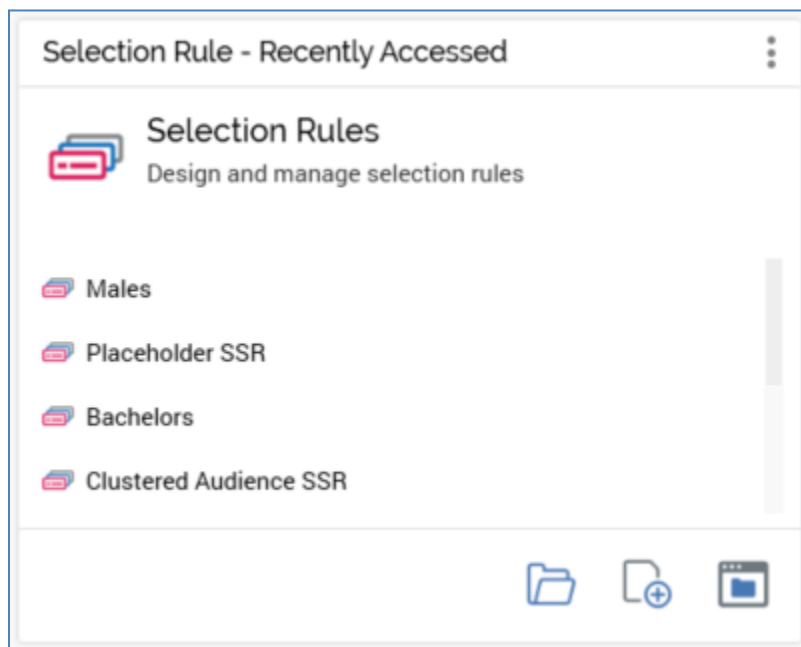
The File Type Widget configuration overlay contains the following:



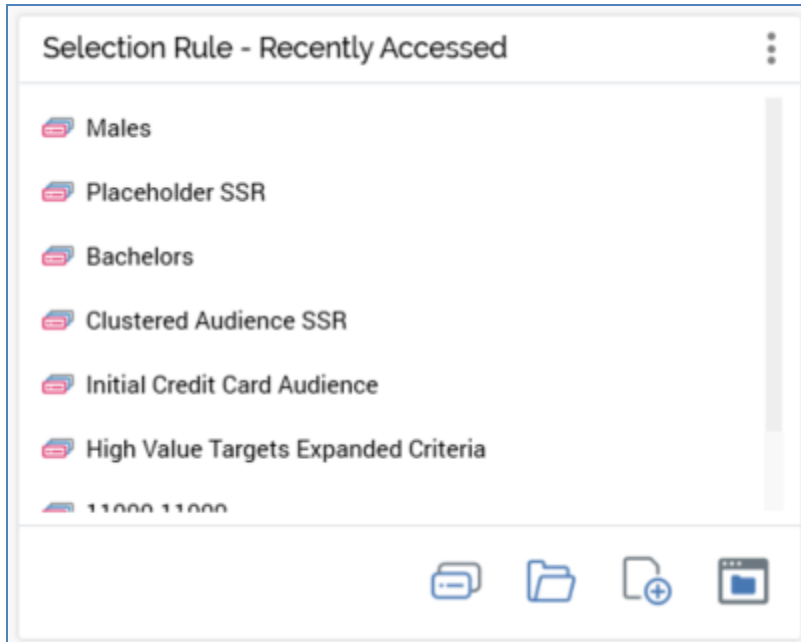
Properties Toolbox

- File Type: this dropdown lists the file types to which the user has access. The following values can be shown:
 - Analysis Panel
 - Asset
 - Audience
 - Cell List
 - Dashboard
 - Data Project
 - Decision Scorecard
 - Export Template
 - Interaction
 - Landing Page
 - Model Project
 - Offer
 - Realtime Decision

- Report
 - Selection Rule (selected by default)
 - Smart Asset
 - Subscription Group
 - Wiki Page
 - Workspace
- Show large primary option: this checkbox is unchecked by default. It controls display of whether a large primary option will be displayed at the widget, as per these examples. If checked:

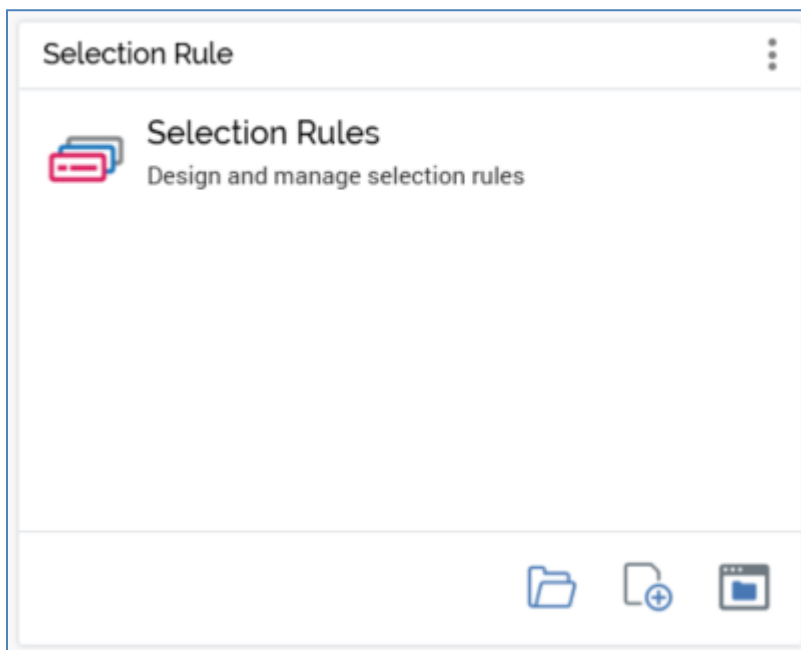


If unchecked:

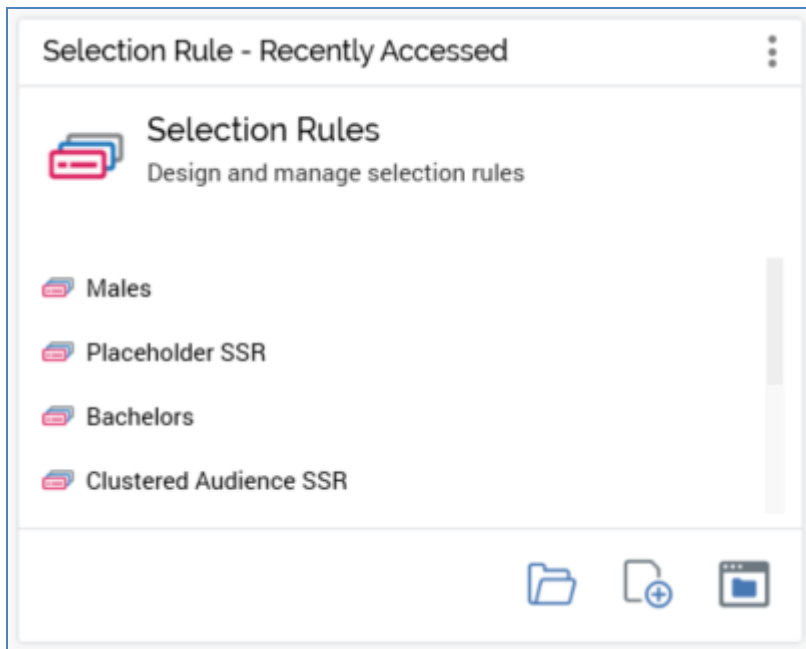


- Display: this dropdown allows you to control whether additional details are to be displayed at the widget. You can select from the display of the following, as illustrated by these examples:

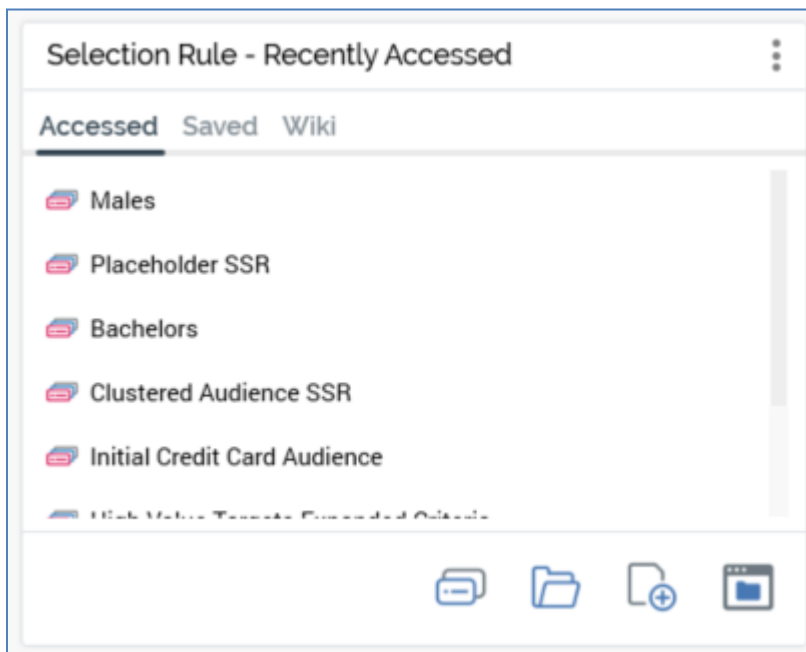
Nothing:



Recently Accessed files (selected by default):

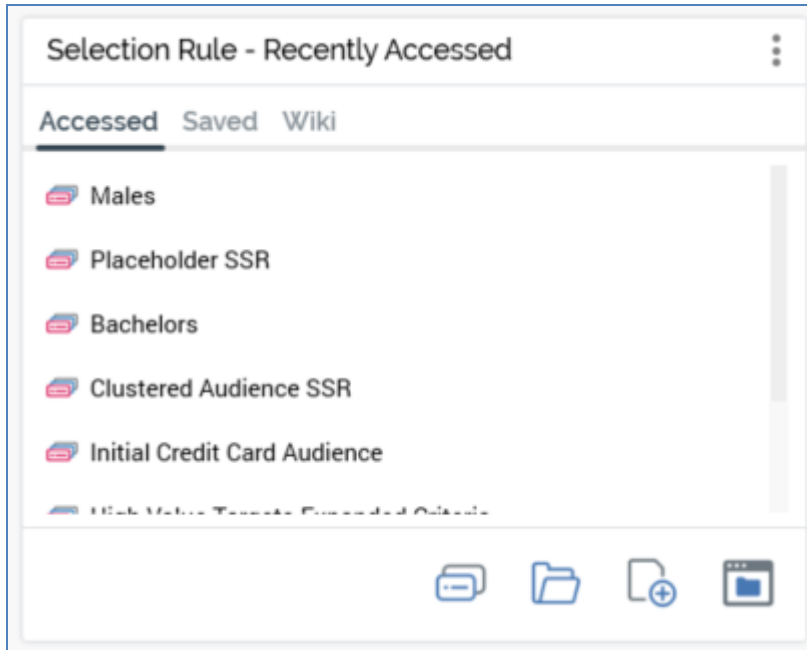


- Show extra details tabs: this checkbox is shown when Display extra details is set to a value other than 'Nothing'. If checked, Accessed, Saved and Wiki tabs are all shown at the widget.

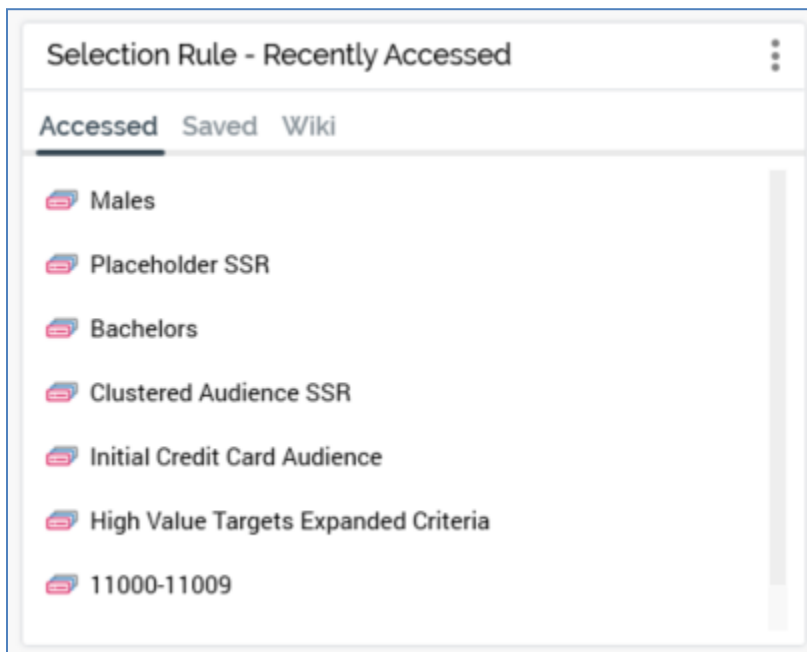


Initial tab selection at the widget is accordant with its Display extra details setting.

- Show shortcut buttons: this checkbox is checked by default. It controls display of a shortcut footer at bottom of the widget, as per the following examples. If checked:



If unchecked:

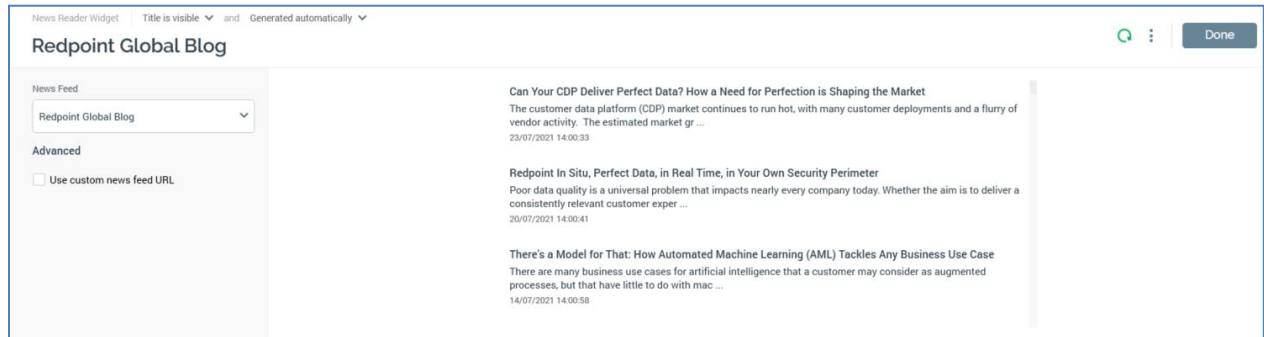


Preview

A preview of the widget is displayed to the top right.

19.19 Configuration Overlay – News Reader Widget

The Configure News Reader Widget configuration overlay contains the following:



Properties Toolbox

- News Feed: a dropdown field, which lists a set of marketing news RSS feeds. It defaults to the Redpoint Global Blog.
- Use custom news feed URL: this checkbox, displayed within the Advanced section, is unchecked by default. When checked, the Custom Feed URL property is shown, and the following read-only text is displayed at News Feed:

Using custom feed URL

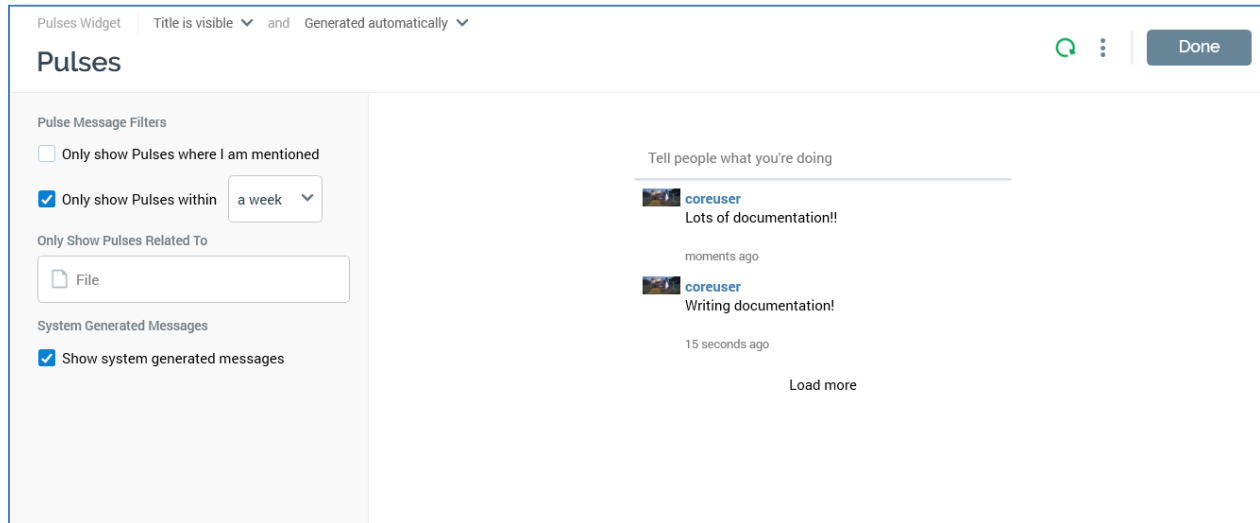
- Custom Feed URL: displayed when Use custom news feed URL is checked, this property initially displays the URL of the selected news feed. You can use the property to specify a URL that returns a valid RSS feed.

Preview

A preview of the specified new feed is shown to the right. Having changed the widgets settings, click Refresh to update the preview.

19.20 Configuration Overlay – Pulses

The Configure Pulses Widget configuration overlay contains the following:



Properties Toolbox

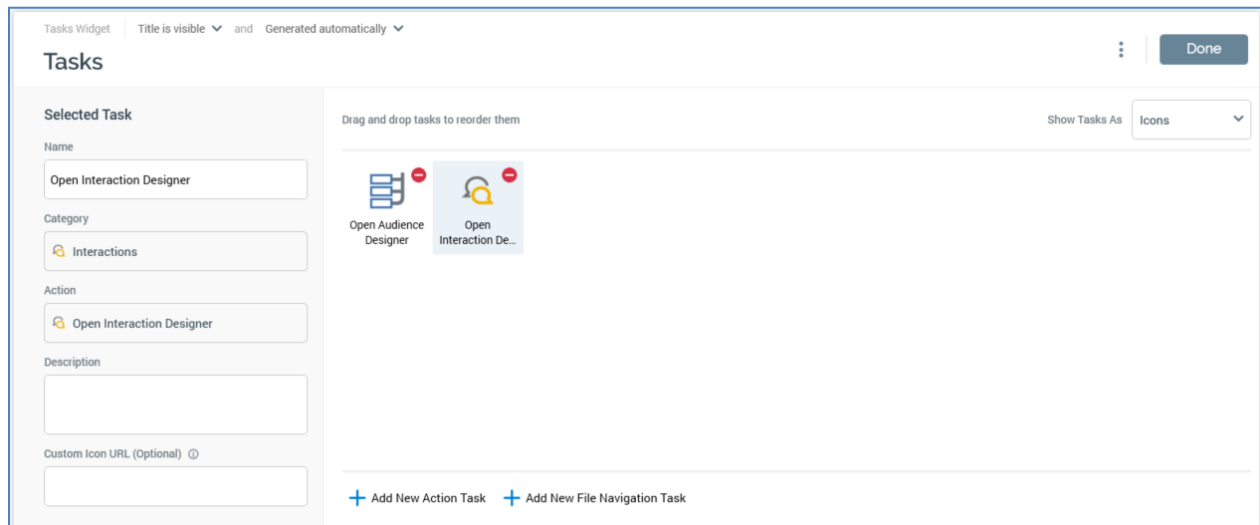
- Pulse Message Filters section: containing two checkboxes, both unchecked by default:
 - Only show pulses where I am mentioned: if checked, only pulses where you are mentioned are shown. These include pulses that you posted, and pulses created in reply to your postings.
 - Only show pulses within: if checked, you must select a time period (from a drop-down list that ranges from a day to a week). Pulses are limited to only those posted within this time.
- Only Show Pulses Related To: you can select a file from the accessible folders within the RPI file system, using the File System Dialog. Pulses are filtered to only those related to the file you select. Having selected a file, you can clear it. You can also open the related file, which is shown in an appropriate designer. Not checked by default.
- System Generated Messages: this checkbox is unchecked by default. If unchecked, only user-posted pulses are shown. If checked, both user-posted and system-generated pulses are listed.

Preview

A preview of the widget, based on its current settings, is displayed to the right.

19.21 Configuration Overlay – Tasks Widget

The Configure Tasks Widget configuration overlay contains the following:



The widget contains the following:

- Properties toolbox: displayed to the left, this section allows you to set the properties of the task selected currently in the tasks list.
- Tasks list: displayed to the right. This section lists the tasks with which the widget is currently configured.
- Add.. buttons: displayed to the bottom right, two buttons allow you to add new Action or File Navigation tasks to the widget, using tailored overlays.

Properties Toolbox

The following properties are displayed for action tasks only:

- Action: read-only. As per the item selected from the right-hand list in the Add Action New Task overlay.
- Description: optional. Displayed in a tooltip when hovering over a task in display mode.
- Custom Icon URL: you can optionally provide a URL for a custom icon to be displayed at the task, instead of the default.

The following properties are displayed for file navigation tasks only:

- File: read-only. Appropriate inline buttons (e.g. Open Latest Version, View Insights) are provided.

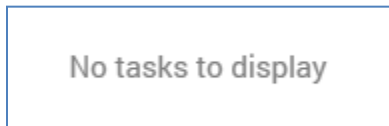
- Name: set by default to the name of the page or file. Provision of a Name is mandatory, and the maximum supported length is 100 characters. Name is displayed below the task at the widget.

The following properties are displayed for both action and file navigation tasks:

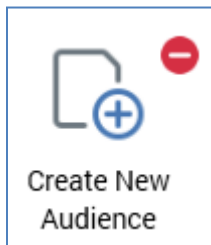
- Description: this multi-line text field is optional, and the field supports a maximum length 1000 characters. Description is displayed below Name in a tooltip shown when hovering over a task shown within a widget.
- Custom Icon URL: allows you to specify the URL of a custom image to be shown instead of the standard task icon.

Tasks List

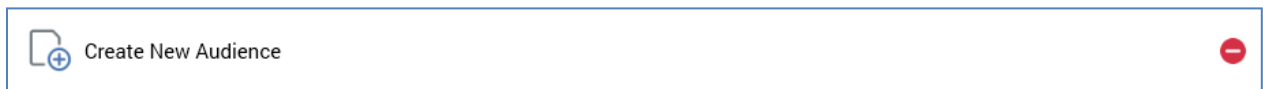
This section lists all action and file navigation tasks with which the widget is currently configured. When empty, a message is shown:



Tasks displayed in the list can be shown as icons:



...or list items:



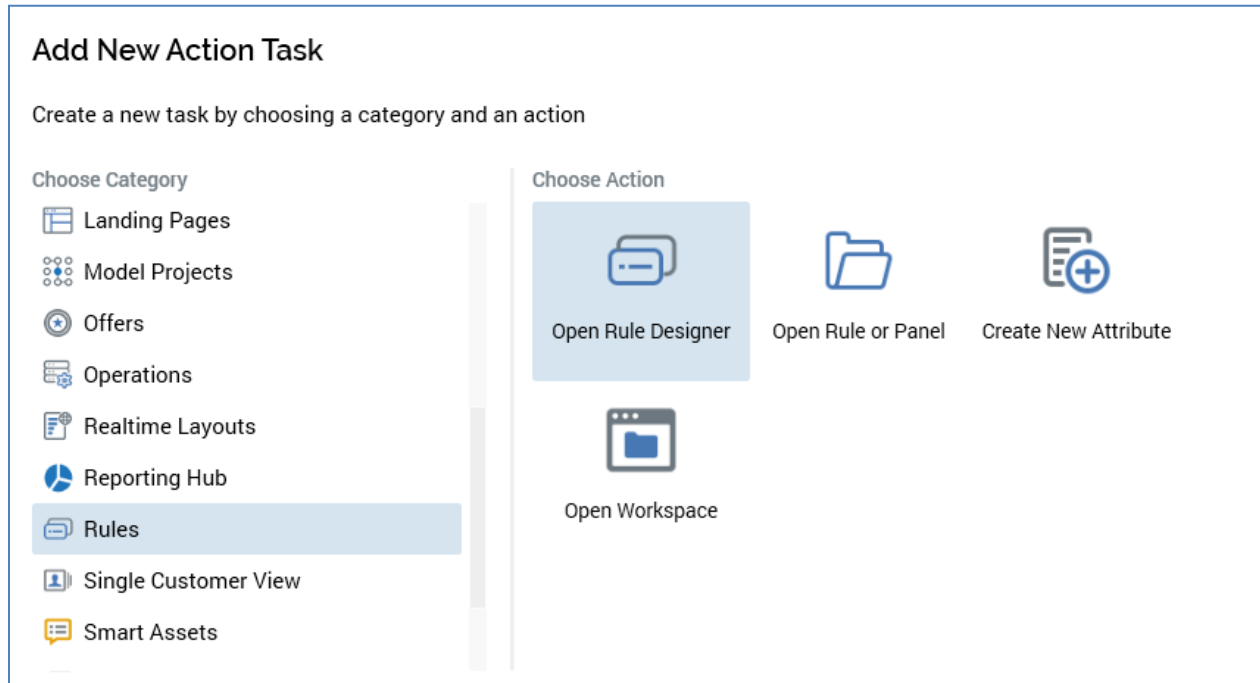
...depending on the value selected at the Show Tasks As dropdown (displayed above the list, to the right).

An inline Remove button is shown at each task. Clicking it removes the task from the widget without displaying an 'Are You Sure?' dialog.

If required, you can re-order tasks within the list using drag and drop.

Add New Action Task

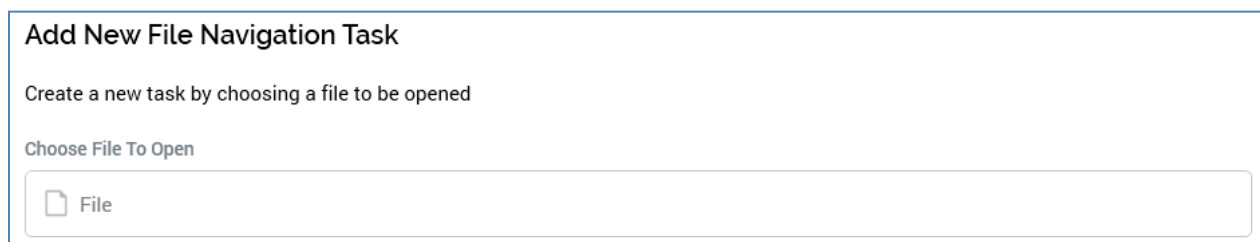
This button is displayed below the list of tasks. Clicking the button displays the Add New Action Task overlay.



You can add a new task by first selecting a category from the list to the left then, having done so, selecting an action to the right. When you click Add Task, the task is added to the widget's tasks list. Clicking Cancel removes the Add New Action Task overlay from display.

Add New File Navigation Task

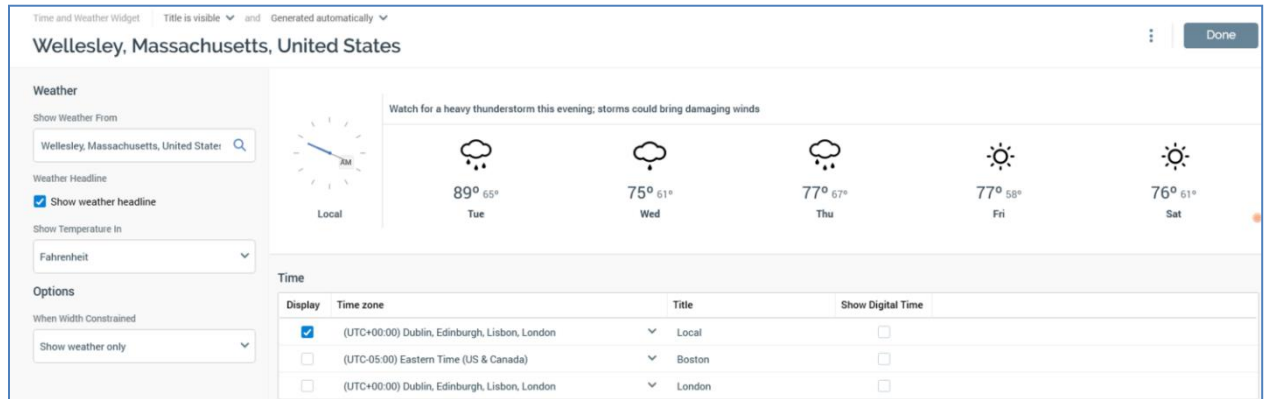
This button is also displayed below the list of tasks. Clicking the button displays the Add New File Navigation Task overlay.



A file chooser allows you to browse for a file with which to configure the task. You cannot choose files that do not support being opened in a designer – for example, attributes. Having chosen a file, you can click the Add Task button to add it to the widget. Clicking Cancel removes the Add New File Navigation Task overlay from display.

19.22 Configuration Overlay – Time and Weather Widget

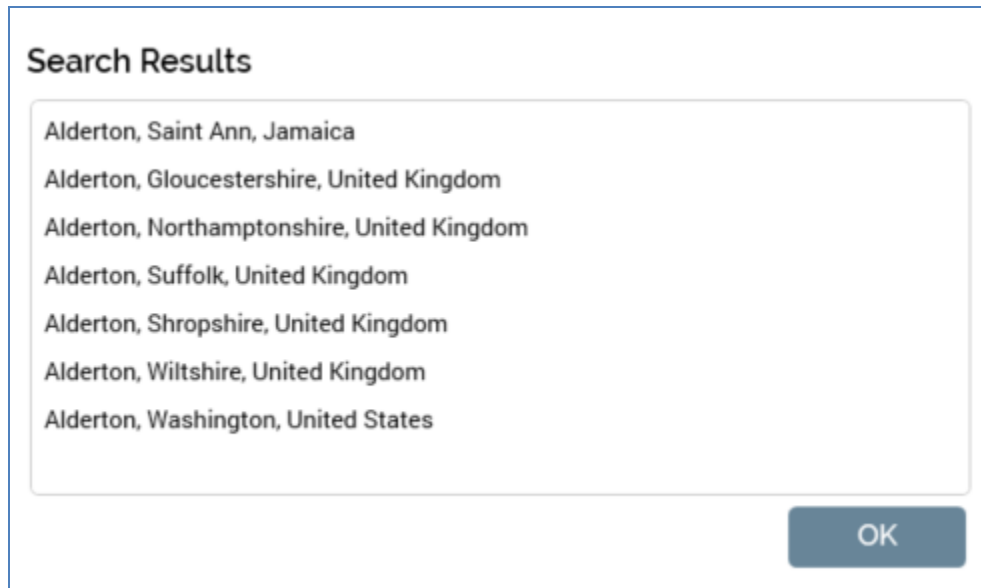
The Configure Time and Weather Widget configuration overlay contains the following:



Properties Toolbox

The following properties appear within the Weather section:

- **Show Weather From:** this field allows you to specify a search string, which can be used to find a location for which to display a weather forecast. Specifying a value enables the Search button. The property defaults to 'Wellesley, Massachusetts, United States'.
- **Show search results:** clicking this button lists locations matching the entered Location in the Search Results dialog:



Selecting a result in the list displays the same at the Show weather from field. A message is shown if no matching results are retrieved

The dialog can be removed from display by clicking OK, double-clicking a result, or clicking off the dialog.

Having specified a location, the widget preview is updated to reflect your selection.

- Show weather headline: this checkbox is checked by default. It controls display of the headline statement below the widget's title.
- Show Temperature In: this dropdown field exposes values Celsius and Fahrenheit (the default).

The following property appears within the Options section:

- When Width Constrained: this dropdown allows you specify how the widget should behave when its available width is constrained. It exposes the following values:
 - Show weather only (the default)
 - Show world clocks only

Preview

A preview of the widget's display, using its current settings, is shown to the top right.

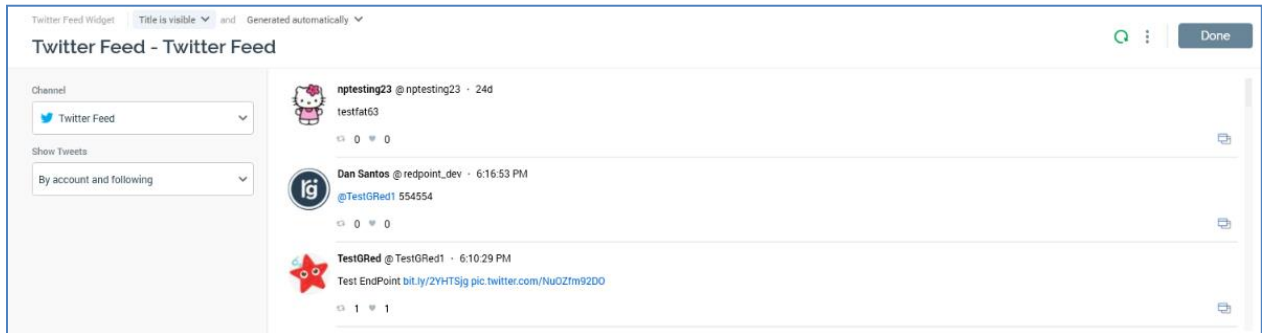
Time

You can elect to display from zero to three world clocks, by checking the checkboxes next to the three rows displayed here. The first is selected by default. Each row contains the following:

- Time Zone dropdown: the first row defaults to Local time, the second to EST and the third to UTC.
- Text: you can optionally supply text to be shown at each world clock. The first defaults to 'Local', the second to 'Boston' and the third defaults to 'London'.
- Show Digital Time: this checkbox is unchecked by default. When checked, a digital representation of the time is shown below the clock face.

19.23 Configuration Overlay – Twitter Feed Widget

The Configure Twitter Feed Widget configuration overlay contains the following:



Properties Toolbox

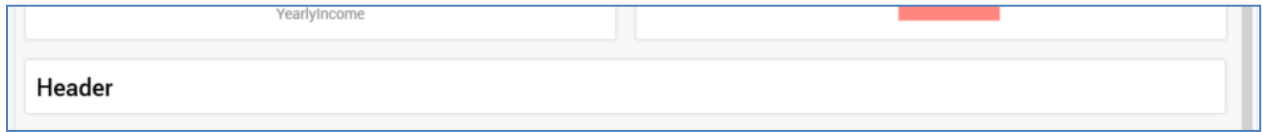
- Channel: this dropdown field allows you to select a Twitter feed to be displayed in the widget from those represented by the list of currently-configured Twitter channels.
- Show Tweets: three options are available at this dropdown:
 - By account and following: selected by default, this option allows you to specify that only tweets by the selected Twitter account and accounts that it follows are to be displayed in the widget.
 - By account: this option allows you to specify that only tweets by the selected Twitter account are to be displayed in the widget.
 - Using search text: this option allows you to specify that tweets matching a Search Keyword are to be displayed in the widget.
- Search keyword: this property is shown when Show Tweets is set to 'Using search text'. On specifying a value in this field, tweets containing the specified search string will be shown in the widget.

Preview

A preview of the widget's display, using its current settings, is shown to the right.

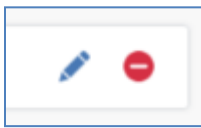
19.24 Header

If you add a header to a dashboard, it is inserted below the current line of widgets.



Its default text is 'Header', and it is presented initially in edit mode (you can change the text, and then click off the header, or hit Return, to leave edit mode).

A mini toolbar is displayed on hovering over a header:



It exposes the following options:

- Edit Header Text: invocation presents the header in edit mode (note that double-clicking the header has the same effect). A header's maximum length is 100 characters. Note that, if required, you can create a header with no text.
- Remove Header: invocation removes the header. This option is protected by an 'Are You Sure?' dialog.

As with widgets, you can use drag and drop to re-position headers within a dashboard.

19.25 Dashboard Viewer

When you open a dashboard directly, for example from the File System Dialog or Recent Items, it is displayed in the Dashboard Viewer.



The Dashboard Viewer contains a toolbar and the widgets with which the dashboard is configured.

The toolbar exposes the following options:

- **Open:** clicking this button displays the Open Existing Dashboard File System Dialog, which allows you to select a dashboard file to display in the Dashboard Viewer.
- **Edit:** clicking this button replaces the display of the dashboard within the Dashboard Viewer with its being shown in the Dashboard Designer.

- Refresh All: refreshes all of the widgets displayed currently in the dashboard.

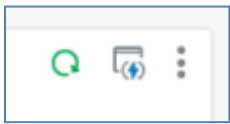
The dashboard's widgets themselves are displayed as per their current configuration.

When shown in the Dashboard Viewer, a dashboard's structure cannot be changed.

19.26 Display Mode

When in display mode, the widget is shown in accordance with its current configuration, and any functionality it affords is available to the user.

The following are available at a widget's toolbar when displayed in a Dashboard (permissions notwithstanding):



- Refresh: available at relevant widgets. Clicking this button refreshes the widget with its latest available data.
- Share as Pulse: this button is shown at the Chart, Count Results and Channel Overview widgets. It allows you to share an image of the current state of a widget as a Pulse message. Sharing of widget content as a Pulse is discussed in its own section within this documentation.
- Options: clicking this button displays a context menu.
 - Configure: displays the widget's configuration overlay.
 - Size: allowing the widget's size to be defined as Normal, Wide or Entire Width.
 - Copy Data to Clipboard (where applicable): invocation copies the current data to the clipboard and displays an informational message. Data is copied in a tab-delimited format.
 - Copy Image to Clipboard: invocation copies an image of the widget to the clipboard and displays an informational message.
 - Save As: clicking this button displays the Save Widget As File System Dialog, facilitating the saving of the widget as an autonomous file in the RPI file system. When saved, the file has a type of Widget, and a sub-type as per the type of widget in question. Note that you cannot open a widget file directly.
 - Clone: clicking this button creates an exact copy of the current widget, and places it in the next ordinal position in the current dashboard. Clone is not available when the maximum number of widgets are already present in the dashboard.
 - Remove: clicking this button removes the widget (and all of its associated configuration) from the dashboard. Remove is protected by an 'Are You Sure?' dialog.

19.27 Display Mode – Channel Overview Widget

When a channel overview widget is shown in a dashboard, if no data to display is available, a message is shown.

The widget's header shows its title, a Refresh button (invocation of which displays the latest results data) and Options menu.

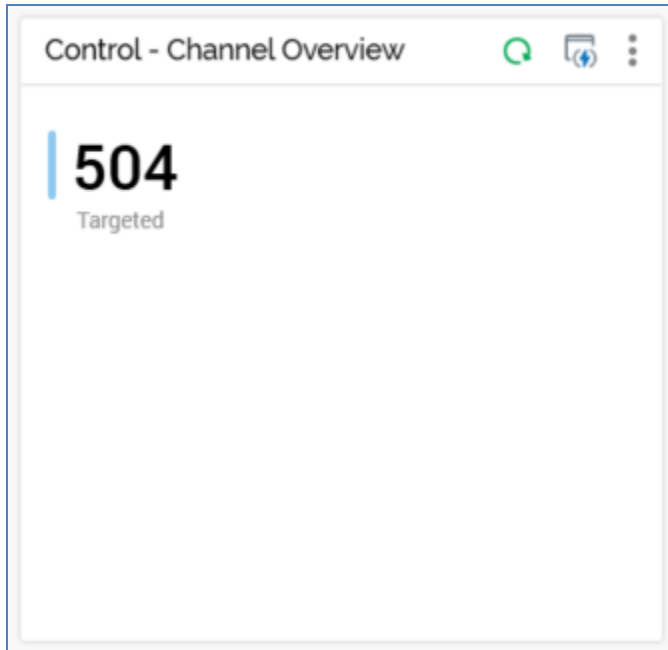
- If Chart is selected at the widget's Display results as property, the widget is rendered as a chart, displaying Production results only.



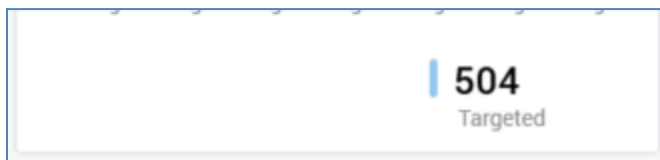
One series is displayed per configured metric, reflecting the current configuration settings (Channel, Filter on all/specific, Interaction, Workflow, Offer, Show last [n] days, Show legend and Chart palette).

A tooltip is shown when you hover over series values within the chart. It displays the date/time represented by the current chart position, and, for each metric with which the chart is configured, its name and count.

- If List of latest values is selected at the widget's Display results as property, the following are displayed for each configured metric:



- Color bar
- Latest available count value
- Metric name
- If displayed as a chart, the widget's footer contains the following:

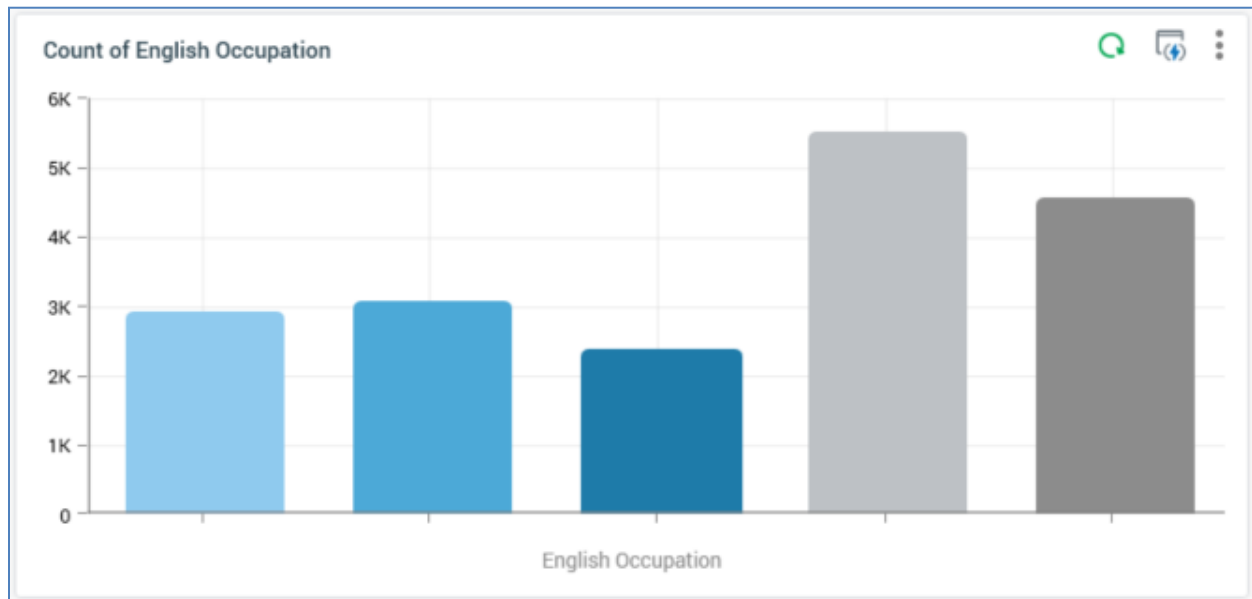


- If applicable, the Interaction and/or Offer filters with which the widget is configured are shown to the left of the footer. Context menus are available at each.
- If the widget's Show chart legend property is checked, the legend is shown to the right.

Note that system configuration setting `WidgetTimezoneOverride` allows you to override the timezone to be used by the widget.

19.28 Display Mode – Chart Widget

When a chart widget is shown in dashboard, the following are displayed:



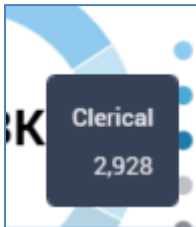
- Aggregate(s): if a single aggregate was selected, its name is displayed as a read-only label. If more than one was selected, you can choose the aggregate to view using a dropdown.



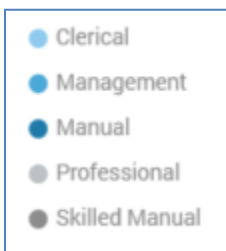
- Chart: the type of chart shown depends on the widget's settings:
 - If the widget is wide or entire width, it is always shown as a bar chart.
 - If a Count or Count distinct aggregate is selected, and 7 or fewer values are displayed, the chart is rendered as a pie donut:



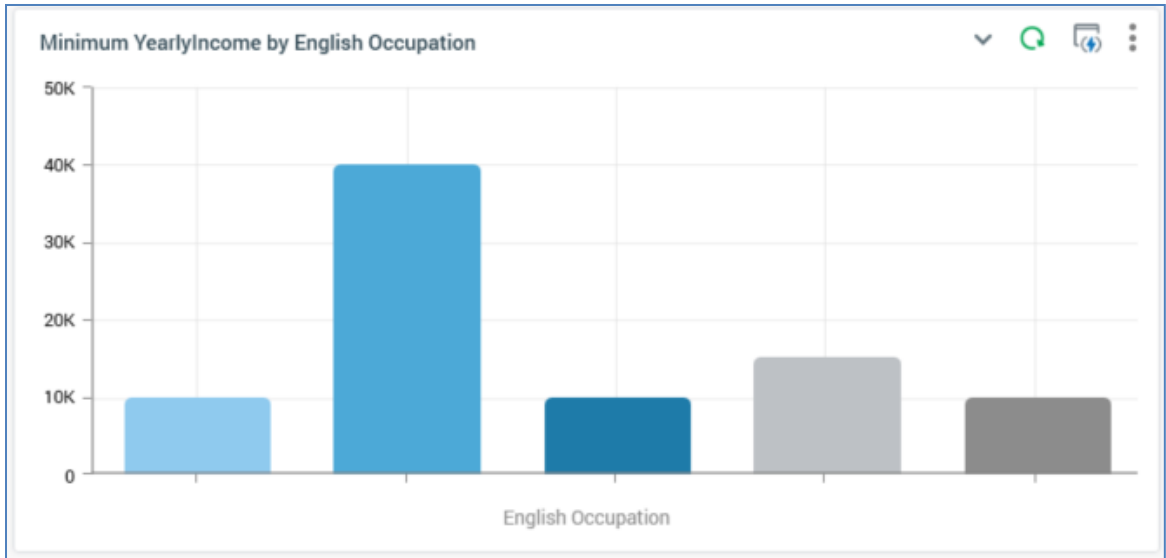
The total count of records displayed in the chart is displayed at its center. On hovering over a pie slice, a tooltip is shown:



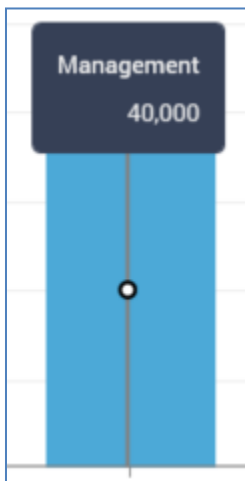
Legend is displayed if appropriate:



- If another aggregate type or more than 7 values are displayed, the chart is rendered as a bar chart:

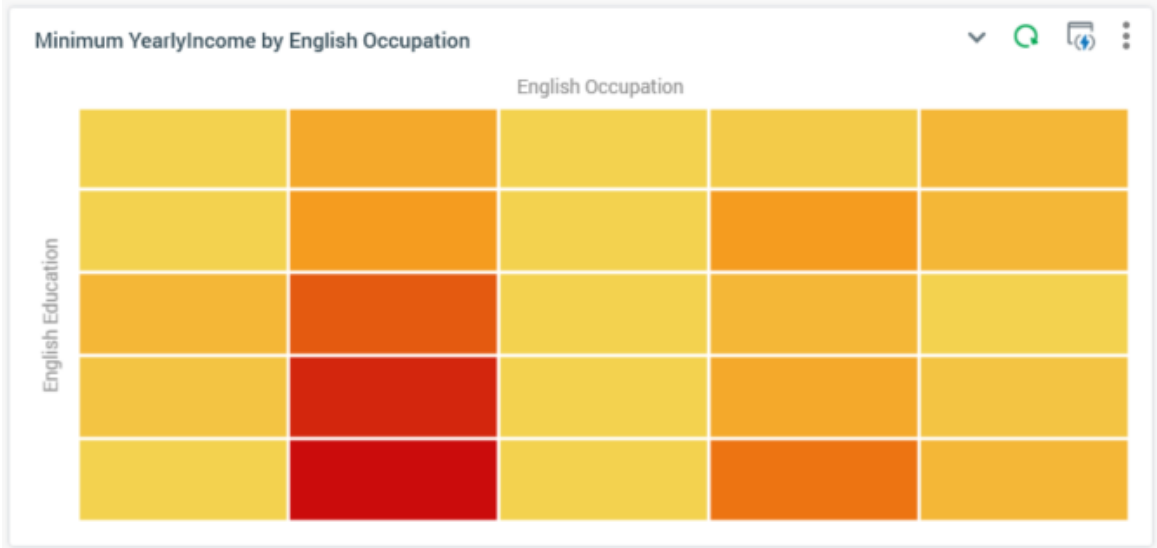


A tooltip is similarly displayed on hovering over a bar:



And legend is shown if appropriate.

- If a Heatmap attribute was provided, the chart is rendered accordingly:



The chart's axes are ordered in ascending alphanumeric order from the top left - right and down. A maximum of 60 values can be displayed at an axis.

If translations have been provided for attribute values, they are rendered within a chart.

On hovering over a cell within the heatmap, a tooltip is shown, displaying:

- Count of matching records
- Left axis name and value
- Top axis name and value

All charts' display reflects the following settings:

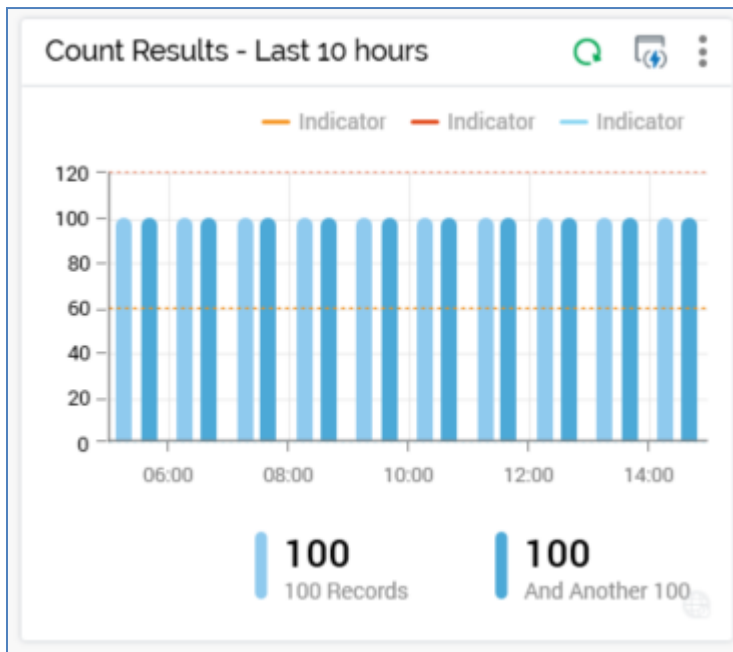
- Filter
- Order by/Using
- Chart palette

19.29 Display Mode – Count Results Widget

When a count results widget is shown in a dashboard, if no data to display is available, a message is shown.

The widget's header shows its title, a Refresh button (invocation of which displays the latest results data) and Options menu.

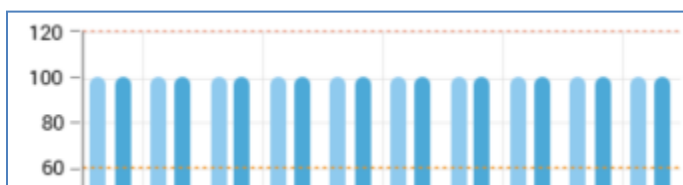
- If Chart is selected at the widget's Display results as property, the widget is rendered as a chart.



The widget's chart displays one series per configured rule, reflecting the current configuration settings (Frequency (note that only available results are displayed), Show last, Show chart legend, Chart palette and selection rule).

A tooltip is shown when you hover over series values within the chart. It displays the date/time represented by the current chart position, and, for each rule with which the chart is configured, its title and count.

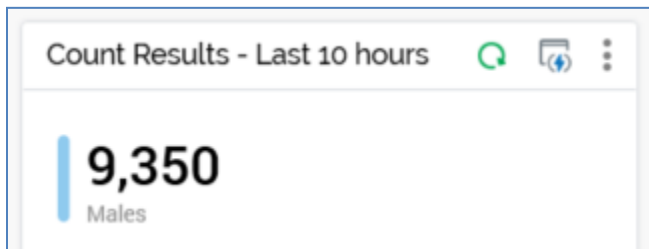
If defined, indicators are displayed as colored dashed lines on the widget chart.



Their colors and values are as configured at the widget. A legend for each indicator is shown at the top of the chart.

A tooltip is shown on hovering over an indicator, displaying the indicator's label and value. Note that an indicator is only shown if its value falls within the displayed chart area.

- If List of latest values is selected at the widget's Display results as property, the following are displayed for each configured rule:

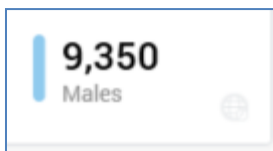


- Color bar
- Latest available count value
- Rule Title

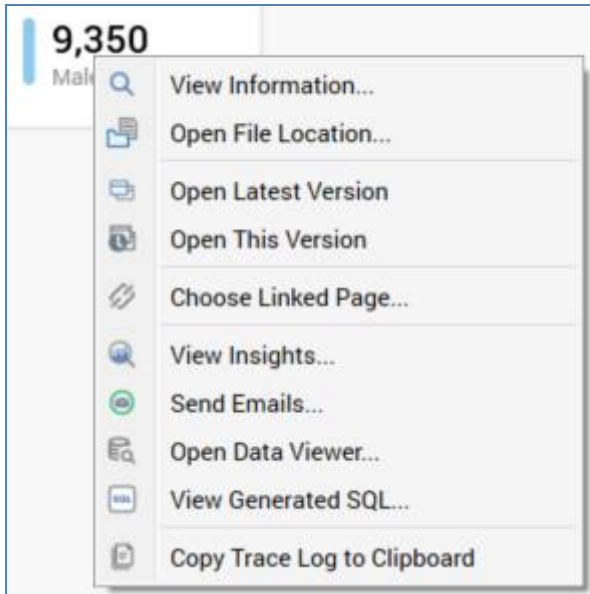
You can right-click a rule to view a selection rule context menu, from which you can invoke further functionality.

Note the Send Emails option (selection rules only); clicking the same invokes the Send Emails training aid, which is pre-configured with the selection rule from which invoked.

- The widget's footer displays the following:
 - When the Calculate Count Results widget counts system task is running, a 'One or more counts are currently refreshing' message is displayed. It is also displayed at initial chart display when configured with (a) rule(s) with no counts yet available.
 - If the widget's Show chart legend property is checked, the legend is shown in the footer, and is right-aligned.



Right-clicking a rule within the legend displays a context menu:



Note the Send Emails option (selection rules only); clicking the same invokes the Send Emails training aid, which is pre-configured with the selection rule from which invoked.

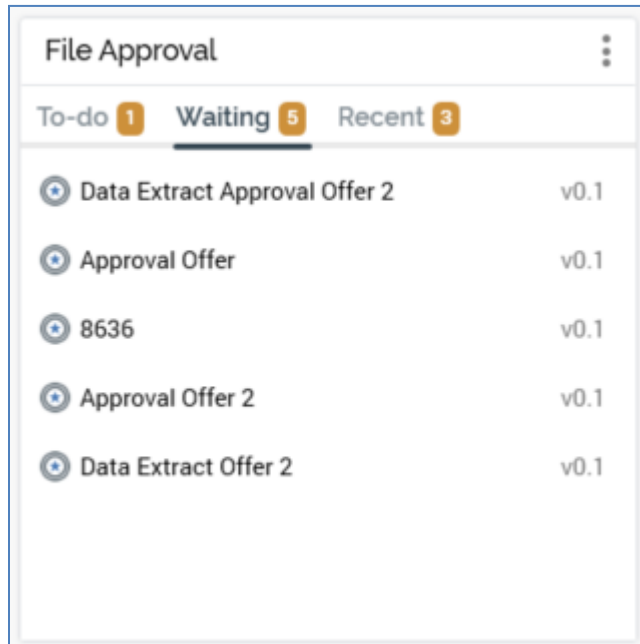
An icon is shown at the bottom right of the widget; hovering over same displays a tooltip, which lists the timezone(s) being used to refresh data therein. Note that system configuration setting `WidgetTimezoneOverride` allows you to override the timezone to be used by the widget.

When a count results widget's Count frequency is set to Daily, results therein are updated at a cadence accordant with configuration setting `WidgetCountDailyRefreshInterval` (which defines the minimum number of minutes between refreshes of the widget's daily total). Any change to the system configuration setting is picked up at the previous setting's expiration. Data displayed in the widget is refreshed every minute.

Note that persisted count results are removed on a regular basis by the Client housekeeper. Records are deleted from table `Interaction_XXX.op_SelectionResultsCache` when their `IsActive` flags is set to 0, which happens when no counts have been requested by a widget over a time period accordant with its Count frequency (e.g. hourly count set to Inactive after 7 days of no requests).

19.30 Display Mode – File Approval Widget

When a File Approval widget is shown in a dashboard, it displays lists of files in respect of which a user's attention is required, either as an approver, or as an approval requester.



The widget consists of three tabs.

- Todo: lists files awaiting approval by current user.
- Waiting: lists files for which the current user requested approval
- Recent: lists files for which the current user requested approval, which were approved or for which approval was denied within the last week, and which are currently in an Approved or Approval Denied state.

Files are listed in ascending modified order, with files for which approval was requested first shown earliest in the list. The number of files in each list is displayed at the tab header and is accordant with system configuration setting MaxDashboardApprovalFiles.

For each file, the following are shown:

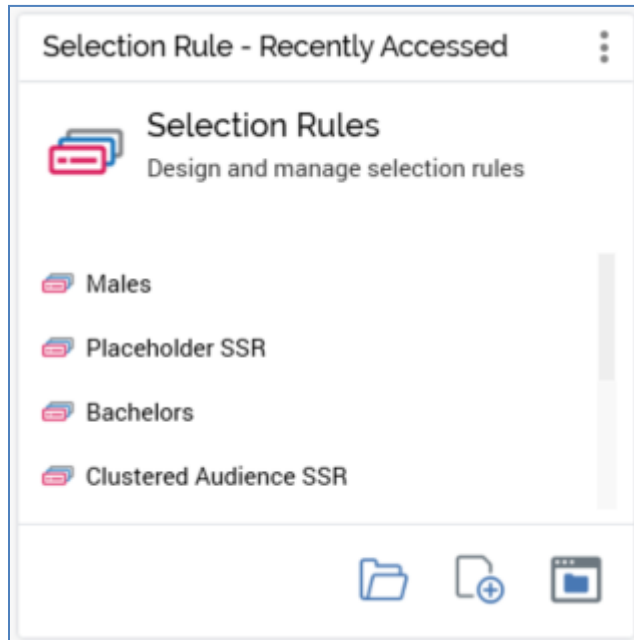
- Icon
- Halo: shows if approved (green) or denied (red)
- Name
- Version number

You can double-click file to open the version in question in a relevant designer.

Hovering over a file replaces its version number with a button (View/manage the approval of this file), invocation of which displays the Manage File Approval dialog (see the File Approval documentation for further information).

19.31 Display Mode – File Type Widget

When a File Type widget is shown in a dashboard, you can access options therein in accordance with its configuration, including:



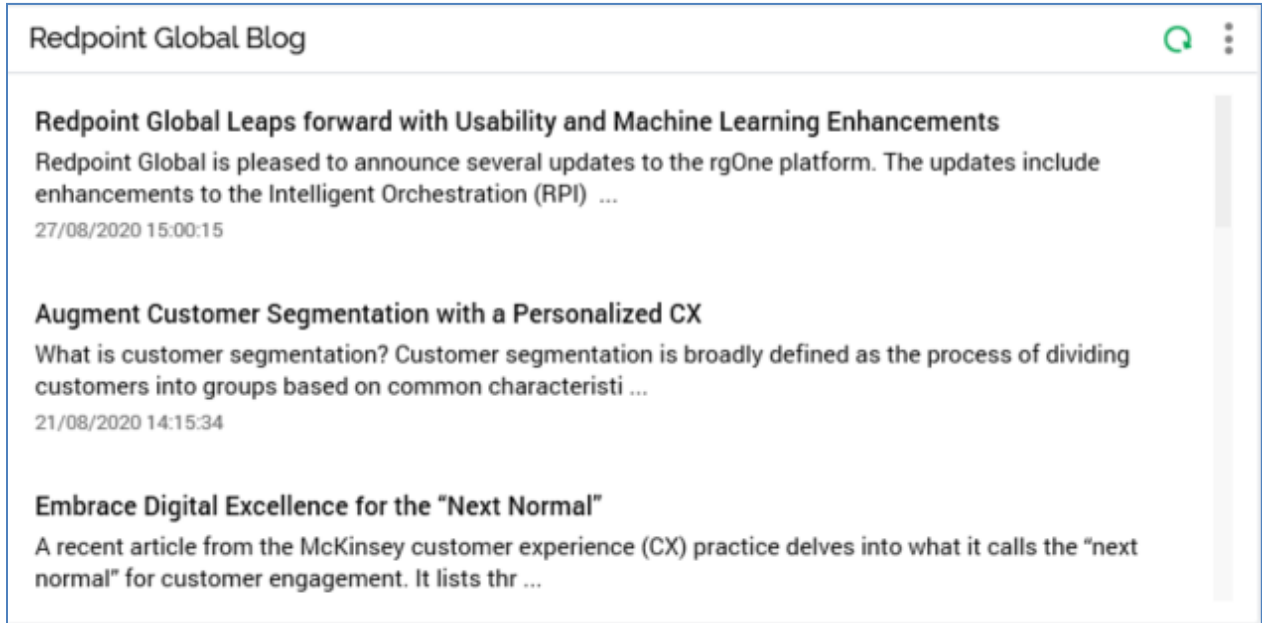
- Primary option
- Recently accessed files
- Recently saved Wiki Pages
- Recently saved files
- Shortcuts

A context menu at any listed files exposes the following options:

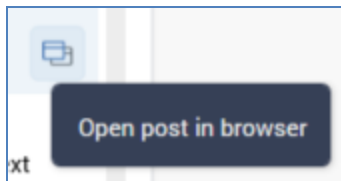
- View File Information
- Open Latest Version
- View Insights (selection rules and audiences only)
- Open File Location

19.32 Display Mode – News Reader Widget

When a news reader widget is shown in a dashboard, the RSS feed with which it is configured is rendered in accordance with its settings.



An Open post in browser button is displayed to the bottom right when hovering over a news feed post:



Clicking it displays the full post contents in your default browser. Double-clicking the post has the same effect.

If a News feed URL has not been specified, a message is displayed. If an invalid News feed URL has been specified, a 'Failed to load the news feed' message is shown.

19.33 Display Mode – Pulses Widget

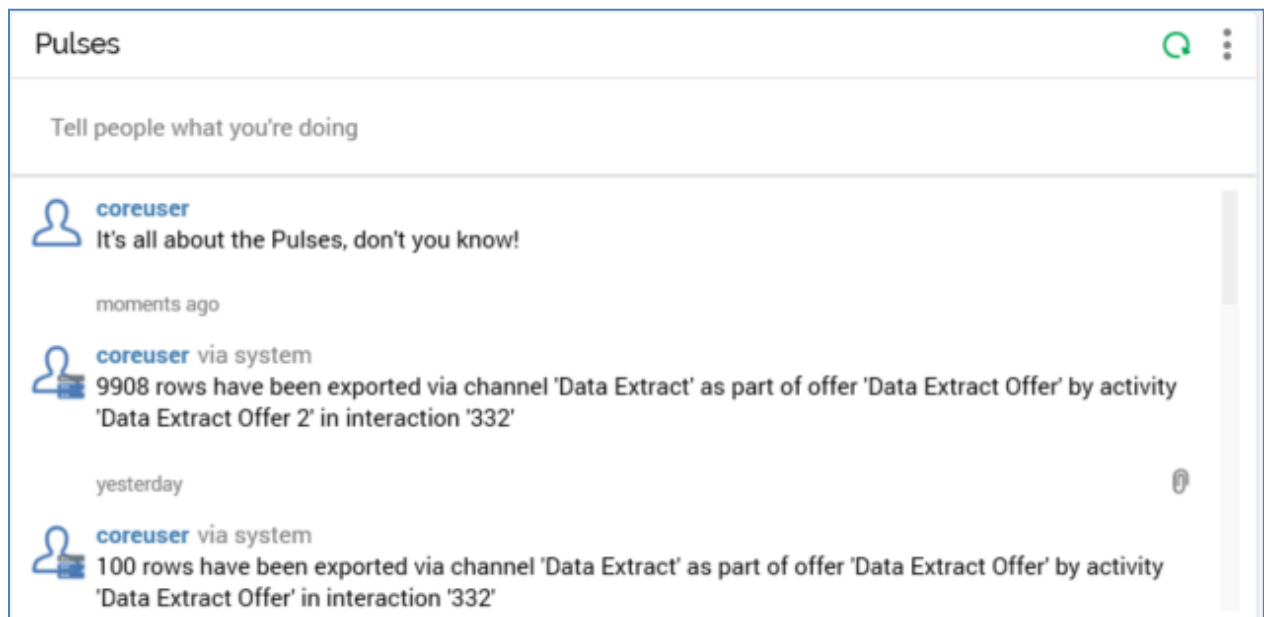
Pulses allow you and your colleagues to communicate whilst using RPI. A pulse is a short message that you can post, which is then made available to all interested users.

Pulses are also generated automatically by the system upon the occurrence of significant events; in addition, when such an event occurs in respect of a file, a link is created between that file and the pulse (note that you can also add attachments to a pulse manually).

Pulses are accessible at the Pulses widget and within an independent Pulses Window.

Note that the Pulses widget is unavailable at the Dashboard Designer if system configuration setting EnablePulseMessages is set to False.

The following features are available at a Pulses widget:



- 'Tell people what you're doing': this text field allows you to type a pulse. When you begin typing in the field the default text is removed. A pulse must be a minimum of 1 character in length and may be a maximum of 500 characters. When you enter pulse content, a toolbar is displayed:



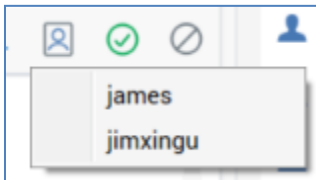
The toolbar exposes the following options:

- Attach files to this pulse: invoking this option displays the File System Dialog. All file types are listed. You can navigate accessible folders in the RPI file system in order to locate one or more files to attach to your pulse. You can associate many files with a single pulse,

although they must be attached one at a time. Selected files are listed below the pulse prior to its posting and are accompanied by an icon indicating their type.

If you have registered for the 'Pulse Related object' email alert, if a pulse is sent by another user with an attached file that you created or modified, an email alert is sent to your registered email address. It is entitled 'Pulse received relating to an object you have worked with', and it contains the pulse, sender details, file name and type and date and time sent.

- Send to one or more specific Recipients: clicking this option displays a list of all existing approved users in the current RPI installation (other than your own user):



You can check the user(s) to whom the pulse is to be sent directly. When posted, the pulse is visible to all users. It is displayed like this in the pulses list:



If you have registered for 'Pulse Direct receipt' alerts, upon receipt of a direct pulse, an email alert is sent to your registered email address. The email's title is '[username] has sent you a new pulse', and it contains the pulse, the name of the sender and the date and time sent.

- Post new Pulse: invoking this option displays two rotating icons: initially a 'Posting pulse' icon is displayed over the pulse text field and accompanying toolbar, followed by a 'Loading Pulses' icon displayed over the grayed-out pulses list. Upon its having been posted, a new pulse is added to the top of the pulses list. Note that you can also post a pulse by pressing Return when entering the pulse text.

Prior to posting a pulse, a Remove Attachment button is shown when hovering over an attachment. Invocation of this option removes the attachment from the pulse. An 'Are you sure' dialog is not shown. It is not possible to remove an attachment following a pulse's posting.

- Cancel post: invoking this option removes the 'Tell people...' toolbar and any attached files and reverts the text field to its default text.
- Pulses list: pulses are shown in reverse chronological order. For each pulse, the following items are displayed:

- User image: the initiating user's user image is displayed to the left of the pulse. If a system pulse created in response to an action by a user, the user image is accompanied by an icon.
- [Posted by]: the username of the user who posted the pulse. If the pulse was posted manually by a user, only the user's username is shown. If it was posted by the system in response to an action undertaken by a user, it is shown as '[username] via system'. If the pulse was posted as a reply, it is shown as '[username] in reply to [username]'.
- [Pulse content]: the message to be posted in the pulse. If a user-initiated pulse, the message text as posted by user is shown. If a system-generated pulse, a description of the action undertaken is displayed.

If the pulse content contains a hyperlink, it is shown in blue. When you click it, the website to which it points is displayed in your default browser. Note that the 'http://' protocol is not shown.

- [When posted]: one of:
 - Moments ago (posted in last 10 seconds)
 - [n] seconds ago (posted in last minute)
 - [n] minutes ago (posted in last hour)
 - [n] hours ago (posted in last day)
 - yesterday (posted in last day)
 - [n] days ago (posted in last 21 days)
 - over 21 days ago

When you hover over a pulse, a toolbar is displayed.

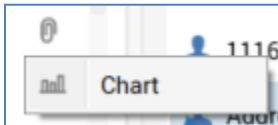


The toolbar exposes the following options:

- Reply to this pulse: when you invoke this option, the cursor placed in the text field, and the default text is updated to 'Enter your reply'. A read-only label is displayed to the left: 'To [username]'. Upon posting your reply, it is shown in the pulses list as '[Poster 2] in reply to [poster 1]'.

If you have registered for 'Pulse Direct receipt' alerts, upon receipt of a reply to a pulse that you posted, an email alert (entitled '[username] has replied to your pulse') is sent to your registered email address.

- View all Pulses in this thread: displays the current pulse and all other pulses in the same conversational thread in the Pulses Window. For more information on threaded pulses, please see the Pulse Window documentation.
- Delete this pulse: this option is only available if the pulse was posted by you (or by the system on your behalf) and is protected by an 'Are you sure?' dialog. If you proceed with the deletion, the pulse is removed from the pulses list.
- [Attachments] button: displayed only if the pulse has attachments and indicated by a paperclip icon. Note that system pulses attach the related file automatically. The name(s) of all attachment(s) are shown in a context menu and are accompanied by an icon indicating the file type.



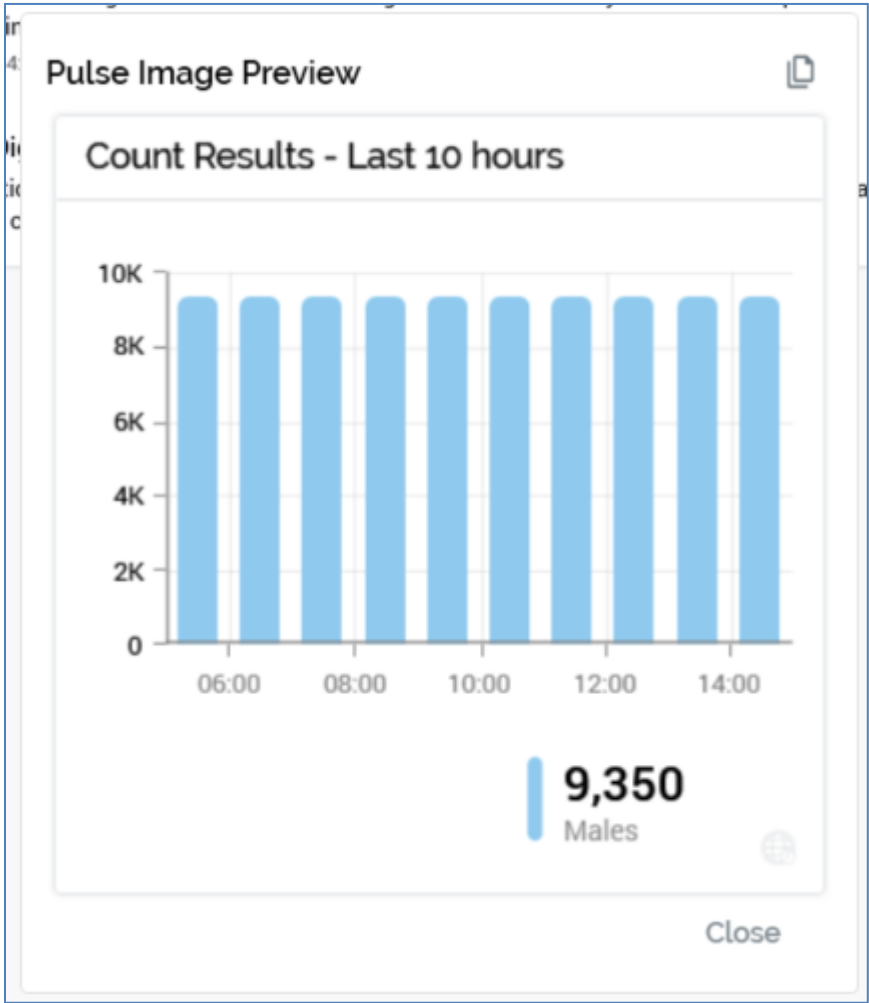
When you click an attachment context menu button, what happens depends upon the type of attachment:

- If the attachment can be opened, it is shown within the relevant designer. If the file type is other than selection rule or realtime decision, and if the file is not already displayed in a designer, it is shown in a new designer instance. If the file is already displayed in a designer, the existing designer instance receives the focus.
- If the file is a selection rule or realtime decision, if the Rule Designer is not open, the rule is shown in a new Rule Designer instance. If the Rule Designer is already open without displaying the rule, the rule is displayed in the existing Designer instance. If the Rule Designer is already open and the rule is shown, the rule receives focus in the existing Designer instance.
- If the attachment is an attribute, the File Information Dialog is shown.
- If the attachment cannot be opened, a message is displayed.

By default, 20 pulses are displayed in the pulses list. You can invoke Load more to view additional pulses. This button is displayed after the final message in the list. Clicking the button adds an additional 20 pulses to the list. Pulses continue to be displayed in reverse chronological order, with the oldest pulses at the bottom of the list. More pulses are always loaded in accordance with your current filter settings. Subsequent invocation adds 20 older pulses to the bottom of the list. The maximum number of pulses displayable within the pulses list is defined by system configuration setting MaxPulsesInList.

Note that, if system configuration setting EnablePulseMessages is set to False, when you attempt to view a Pulses widget in the Dashboard Viewer, a message ('Pulses are currently disabled. To enable, please contact your System Administrator') is shown instead.

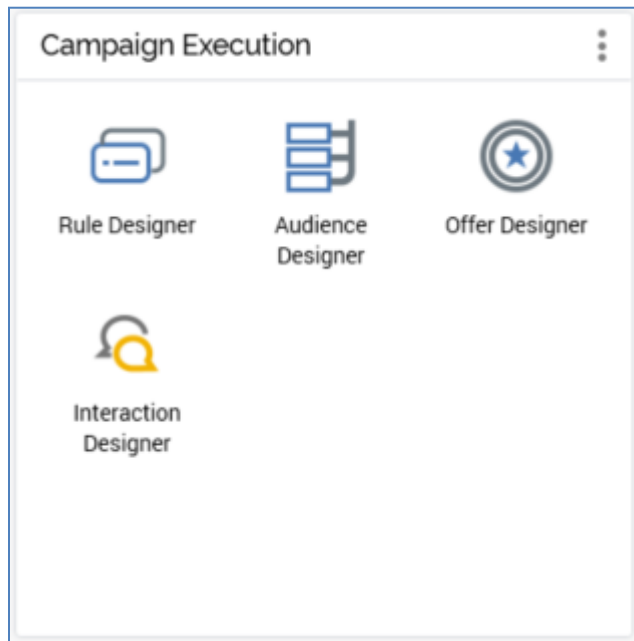
If a Pulse generated by sharing widget content is displayed in a Pulses widget, an inline preview image, showing the state of the shared widget at the point of the Pulses's posting, is shown at the same. You can click the preview to view a larger image in the Pulse Image Preview dialog.



A Copy Image to Clipboard button is available at the top right of the dialog.

19.34 Display Mode – Tasks Widget

When a Tasks widget shown in a dashboard, its tasks listed as per its configuration.



You can click a task to undertake the action, or open the file, in question. A context menu is available at file tasks, exposing the following options:

- View File Information
- Open Latest Version
- Open File Location

Tasks can be either shown as icons, as above, or as list items, depending on the widget's configuration.

Tasks



BBC News



Operations Interface



Configuration Workbench



Send Emails



Build an Email



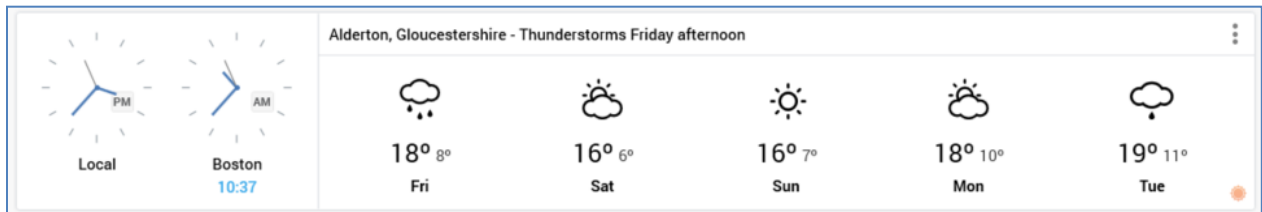
Create New Report



19.35 Display Mode – Time and Weather Widget

When displayed in a dashboard, a Time and Weather widget is shown in accordance with its current settings.

If the widget's size is set to Entire width, any configured world clocks are shown to the left of the configured weather location.



If the width is set to Normal or Wide, the value of the widget's When width constrained property is used to determine whether to display world clocks or weather. If no world clocks were configured, only weather information is shown.

The following are shown at the widget:

- Title
- World clocks
- Weather headline
- For each forecast day:
 - Day and date
 - Weather icon
 - Max/Min temperature
 - Daily forecast

When you hover over a forecast day, a daily forecast is shown in a tooltip.

- Click to view extended weather forecast on AccuWeather: this button is displayed at the bottom right of the widget.

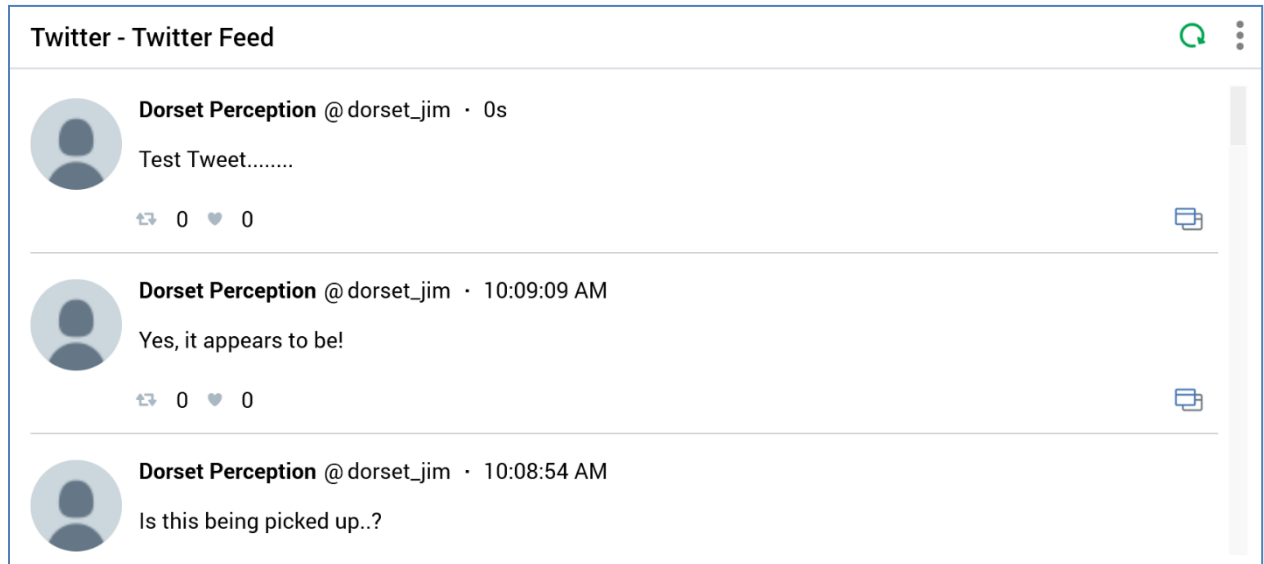


Clicking it displays the current forecast in your default browser.

Note that the weather widget is refreshed automatically every 4 hours. If unable to be refreshed (due to a connectivity error), a message is displayed. You can click the button provided to attempt to reload the weather widget.

19.36 Display Mode – Twitter Feed Widget

When a Twitter Feed widget is shown in a dashboard, tweets are listed in accordance with its current configuration:



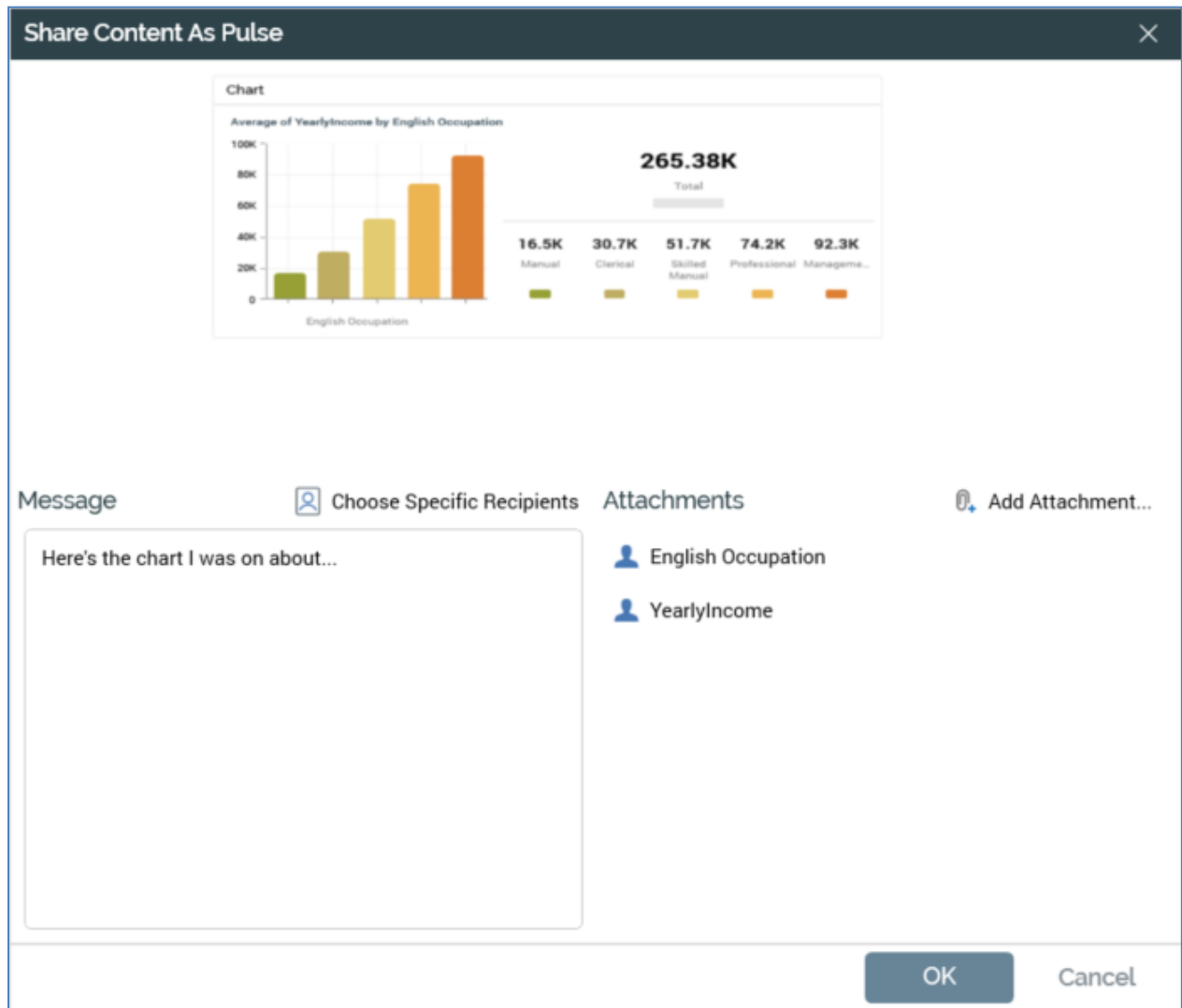
For each, the following are shown:

- Profile photo
- Account name
- Twitter username
- Date/time of post
- Twitter message
- Number of retweets
- Number of likes
- Open post in browser: clicking this button opens the Tweet in its own page in the default web browser.

The list of tweets is updated automatically every 60 seconds.

19.37 Sharing Widget Content as a Pulse:

The Share as Pulse button is shown at the Chart, Count Results and Channel Overview widgets. Clicking it displays the Share Content as Pulse dialog, which allows you to share details of the widget, including a visual representation of its currently-displayed state, a message and file attachments, as a Pulse.



The dialog contains the following:

- **Widget image:** displayed at the top of the dialog. A screen capture of the widget at the point of sharing is displayed.
- **Message:** displayed to the bottom left of the dialog. It allows you to specify a Pulse message to accompany the image. Provision of a message is mandatory, and the maximum supported message length is 300 characters.

- **Choose Specific Recipients:** this button is displayed above the Message field and allows you to select recipients for the Pulse from a context menu. Having selected one or more recipients, the number thereof is displayed as a mini icon at the Choose... button. The sending of Pulse message to specific recipients is described in the Pulses widget documentation.
- **Attachments:** this section is displayed to the bottom right of the dialog. It allows you to attach files to the Pulse, which will be accessible when displayed as a Pulse. It is accompanied by an Add Attachment button, invocation of which displays the Add File Attachments to Pulse File System Dialog, in which you can select one or more files to attach to the Pulse.

Attachments are listed in the section. An inline Remove Attachment button is displayed on hovering over an attachment, invocation of which removes the attachment without displaying an 'Are You Sure?' dialog. An information tooltip is shown on hovering over an attachment.

Files can be attached automatically when the Share Content as Pulse dialog is displayed. The files attached depend on the widget at which Share was invoked:

- **Chart:**
 - Attribute
 - Heatmap attribute
 - Function attribute
 - Filter
- **Count Results:**
 - Rules to Chart

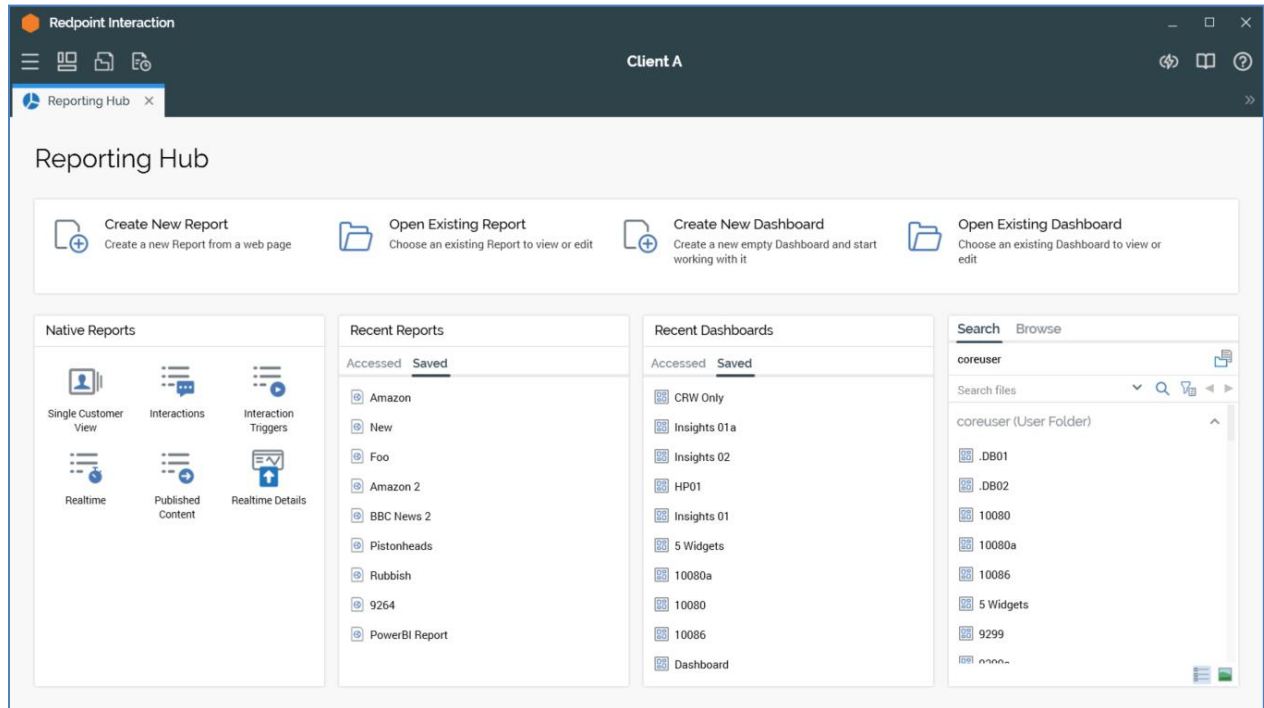
Two buttons are shown at the bottom of the dialog:

- **OK:** clicking this button posts the Pulse. Having done so, a confirmatory message is displayed.
- **Cancel:** clicking this button removes the dialog from display.

Note that if the dashboard from which a widget is shared also contains a Pulses widget, the latter is automatically refreshed after content has been shared.

20 Reporting Hub

The RPI Reporting Hub provides a single, consolidated context from which to undertake the following actions:



- Create new and open existing reports.
- Create new and open existing dashboards.
- Access RPI's built-in reports:
 - Interactions Report
 - Interaction Triggers Report
 - Realtime Report
 - Published Content Report
 - Realtime Details Report
- Access the RPI Single Customer View
- View a list of recently-accessed or saved report files and open the same.
- View a list of recently-accessed or saved dashboard files and open the same.
- Access a folder search component, in which are listed only files of type Report or Dashboard.

20.1 Invoking the Reporting Hub

You can invoke the Reporting Hub in the following ways:

- From a File Type or Tasks widget . Typically, you might access such at your Home Page dashboard. More information on widgets can be found in the Dashboard Designer documentation.

The Tasks widget exposes the following options:

- Open Reporting Hub
- Interactions Report
- Interaction Triggers Report
- Realtime Report
- Published Content Report
- Realtime Details Report

Each option allows you to open the interface in question in a separate tab in RPI.

- From the Reporting Hub option within the quick access menu's Reporting section. The other options above are available as sub-options within Reporting Hub.

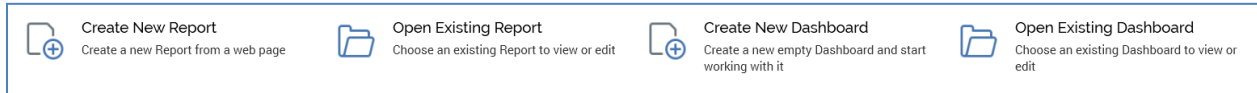
Note that access to the Reporting Hub is controlled via the Reporting Hub functional permission. If none of the user groups of which you are a member are associated with this permission, you will not be able to create and manage reports in the Reporting Hub.

20.2 Reporting Hub Basics

Displayed within a separate tab, the Reporting Hub consists of an unnamed top section, as well as Native Reports, Recent Reports, Recent Dashboards and Folder section. Each is described separately below.

20.2.1 Top Section

The top section in the Reporting Hub displays four options:



- **Create New Report**: clicking this button displays the Create New Report overlay, in which you can specify a new report's details:

The screenshot shows the 'Create New Report' overlay form. It includes the following fields and sections:

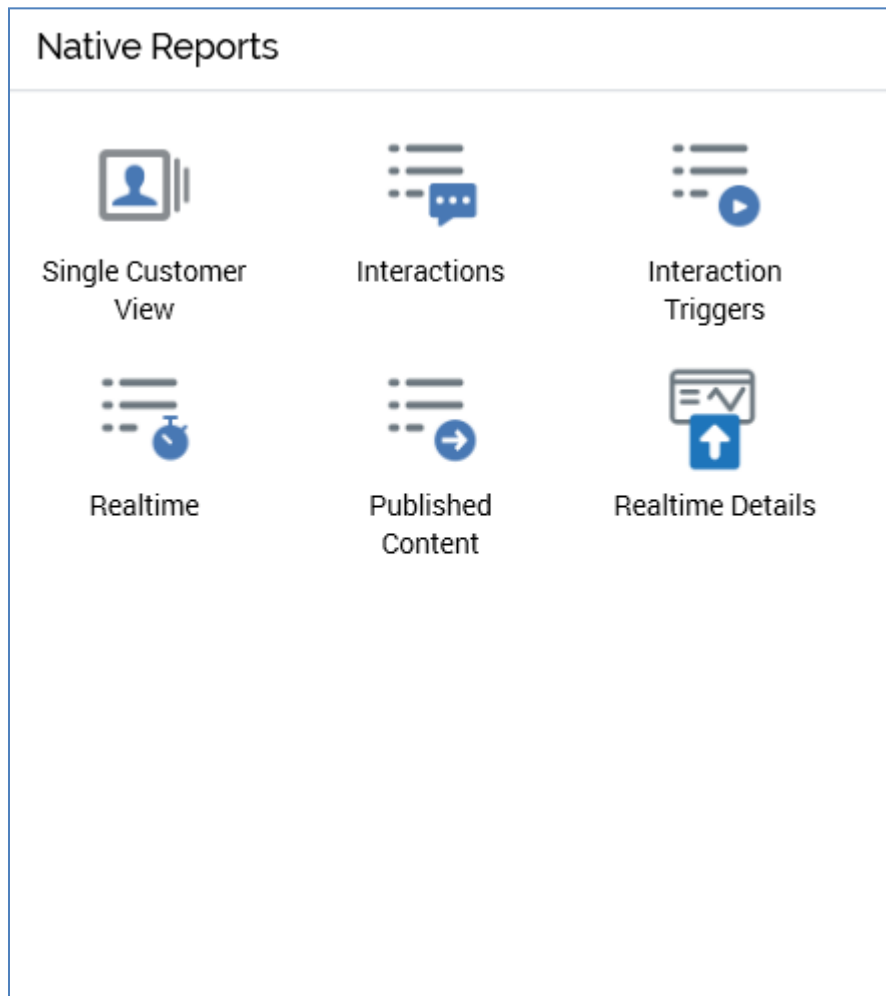
- Name**: A text input field containing 'Example Report'.
- Description**: A larger text input field, currently empty.
- Report URL**: A text input field containing a long URL: `https://app.powerbi.com/view?r=eyJrjoiMjk1M2Vkn2UtNzJkNy00YmExLTkzOGMtNDM3Zjc5NGUwN2U5liwidCI6jE2YTnkMjY0`.
- Preview**: A section showing a preview of the report. It features a grid of metrics: Customer Count (50K), Emailable % (67%), Mailable % (45%), SMS % (24%), and Push Notific (8%). Below the grid, there are labels for Transactions, Lifetime Sales, Year-to-Date Sales, and Average Basket. The Microsoft Power BI logo is visible at the bottom left of the preview area.
- Buttons**: 'Cancel' and 'OK' buttons are located at the bottom right of the form.

- **Name**: this mandatory property can be a maximum of 100 characters in length.
- **Description**: this optional property can be a maximum of 1000 characters in length.
- **Report URL**: this mandatory property allows you to define the report's URL, which must be well formed.
- **Preview**: a preview of the report is shown on leaving the URL field, having provided a well-formed URL therein.

- Refresh: this button causes the preview to be reloaded.
- OK: clicking this button displays the Save the new Report File System Dialog, in which you can save the report to the RPI file system. Reports are saved with a 'Report' file type.
- Cancel: clicking this button displays an 'Are You Sure?' dialog, before removing the Create New Report overlay (if requested).
- Open Existing Report: this button allows you to choose an existing report to view or edit. Clicking it displays the Open Existing Report File System Dialog, in which you can choose a report and double-click it, or click OK, to open it in a Report Viewer tab.
- Create New Dashboard: clicking this button allows you start the process of creating a new dashboard. For more information, please see the Dashboard Designer documentation.
- Open Existing Dashboard: this button allows you to choose an existing dashboard to view or edit. Clicking it displays the Open Existing Dashboard File System Dialog, in which you can choose a dashboard and double-click it, or click OK, to open it in a Dashboard Viewer tab.

20.2.2 Native Reports

This section provides access to a series of built-in reports.



Clicking a button therein displays the report in question in a separate tab in the RPI interface.

20.2.3 Recent Reports

This section provides access to reports that have been recently accessed or saved. A separate tab provides access to each. Double clicking a report displays it in a new Report Viewer tab. The following context menu options are available at a recent report:

- View Information
- Open Latest Version
- Open File Location

20.2.4 Recent Dashboards

This section provides access to dashboards that have been recently accessed or saved. A separate tab provides access to each. Double clicking a dashboard displays it in a new Dashboard Viewer tab. The following context menu options are available at a recent dashboard:

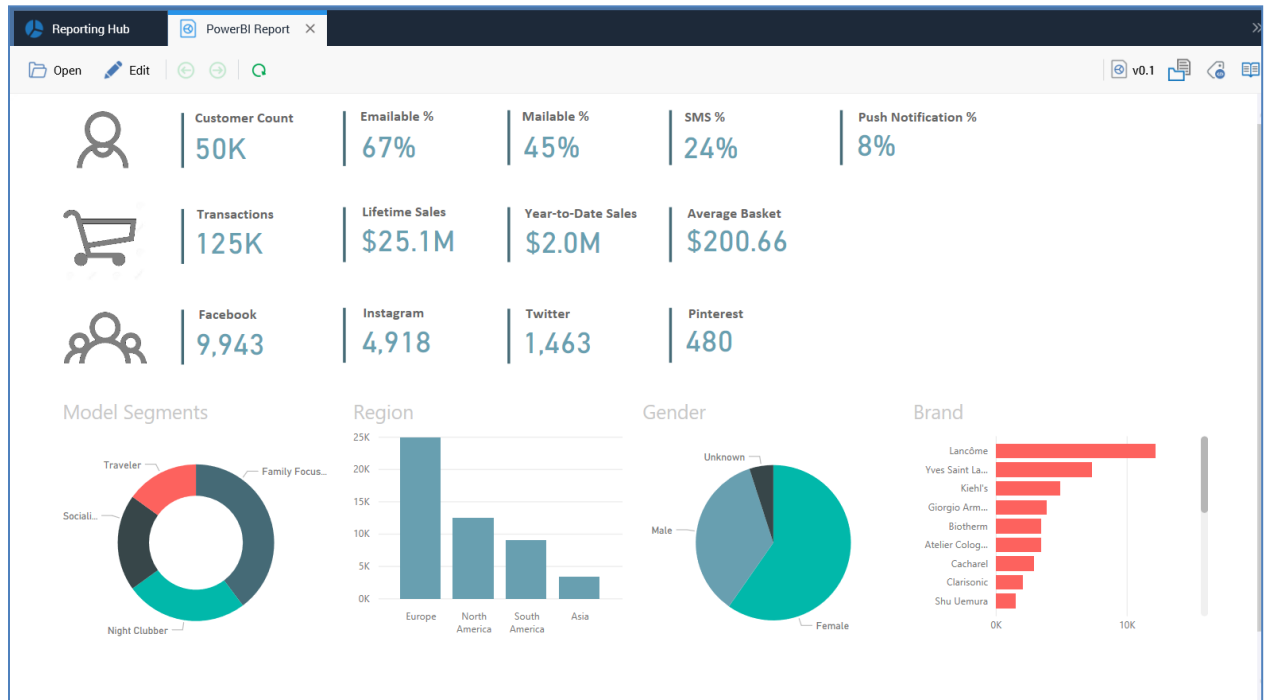
- View Information
- Open Latest Version
- Open File Location

20.2.5 Folder Search

A standard Folder Search component, limited to show only report and dashboard and Report files only. More information on Folder Search can be found in the Framework documentation.

20.2.6 Report Viewer

The Report Viewer interface allows you to view a single RPI report.



It contains a toolbar and displayed report. The toolbar exposes the following options:

- **Open:** this button allows you to open an existing report. Clicking it displays the Open Existing Report File System Dialog. You can choose a report and double-click it, or click OK, to open it in the current Report Viewer instance.

- Edit: this button allows you to edit the currently-displayed report's properties. Clicking it displays the Edit Report overlay:



Edit Report

Name:

Description:

Report URL:

Preview ↻

	Customer Count 50K	Emailable % 67%	Mailable % 45%	SMS % 24%	Push Notification % 8%
	Transactions 125K	Lifetime Sales \$25.1M	Year-to-Date Sales \$2.0M	Average Basket \$200.44	

Microsoft Power BI

The following properties can be edited:

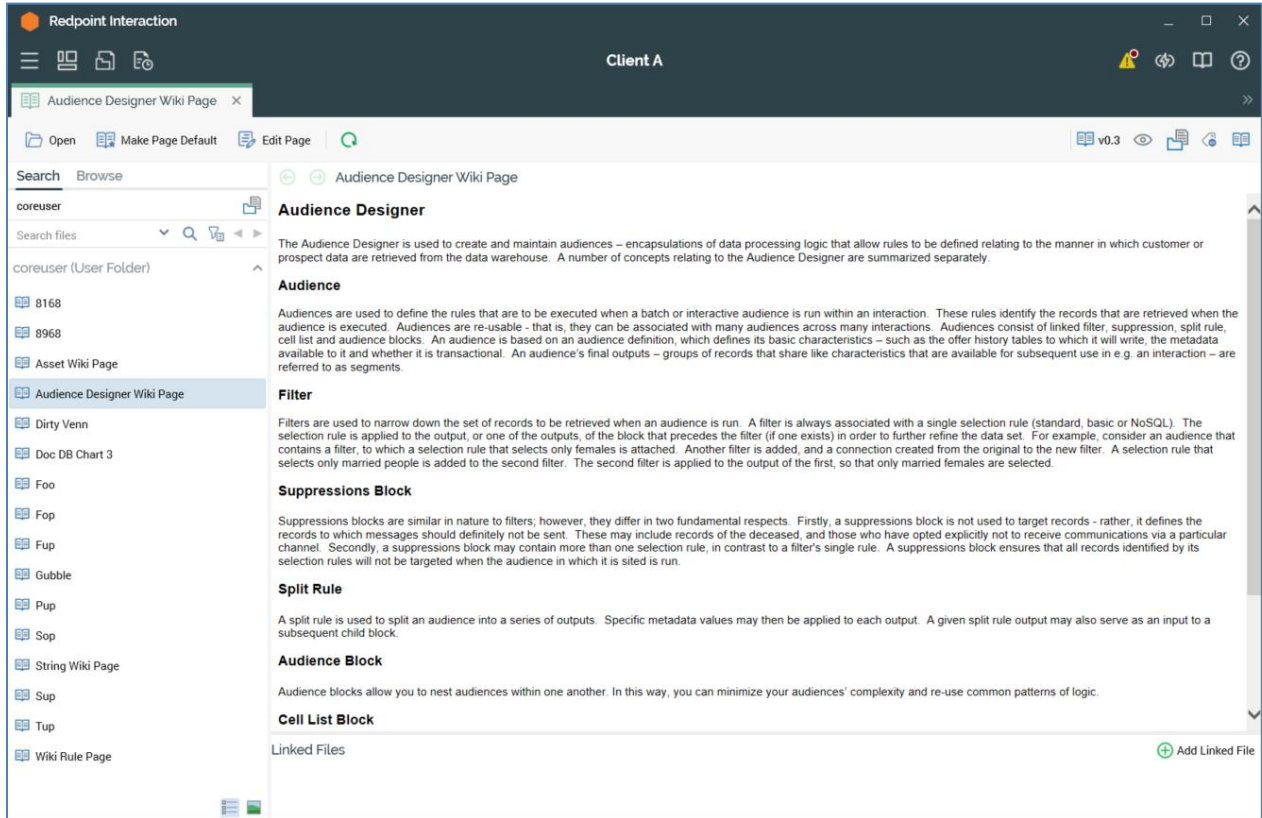
- Name
- Description
- URL

The overlay also contains a preview. You can click Save to persist any changes you have made or Cancel to remove the overlay from display. After editing a report, the report displayed in the Report Viewer is refreshed.

- Back/Forward: these buttons can be used to navigate having clicked links within the displayed report.
- Refresh: reloads the displayed report.

21 Wiki

A Wiki is a collection of pages designed to enable anyone with access to contribute or modify content.



The Wiki enables your RPI user community to record information to assist in its day-to-day usage of the tool.

21.1 Invoking the Wiki

The RPI Wiki consists of a Wiki Browser, which is used to read existing Wiki content, and a Wiki Page Designer, which is used to create new and edit existing Wiki pages.

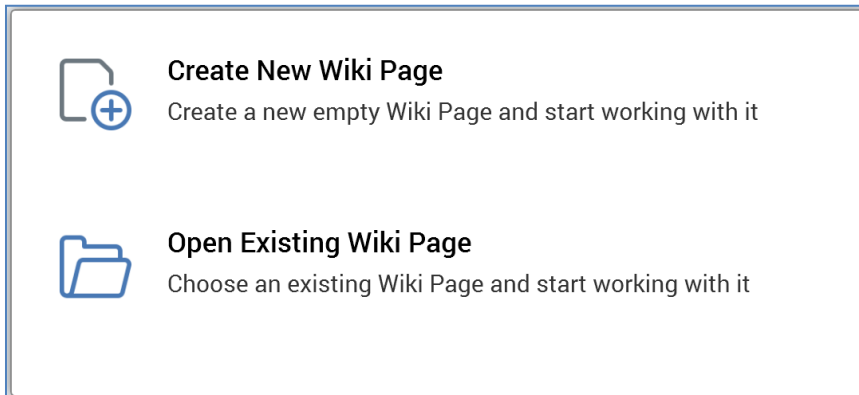
You can invoke these interfaces in the following ways:

- From a Tasks or File Type widget. Typically, these might be displayed at your Home Page. For more information on widgets, please see the Dashboard Designer documentation.

The following options are supported:

- Wiki: invocation of this option displays the Wiki Browser.

- Open Wiki Page Designer: invocation of this option displays the Wiki Page Designer in a new tab. A menu is displayed:

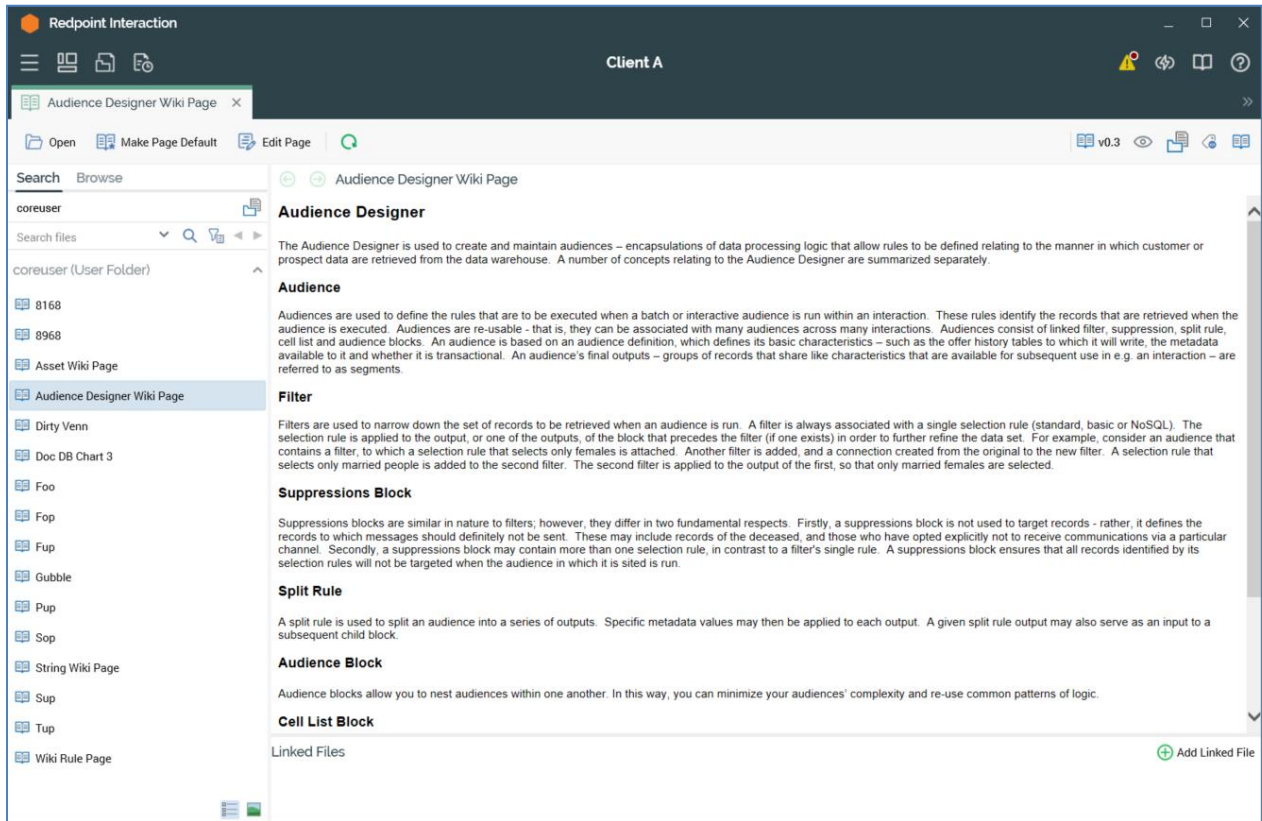


1. Create New Wiki page: invocation of this option creates a new Wiki page and displays it in the Wiki Page Designer.
 2. Open Existing Wiki Page: invocation of this option displays the Open Wiki Page File System Dialog, allowing for the selection of a Wiki page to open in the Wiki Page Designer. The dialog is limited to display Wiki pages only. On selection of a Wiki page, it is displayed for edit in the Wiki Page Designer.
- Create New Wiki Page: selecting this option displays a new Wiki page in the Wiki Page Designer. The page's default name is 'New Wiki Page', and default content is 'This is a blank Wiki Page.'
 - From the quick access menu's Wiki menu, which exposes the same options as documented above.
 - By double-clicking a Wiki page file in the File System Dialog, or by highlighting a Wiki page and clicking OK in the same context. Doing so displays the page in question in the Wiki Browser.
 - By double-clicking a Wiki page file in the Recent Items component. Doing so displays the page in question in the Wiki Browser.
 - By initiating the viewing of a file's linked Wiki page from a designer toolbox (further details are provided in the RPI Framework documentation).
 - By clicking the Wiki button on the main application toolbar (further details are provided in the RPI Framework documentation).

Note that access to the Wiki Page Designer is controlled via the Wiki – Design functional permission. If none of the user groups of which you are a member are associated with this permission, you will not be able to create or edit Wiki pages in the Wiki Page Designer. However, you can always view Wiki pages in the Wiki Browser – this does not require functional permission assignment.

21.2 Wiki Browser

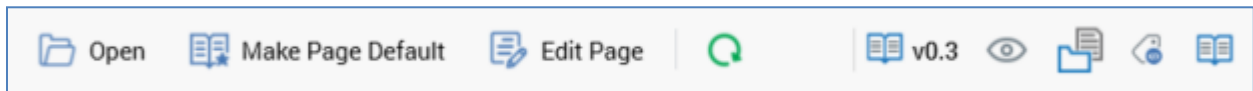
The Wiki Browser is used to view existing Wiki page content.



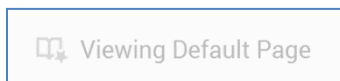
It contains the following elements:

21.2.1 Toolbar

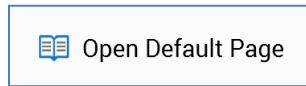
The following toolbar options are available in the Wiki Browser:



- Open: display the File System Dialog to allow you to navigate the folders to which you have access in order to select a Wiki page to display in the Wiki Browser. Having selected a Wiki page and invoked OK, the page is shown in the Wiki Browser's content panel.
- Open Default page: when viewing the default Wiki page, this button is disabled, and its text reads 'Viewing Default Page':



When viewing a page other than the default, it is enabled, and its text reads 'Open Default Page':



Invocation displays the default Wiki page in the Wiki Browser.

- **Make Page Default:** this option is enabled when a page other than the default Wiki page is displayed in the Wiki Browser. Clicking it makes the currently-displayed page the default, and a confirmatory message is displayed. The option is disabled when the default Wiki page is currently displayed; in this context, the button's text reads Viewing Default Page.
- **Edit Page:** this option is enabled when a page is displayed in the Wiki Browser. Invocation displays the page in question in the Wiki Page Designer. If it is already displayed in a Wiki Page Designer instance, the tab within which the Designer is displayed takes the focus.
- **Refresh:** reloads the currently-displayed Wiki page from the RPI file system; any changes made since its last being loaded are displayed.
- **Version number**
- **Follow/Unfollow File:** please see the RPI Framework documentation.
- **File options:** please see the RPI Framework documentation.
- **File Metadata:** please see the RPI Framework documentation.
- **Linked Page options:** please see the RPI Framework documentation.

21.2.2 Toolbox

The toolbox features the Folder Search component. For more information, please see the Framework documentation. Only Wiki page files are shown. You can double-click a Wiki page to display it in the Wiki Browser's content panel.

21.2.3 Navigation Toolbar

The navigation toolbar is displayed to the left of the content panel header.



It includes Go back and Go forward buttons that behave as those found within an internet browser, and which allow you to navigate through your history of recently-viewed Wiki pages.

21.2.4 Content Panel

The content panel displays the currently-selected Wiki page.

Audience
Audiences are used to define the rules that are to be executed when a batch or interactive audience is run within an interaction. These rules identify the records that are retrieved when the audience is executed. Audiences are reusable - that is, they can be associated with many audiences across many interactions. Audiences consist of linked filter, suppression, split rule, cascade rule, cell list and audience blocks. An audience is based on an audience definition, which defines its basic characteristics - such as the offer history tables to which it will write, the metadata available to it and whether it is transactional. An audience's final outputs - groups of records that share like characteristics that are available for subsequent use in e.g. an interaction - are referred to as segments.

Filter
Filters are used to narrow down the set of records to be retrieved when an audience is run. A filter is always associated with a single selection rule. The selection rule is applied to the output, or one of the outputs, of the block that precedes the filter (if one exists) in order to further refine the data set. For example, consider an audience that contains a filter, to which a selection rule that selects only females is attached. Another filter is added, and a connection created from the original to the new filter. A selection rule that selects only married people is added to the second filter. The second filter is applied to the output of the first, so that only married females are selected.

Auxiliary Filter Block
An auxiliary filter allows you to leverage in an audience the results of execution of a selection rule that resolves to an auxiliary database resolution level. Note that appropriate joins must be configured in order to use an auxiliary filter block.

Suppressions Block
Suppressions blocks are similar in nature to filters; however, they differ in two fundamental respects. Firstly, a suppressions block is not used to target records - rather, it defines the records to which messages should definitely not be sent. These may include records of the deceased, and those who have opted explicitly not to receive communications via a particular channel. Secondly, a suppressions block may contain more than one selection rule, in contrast to a filter's single rule. A suppressions block ensures that all records identified by its selection rules will not be targeted when the audience in which it is sited is run.

Split Rule
A split rule is used to split an audience into a series of outputs. Specific metadata values may then be applied to each output. A given split rule output may also serve as an input to a subsequent child block.

Cascade Rule
A cascade rule is a highly specialized block used specifically to support transpromo message delivery. Transpromo (transactional/promotional) messages are included in dedicated 'slots' within a regular, printed communication (e.g. a bank statement or credit card bill). The cascade rule is used to determine the applicability of messages to a given target. Lists of applicability rules - realized as selection rules - can be assembled and available message slots populated as each rule is executed in turn.

Audience Block
Audience blocks allow you to nest audiences within one another. In this way, you can minimize your audiences' complexity and re-use common patterns of logic.

Cell List Block
A cell list block is essentially a much more potent version of a split rule. A cell list block is configured with a cell list, which allows you to define a series of cells using a variety of rules, and assign a unique code to each. When a cell list block executes in an audience, the rules defined in its cell list are run and the audience's output split into cells accordingly.

Content is presented as rendered HTML within a web browser control and is refreshed upon the Wiki Browser taking the focus.

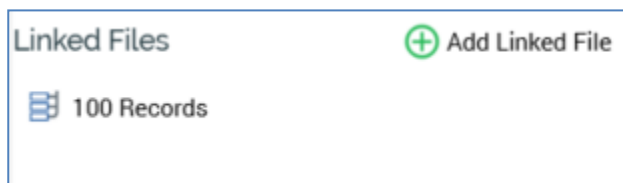
Upon initial invocation, the Wiki page defined as default is shown in the content panel (if no such a page is defined, an advisory message is shown).

You can navigate a link displayed in the Wiki page to another Wiki page. When you do so, the page to which you navigated replaces the page displayed currently in the content panel. You can also navigate a link to an external URL. The external page replaces the page displayed currently in the content panel.

21.2.5 Linked Files

You can link a file to a Wiki page in the File System Dialog. Many files can be linked to a given Wiki page, but a file can only be linked to one Wiki page.

The Linked Files section at the bottom of the Wiki Browser displays a read-only list of all files linked to the current Wiki page, listed alphabetically by filename.



An Add Linked File button is available at the top right of Linked Files. Invocation of this option displays the 'Choose a File to link to this Wiki Page' File System Dialog. You can select a file to link to the Wiki page. On returning to the Wiki Browser, the newly-linked file is displayed (in an appropriate alphabetical position) at Linked Files. An advisory message is displayed when you attempt to link to a file that is already linked to a Wiki page. Note that you cannot link a Wiki page to itself.

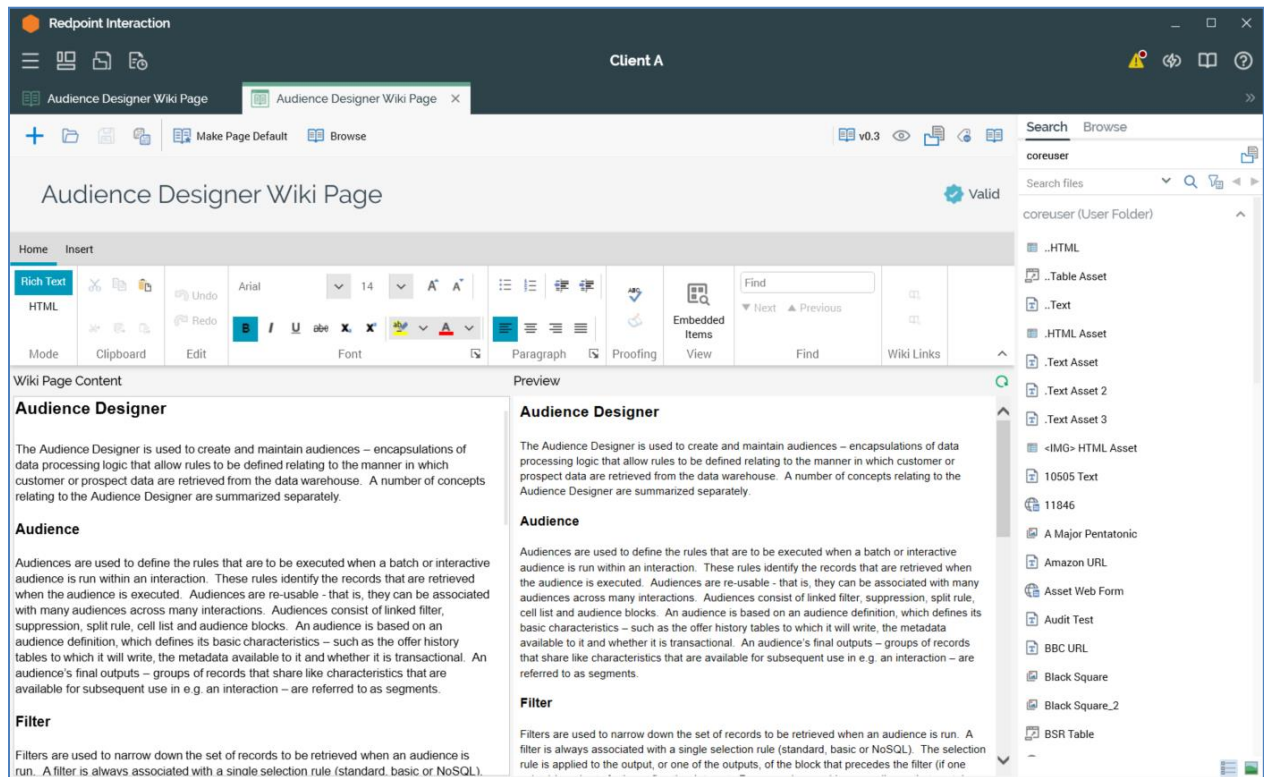
You can double click a linked file to open it in an appropriate designer (if opening the file type is supported).

A context menu, exposing the following options, is displayed when you right-click a linked file:

- View File Information...: displays the linked file's details in the File Information Dialog.
- Open Latest Version: if supported, opens the linked file in an appropriate designer.
- Remove Linked File: invocation of this option is protected by an 'Are You Sure?' dialog and removes the link between the Wiki page and the file.

21.3 Wiki Page Designer

Wiki Pages are created and edited in a dedicated Wiki Page Designer.

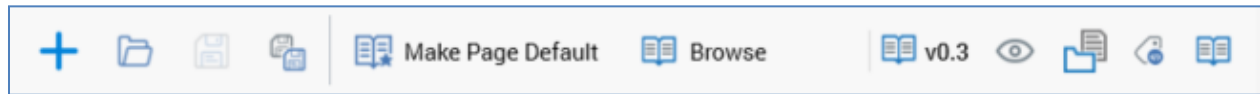


The designer consists of the following, each of which is documented separately:

- Toolbar
- Toolbox
- Properties section
- Content toolbar
- Content Section
- Validation status indicator

21.3.1 Toolbar

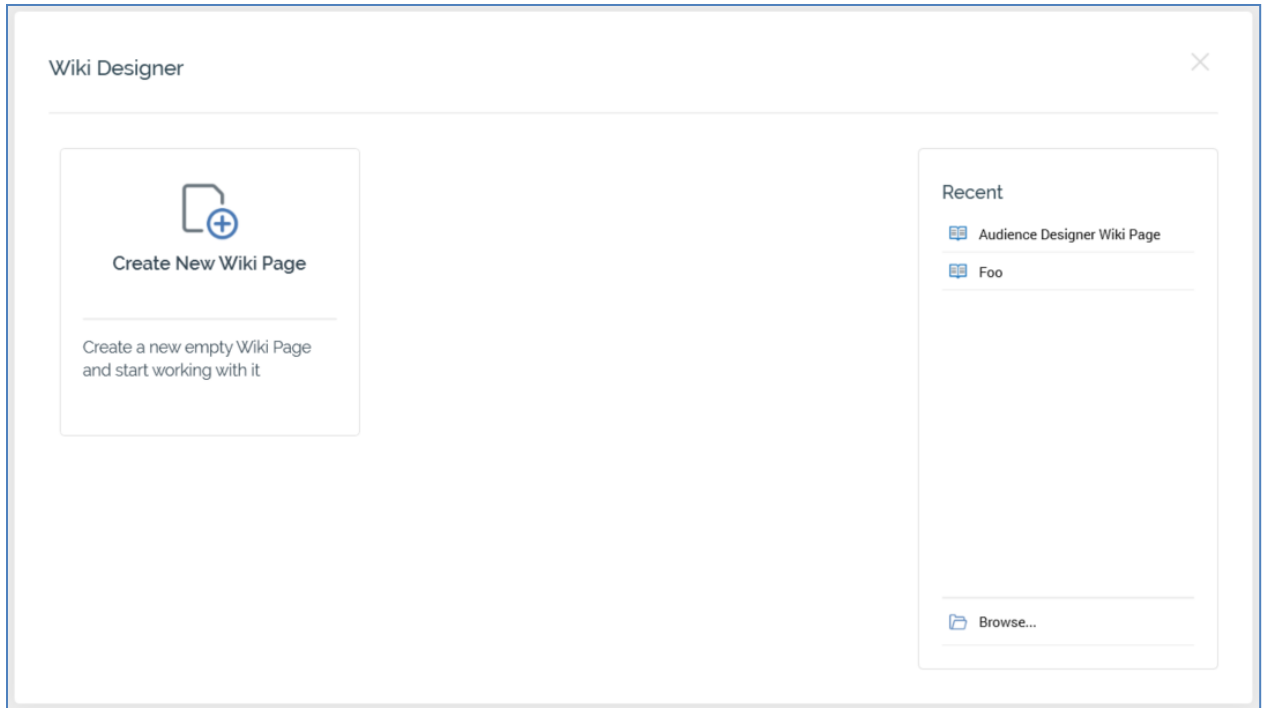
The Wiki Page Designer toolbar exposes the following options:



- Create new Wiki Page: clicking this button displays the Wiki Page Designer Start Page (covered elsewhere in this documentation).
- Open an existing Wiki page: displays the File System Dialog to allow selection of a Wiki page to edit. If changes have been made to an existing page displayed in the Wiki Page Designer, an 'Save Changes' dialog is displayed. The selected Wiki page is displayed in the Wiki Page Designer
- Save the current Wiki page: this option is disabled when no unsaved changes exist within the Wiki page. If the page has yet to be saved, Save behaves as Save as..., and the File System Dialog is displayed to allow you to specify the Wiki page's filename and folder. If it has been saved previously and the Wiki page's name has not changed, changes are persisted within the existing file. If the name of the Wiki page has changed, the name of the file within which its details are persisted is updated to reflect the change. In either case, the file's version number is incremented.
- Save the current Wiki page as...: displays the File System Dialog, allowing specification of the filename to which the Wiki page is to be saved.
- Make Page Default: this option is only available once a Wiki page has been saved for the first time. Clicking the button makes the current page the default. A confirmatory message is displayed following successful invocation. The button is disabled if the current page is the already the default, and its text reads 'Viewing Default Page'.
- Browse: this button is only available once a Wiki page has been saved for the first time. Clicking it displays the Wiki page in the Wiki Browser. If the page is already displayed in the Wiki Browser, the existing instance takes focus. If not, a new Wiki Browser instance is opened.
- Version number
- Follow/Unfollow File: please see the RPI Framework documentation.
- File options: please see the RPI Framework documentation.
- File Metadata: please see the RPI Framework documentation.
- Linked Page options: please see the RPI Framework documentation.

21.3.2 Start Page

The Wiki Page Designer Start Page is shown upon invocation of Create new Wiki Page at the Wiki Page Designer toolbar. It contains the following:



- Create New Wiki Page button. Clicking the button displays a new, unconfigured Wiki Page in the Wiki Page Designer.
- Recent: lists recently-accessed wiki pages, facilitating the opening of the same.
- Browse: displays the Open Wiki Page File System Dialog, allowing you to select a wiki page to open.

A Cancel button is shown at the top of the Start Page. Clicking it removes the Start Page from display, and redispays the Wiki Page Designer.

21.3.3 Toolbox

The Wiki Page Designer toolbar provides access to asset files stored in the RPI file system via a Folder Search component. For more information, please see the Framework documentation.

Only assets are displayed. You can drag image assets only from the toolbox and drop them as required in rich text or HTML Wiki page content.

21.3.4 Name

A Wiki Page's name is configured in the large property shown at the top of the Wiki Page Designer, below the toolbar:

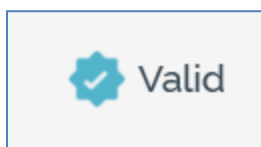


Provision of a name is mandatory, and the value provided may be a maximum of 100 characters. The Wiki page's name is the same as the filename under which it is saved within the RPI file system. As such, it must be unique amongst the Wiki pages in the folder within which saved.

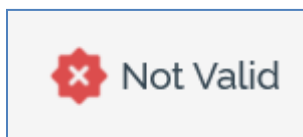
You can edit a Wiki page's name by clicking the property. Complete the edit by clicking off the property, or by hitting return.

21.3.5 Validation Status Indicator

A validation status indicator is displayed to the right of the Wiki page's name. When the Wiki page is valid and contains no validation errors, the validation status indicator is shown as follows:



Specific validation errors are outlined in the Wiki page documentation. When one or more validation errors is present, a validation error indicator is shown:



Clicking the indicator lists the validation errors in a dialog. You can use the button at the bottom left of the dialog to copy the validation error details to the clipboard. You can close the dialog using the OK button.

21.3.6 Content Editor Toolbar

The content editor toolbar is described within the RPI content editor documentation.

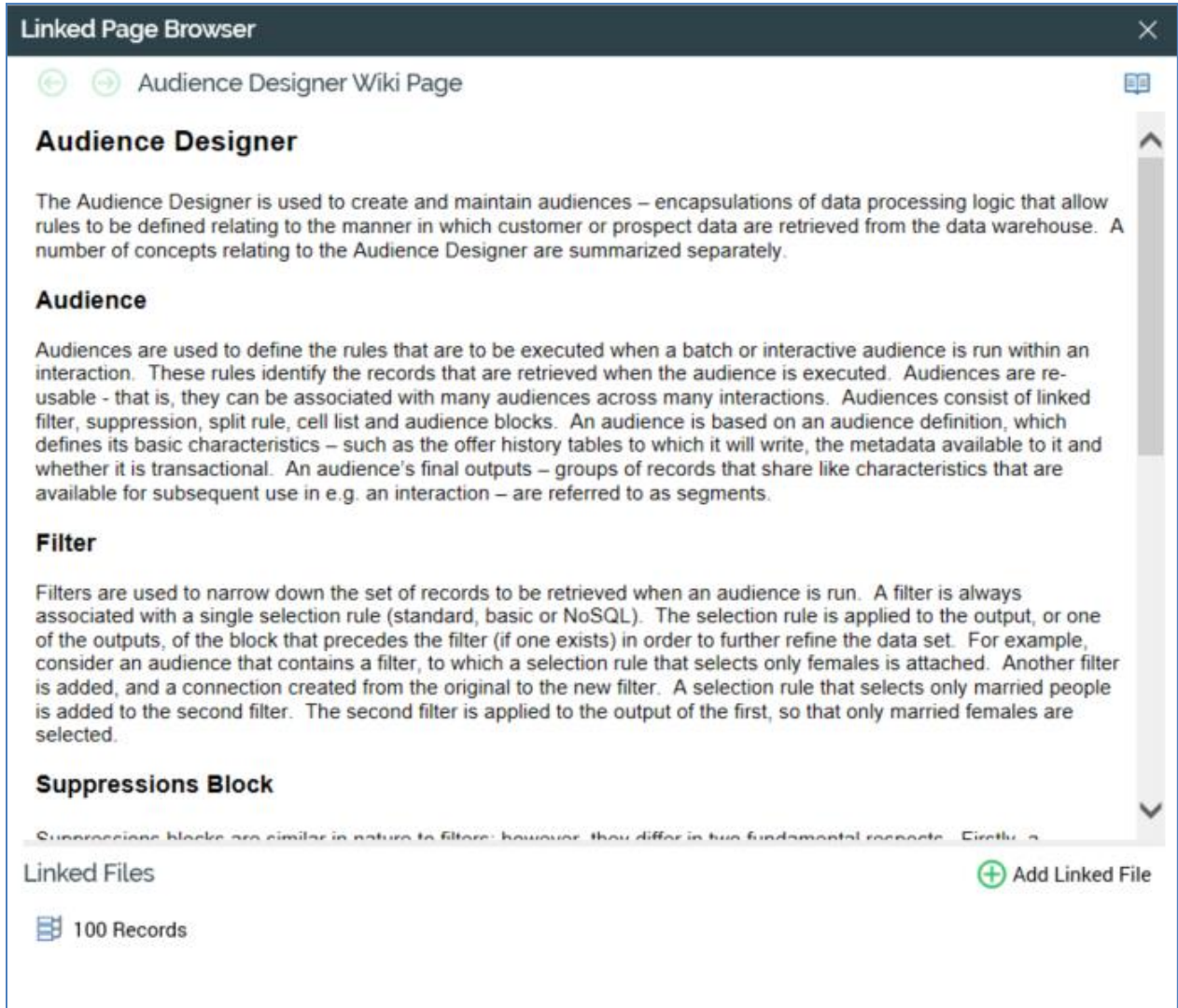
21.3.7 Content Editor Section

The Wiki page content editor allows you to edit the contents of Wiki page. It is described in its own section within the RPI documentation.

You can add image assets to rich text or HTML Wiki page content by dragging them from the toolbox and dropping them as required. No other asset types are supported. You can embed external images if required.

21.4 Linked Page Browser

You can display a file's linked Wiki (or external web) page in the Linked Page Browser.



The Browser is accessible from files displayed in the toolbox search tab within RPI designers, or via the Linked Page Options button at the main application toolbar.

The Linked Page Browser is invoked using the Open Linked Page context menu option.

The Browser is displayed as an autonomous dialog, within which the file's linked Wiki page is shown. The contents of the Browser remain constant, irrespective of the underlying selected context.

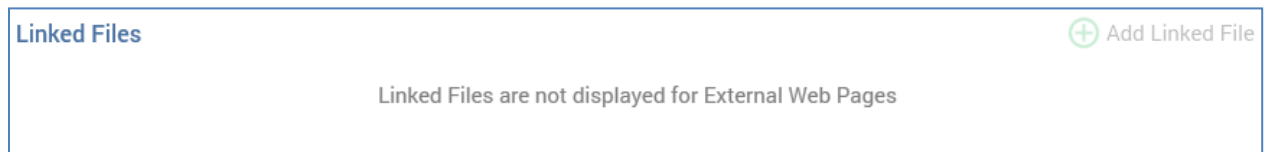
You can follow hyperlinks within the Linked Page Browser to both other RPI Wiki pages and external URLs. You can also use back/next functionality.

The Linked Files list, shown at the bottom of the Linked Page Browser, contains a read-only list of all files to which the current Wiki page is linked. A single button - Link a file to this Wiki page – is available at the toolbar displayed above the list of linked files. Invocation of this option displays the 'Choose a File to link to this Wiki Page' File System Dialog, within which you can select a file to link to the Wiki page. On return to the Linked Page Browser, the newly-linked file is displayed in appropriate alphabetical order within the Linked Files list. An advisory message is displayed when you attempt to link to a file already linked to the Wiki page. Note that it is not possible to link a Wiki page to itself.

A context menu is shown when right-clicking a file in the Linked Files list:

- View File Information...: displays the linked file's details in the File Information Dialog.
- Open Latest Version: if supported, opens the linked file in an appropriate designer.
- Remove Linked File: invocation of this option is protected by an 'Are You Sure?' dialog and removes the link between the Wiki page and the file.

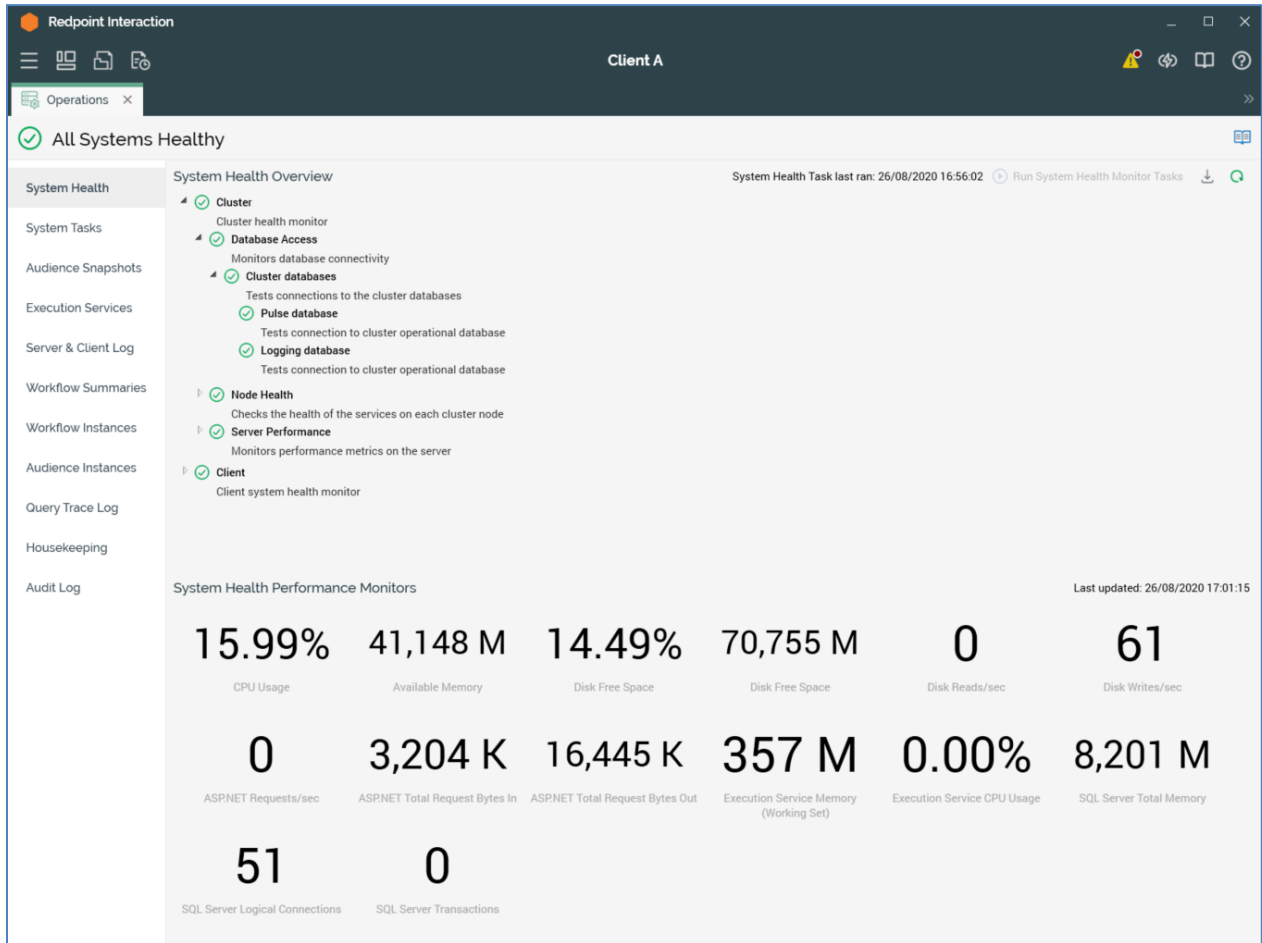
The Linked Files displays a message if an external web page is shown in the Browser:



In addition, the Link... button is disabled.

22 Operations Interface

The RPI Operations Interface allows operational support staff to view the overall status of the current client's RPI server installation, as well as providing information useful in troubleshooting any problems that may arise.



The Operations Interface consists of the following elements, each of which is documented separately:

- Header
- Tabset, containing the following tabs:
 - System Health
 - System Tasks
 - Audience Snapshots
 - Execution Services
 - Server & Client Log
 - Workflow Summaries

- Workflow Instances
- Audience Instances
- Query Trace Log
- Housekeeping
- Approval Summary
- Audit Log

22.1 Invoking the Operations Interface

You can invoke the Operations Interface in the following ways:

- From a Tasks widget. Typically, these might be displayed at your Home Page. For more information on widgets, please see the Dashboard Designer documentation.

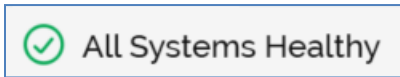
Clicking the button displays the Operations interface in a separate tab in the RPI framework. Only one Operations interface tab may be open at a time.

- From the quick access menu's Operations menu. The Operations menu exposes the same option as described above.

Note that access to the Operations interface is controlled via the Operations functional permissions. There are eleven Operations functional permissions, each of which corresponds to a tab within the interface. You must be associated with at least one of the Operations permissions to access the Operations interface. Association with an Operations permission provides access to the tab to which the permission refers.

22.2 Header

A header is always displayed at the top of the Operations interface, and contains the following:



- [Overall system health status]: this is displayed if the logged-in user is associated with the Operations – System Health functional permission. Overall system health is shown as one of the following:
 - All Systems Healthy: the RPI server is decreed to be healthy when no Warning or Attention Required issues are present in the System Health tab.
 - System Warnings Present: the system assumes this status when one or more Warning, and no Attention Required, issues are present in the System Health tab.
 - Attention is Required: one or more Attention Required issues are present in the System Health tab.
 - System Health has not been loaded: this message is shown when system health information is yet to be loaded – for example, immediately on initializing the Operations interface.

If the user is not associated with the functional permission, a generic 'Operations' header is shown instead.

- Wiki Options: this button is shown to the right of the Operations interface header. It allows you to access or define an Operations Wiki page.

More details on Wiki Options can be found in the RPI Framework documentation.

Note that the Operations Wiki page is saved using configuration setting OperationsWikiPage ID.

22.3 Tabset

The main body of the Operations interface is occupied by a tabset, which exposes the following tabs:

- System Health
- System Tasks
- Audience Snapshots
- Execution Services
- Server & Client Log
- Workflow Summaries
- Workflow Instances
- Audience Instances
- Query Trace Log
- Housekeeping
- Approval Summary
- Audit Log

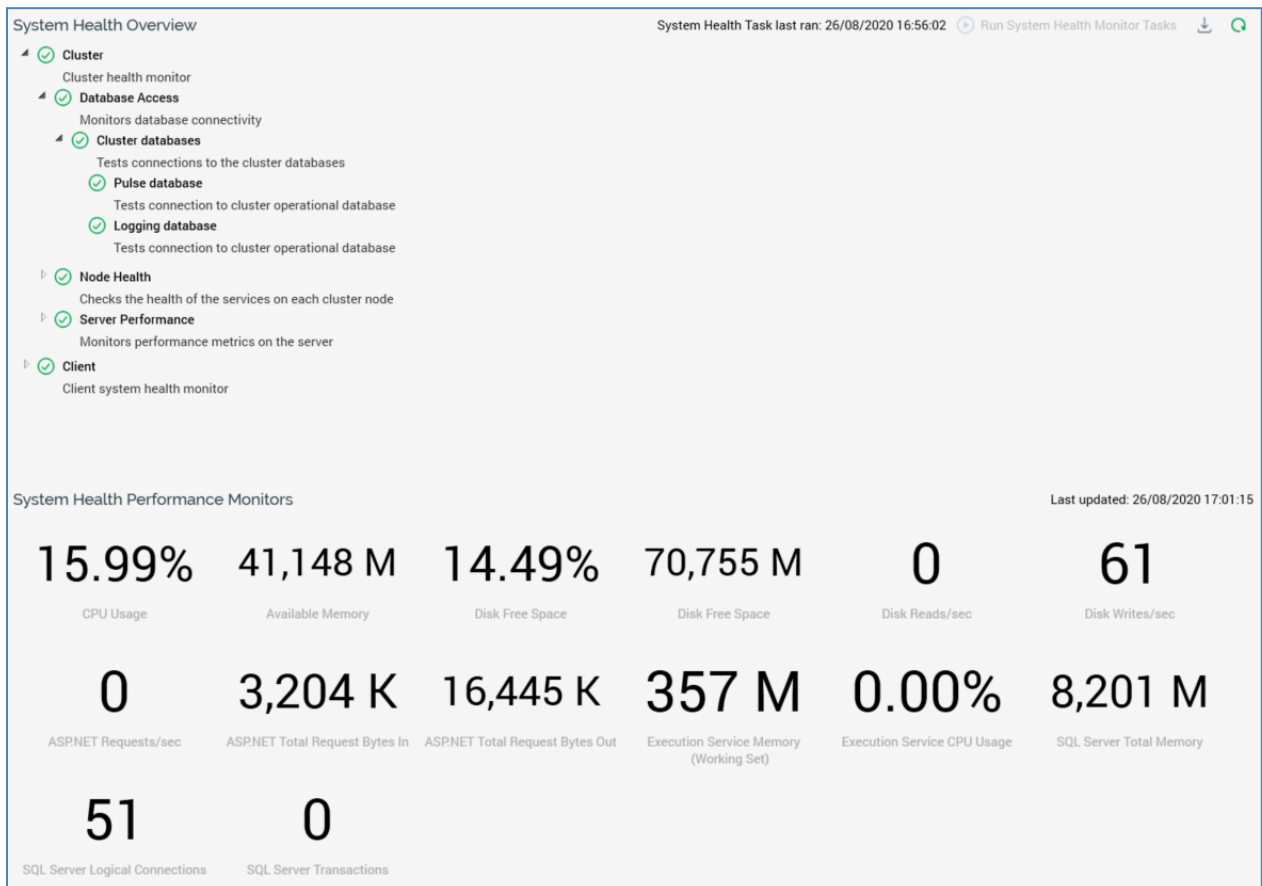
Each of these is documented separately.

Note that the tab within which you were most recently working is shown on opening the Operations interface.

22.4 System Health Tab

The System Health tab is displayed initially when you view the Operations interface.

It provides an overview of the state of the current client's RPI server installation, highlighting any issues that may require attention and painting a picture of the current overall health of the system.



The System Health task is composed of the following sections:

22.4.1 System Health Overview

This section contains a toolbar, and a treeview representation of the health of the current client's RPI installation.

- Toolbar: the System Health Overview toolbar exposes the following:



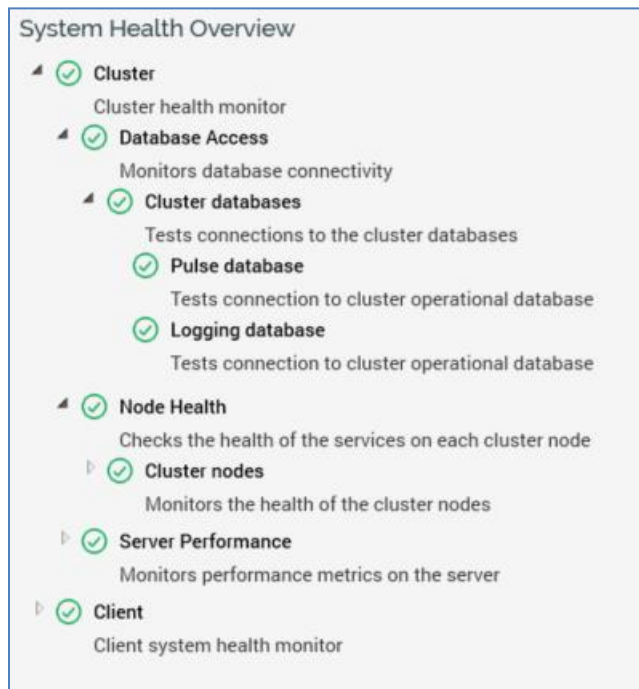
- 'System Health Task last ran: [date/time]': the date and time at which System Health information was most recently refreshed. The information displayed when you refresh System Health & Tasks reflects the state of the system at the most recent execution of

the System Health Monitor task and may not reflect with 100% accuracy the current state of the system (depending on when that task ran).

- Run System Health Monitor Tasks: to gain an accurate understanding of the current state of system health, you can invoke this option, which executes the Client Health Monitor and System Health Monitor tasks. Note that the button is disabled while the task is running.
- Export System Health: invocation of this option displays the Save System Health Details Windows file system dialog, with which the Default file type is set to Text Files, the default file name to 'System Health [yyyy]-[mm]-[dd]' and the default folder to the folder within which the client application is running. You can click Save to save the system health details to a file, or you can click Cancel to close the dialog without saving.

The file thus generated contains the system health hierarchy as displayed in the System Health Overview. For each element in the hierarchy, the following are displayed:

- Name
- Health: one of Healthy, Warning or Attention Required
- Description
- Refresh: clicking this button loads the most up-to-date system health information available.
- Treeview: the System Health Overview treeview provides a series of health indicators that together provide an immediate understanding of the current state of the RPI server.



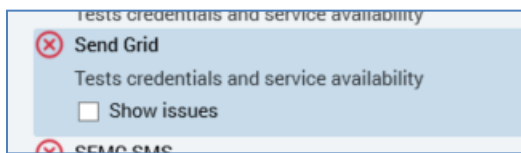
Each element in the treeview is shown as being in one of three states:

- Healthy

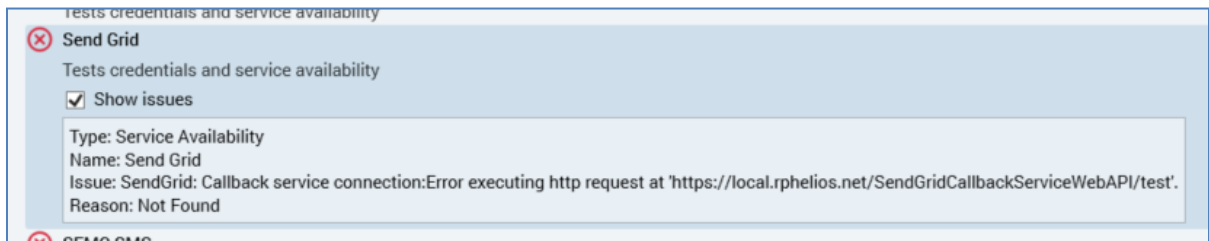
- Warning
- Attention Required

The overall status of a parent node is determined by the collective statuses of its descendant nodes. If all of its descendants are healthy, the parent node is deemed also to be healthy. If one or more warning descendant nodes are present, but none required attention, the parent is in a warning state. If one or more descendants require attention, the parent node also requires attention (irrespective of the presence of descendants in a warning state).

When a leaf node is in a warning state or requires attention, when you click it, a checkbox is displayed:



Checking the checkbox displays the issue's details:



If you highlight another treeview node, the issue's details are removed from display. They are redisplayed when you highlight the node again.

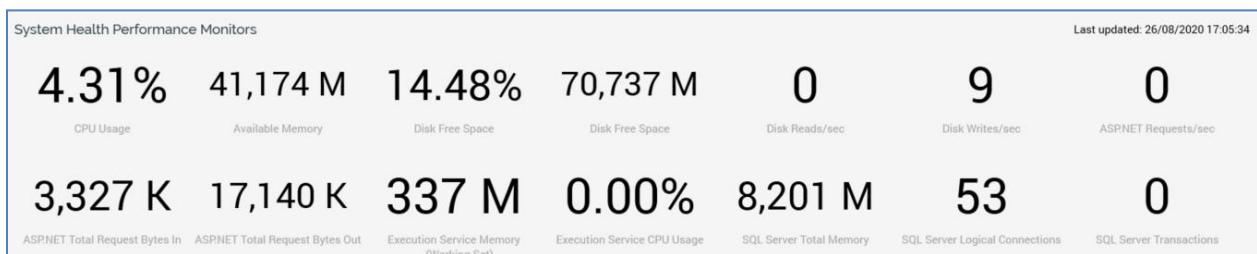
The treeview contains the following nodes:

- Cluster: this node contains details about the current state of health of the server's cluster core. It contains the following nodes:
 - Database Access: describes the current connectivity state in respect of the following cluster databases:
 - Pulse database: the cluster core's operational database
 - Logging database: the database to which log messages from across the cluster are written.
 - For each Windows services role in the cluster:
 - Workflow database on [server] (ID:[n]): the database in which the Windows service's workflows are persisted.
 - Node Health: describes the state of health of the cluster's nodes. These include the master node manager node.

- Server Performance: monitors the current state of performance within the cluster:
 - Memory usage: this test checks whether server memory use is currently below [x]%. Current value is [y]%.
 - Remaining hard drive space: this test checks that the remaining server hard disk space is above [x] M. Current value is [y] M.
- Client: this node describes the state of health of the current client. The following are monitored:
 - AML Service: this node describes the current status of RPI's connection to the Redpoint Automated Machine Learning (AML) API.
 - External Services: this node describes the availability of third party services used by the client (channels, FTP locations and web adapters).
 - Database Access: tests connectivity to the following databases:
 - Operational database
 - Audit database
 - Data warehouse
 - Auxiliary database(s) (if configured)
 - Realtime Service: this node describes the current state of the current RPI Realtime service.
 - File Access: this node describes the current state of access to local and network file systems, specifically to the system output folder.

22.4.2 System Health Performance Monitors

The lower half of the System Health tab displays a series of categorized metric values that provide insight into the current performance of the RPI server.



The section contains the following:

- Last updated: the date and time at which the metrics were most recently refreshed. Note that metrics are updated in real-time on invocation of the Refresh button, rather than reflecting the most recent results of execution of the System Health task
- Hardware: these metrics relate to the server hardware upon which RPI is installed. The following metrics are displayed:

- CPU Usage (%). Note the percentage shown here represents the sum of usage across all CPUs, hence the value shown may exceed 100%.
- Available Memory (M): this metric shows % Committed Bytes In Use. This represents is the ratio of Memory – Committed Bytes to the Memory – Commit Limit. Committed memory is the physical memory in use for which space has been reserved in the paging file should it need to be written to disk. The commit limit is determined by the size of the paging file. If the paging file is enlarged, the commit limit increases, and the ratio is reduced). This counter displays the current percentage value only; it is not an average.
- Disk Free Space (%)
- Disk Free Space (M)
- Disk Reads/sec
- Disk Writes/sec
- .NET: these metrics relate to the Microsoft.NET framework that underpins RPI. The following metrics are displayed:
 - ASP.NET Requests/sec
 - ASP.NET Total Request Bytes In (K)
 - ASP.NET Total Request Bytes Out (K)
- Services: these metrics relate to the core Windows services that help comprise RPI. The following metrics are displayed:
 - Execution Service (Working Set)
 - Execution Service CPU Usage
- SQL Server: these metrics are only shown if the RPI data warehouse is running on the Microsoft SQL Server platform. The following metrics are displayed:
 - SQL Server Total Memory
 - SQL Server Logical Connections
 - SQL Server Transactions

The display of SQL Server performance metrics is controlled by system configuration setting SQLPerformanceCountersEnable.

If the system is unable to retrieve data for a metric, a cross icon is shown. Failure details are shown as a tooltip when you hover over the cross.

22.5 System Tasks Tab

The System Tasks tab is used to list and provide control over a series of tasks that are executed in the background by the RPI Task Manager Windows service.

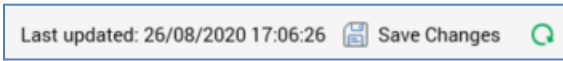
The screenshot displays the 'System Tasks' interface. At the top, it shows 'System Tasks' on the left, 'Last updated: 09/12/2021 11:52:11' in the center, and 'Save Changes' and a refresh icon on the right. Below this is a list of tasks, each with a status icon (checkmark for enabled, pause for disabled), a task name, a description of its status, a frequency of execution, and an 'Enabled' or 'Disabled' button. A three-dot menu icon is present to the right of each task.

Task Name	Status	Last Completed / Scheduled	Frequency
Attribute value catalog	Disabled	12/03/2021 09:16:15	(less than a second)
Audience snapshot requests	Enabled	09/12/2021 11:43:53	Polling every 15 minutes
Calculate Count Result widget counts	Enabled	09/12/2021 11:51:54	Polling every 1 minute
Callback service processor	Disabled	-	-
Client health monitor	Enabled	09/12/2021 10:59:07	Polling every 1 hour
Contact universe counts	Enabled	08/12/2021 18:19:25	Polling every 1 day
Data project files expiry alerting	Disabled	-	-
Event alerting	Enabled	09/12/2021 11:51:53	Polling every 1 minute
Export backfill state data	Disabled	-	-
Fulfillment state flow count updates	Enabled	09/12/2021 11:48:58	Polling every 10 minutes
Goal smart asset monitor	Enabled	09/12/2021 11:48:58	Polling every 10 minutes
Housekeeper	Enabled	Scheduled to run every day at 02:00	-

These tasks serve a variety of purposes, and each is documented separately below. The System Tasks tab contains a toolbar and the System Tasks list.

22.5.1 Toolbar

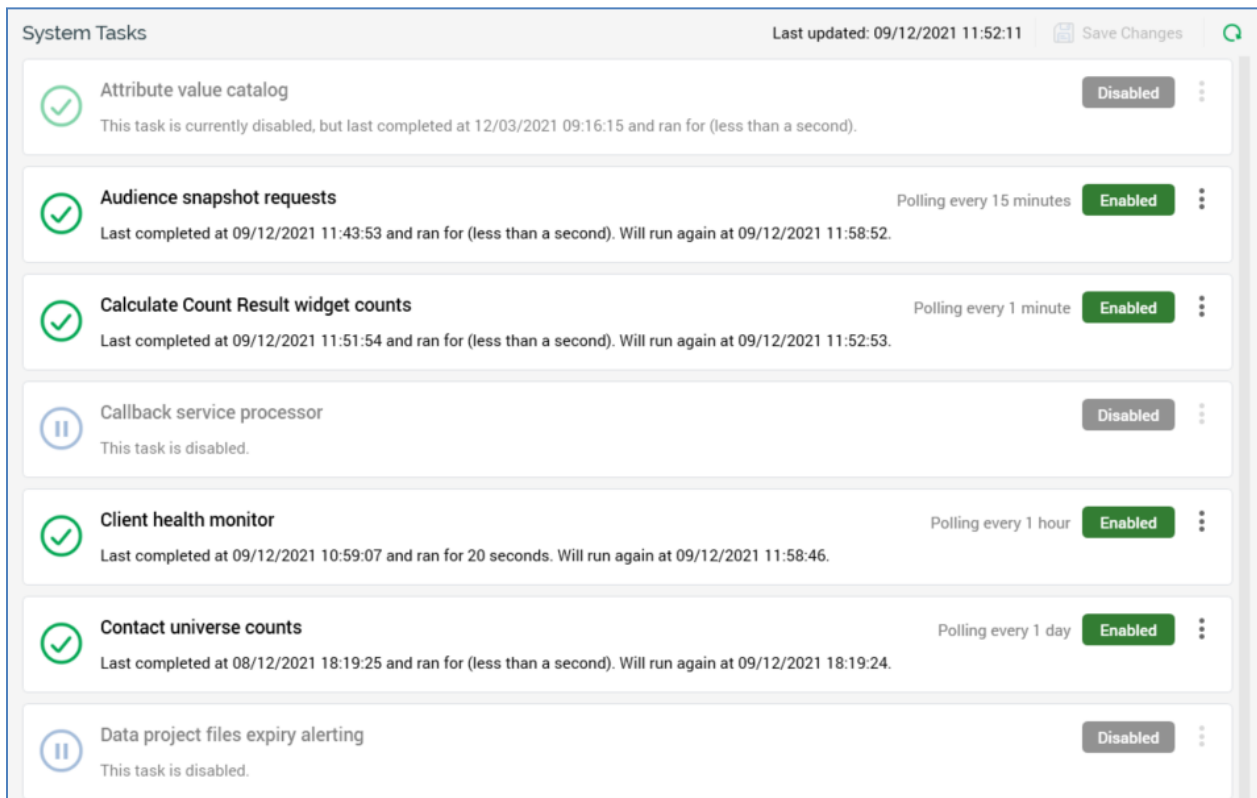
The toolbar exposes the following:



- Last updated: the date and time at which the list of system tasks was last refreshed. Refreshing tasks allows their current states (e.g. Last run succeeded, Running, etc.) to be displayed.
- Save Changes: this button is enabled when change(s) have been made to one or more tasks' Enabled status or Schedule details. Invocation persists the changes and removes from display the orange label displayed when outstanding changes are present (documented elsewhere). Following a successful Save, the list of tasks is refreshed to display their current statuses. Note that enabling or disabling a system task, or editing its schedule, generates an audit record.
- Refresh: clicking this button reloads details of the system tasks.

22.5.2 System Tasks List

This section lists system tasks in alphabetical order:



Task Name	Status	Frequency	Last Run
Attribute value catalog	Disabled	-	12/03/2021 09:16:15
Audience snapshot requests	Enabled	Polling every 15 minutes	09/12/2021 11:43:53
Calculate Count Result widget counts	Enabled	Polling every 1 minute	09/12/2021 11:51:54
Callback service processor	Disabled	-	-
Client health monitor	Enabled	Polling every 1 hour	09/12/2021 10:59:07
Contact universe counts	Enabled	Polling every 1 day	08/12/2021 18:19:25
Data project files expiry alerting	Disabled	-	-

The following tasks are listed:

- Attribute value catalog: this task is responsible for the initial collation of and ongoing update of attributes' lists of values. On execution, the task checks if there are any attributes that are due to be refreshed (in accordance with the AttributeRefreshInterval setting – e.g. refresh every 30 days). The lists of values of any that are due are updated.

If system configuration setting AttributeRefreshColumnsOnly is set to True, on execution of the task, only database column attributes' values are refreshed. If set to False, all attributes' values are refreshed.

- Audience snapshot requests: monitors for the insertion of data into data warehouse table RPI_DataflowSnapshotRequests. If the value inserted matches the external key of an existing audience snapshot, the snapshot in question is executed and an audience instance created.
- Calculate Count Result widget counts: this task is responsible for calculating counts and aggregate counts for any configured count results widgets. At its execution, it snapshots counts and aggregate counts of the selection rules with which count results widgets are configured.
- Callback service processor: this task processes email events from an email provider's callback service and imports them into the data warehouse. At execution, the task a number of queue readers in accordance with the CallbackServiceProcessorNumReaders system configuration setting, and reads email events concurrently from the queue defined at the CallbackServiceQueuePath setting. Events data is then ingested into a provider-specific 'RPI_[Provider]Events' data warehouse table.
- Channel [channel name] data synchronization: one task is shown for each channel. These tasks are responsible for the retrieval of results data provided by third-party channel providers – e.g. metrics such as the number of email opens from Salesforce Marketing Cloud, and the number of post Likes from Facebook. Each task is created at the point of the channel's creation and is deleted when the channel is deleted.
- Client Health Monitor: it is this task's responsibility to perform system health checks specific to the current client to which the RPI client application is connected. Its most recent results are displayed in the System Health task when Refresh System Health & Tasks is invoked. Upon completion of the task, if Attention Required issues or Warnings were discovered, email alerts are sent to those users who have subscribed to the relevant alert types. If the task is unable to connect to the data warehouse, unlike other scenarios, a series of attempts to make a connection are not repeated over a ten-minute period – rather than delaying the display of system health, the database connection is assumed to require attention immediately.
- Contact universe counts: updates cached values for audience contact universe counts.
- Data project files expiry alerting: this task is disabled by default. It is initially scheduled to run on a daily basis. The task sends alerts to email recipients, defined by system configuration setting DataProjectExpiryAlertEmailAddresses, when one or more data project files are about to expire. Data project expiry is defined using system configuration setting DataProjectNumberOfDaysBeforeExpiry.

The delivered alert email contains the following:

Email subject: as per system configuration setting DataProjectExpiryAlertEmailSubject

Content: 'The following Data Projects are scheduled to expire within the next [DataProjectNumberOfDaysBeforeExpiry] days:

Data Project 1

Data Project 2

...

The following Data Projects are scheduled to expire within the next [DataProjectNumberOfDaysBeforeExpiry] +1 to [DataProjectNumberOfDaysBeforeExpiry] +2 days:

Data Project 3

Data Project 4'

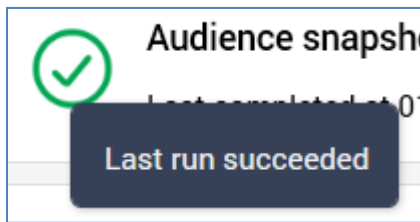
- Event Alerting: on execution of this task any new alert emails scheduled for delivery due to occurrence of system events at the current client are sent to appropriate users.
- Export backfill state data: this task exports offer history state data for any audience definition at which backfill files are configured to be generated. When enabled, by default, the task polls for data every minute. When data is found, it generates an offer history states backfill file ('[Table name]_States_[GUID]'). If the Export channel metrics property is checked at the audience definition, channel execution results files are generated ('op_ChannelExecutionResults_[GUID]', query type UPSERT).
- Fulfillment state flow count updates: this task is responsible for collecting custom state flow counts for fulfillment activities (e.g. offers and exports) within interactions.
- Goal smart asset monitor: this task is used to effect A/B/n testing, and machine learning algorithm invocation, for goal smart assets. Full details of goal smart assets can be found in the Smart Asset Designer documentation.
- Housekeeper: it is the job of this task to control the housekeeping activities listed within the Operations Housekeeping tab (e.g. Workflow system and File system housekeepers). Note that this task is only visible in a multi-client environment to users who are cluster admins.
- Recommendation results importer: retrieves and persists in the database lookup results provided by a Product Recommendation endpoint.
- System Health Monitor: this job is used to determine the state of health of the current client's RPI installation's cluster core. Its most recent results are displayed in the System Health task when Refresh System Health & Tasks is invoked. Upon completion of the task, if Attention Required issues or Warnings were discovered, email alerts are sent to those users who have subscribed to the relevant alert types.
- Web cache data importer: this task is used to load data generated during visitors' interactions with RPI landing pages into a series of data warehouse tables. Full details of the tables, and the data loaded therein, can be found in the RPI Realtime documentation. Note that this task is disabled by default.
- Web events importer: this task is responsible for importing all realtime events into the system. These include:
 - Landing page visits, link clicks and custom states/metrics. These can be viewed at the Realtime Tracker and Realtime Details interfaces.
 - Web events data associated with any web analytics adapters defined at the current RPI client.

When retrieving results for a Google analytics adapter, if the maximum number of daily Google API calls for the account with which the adapter is configured is reached, collation of results will cease until midnight Pacific Standard Time, at which point it will resume.

- Web form processor: this task is responsible for processing web form submissions, by removing them from a message queue and writing their details to the data warehouse.

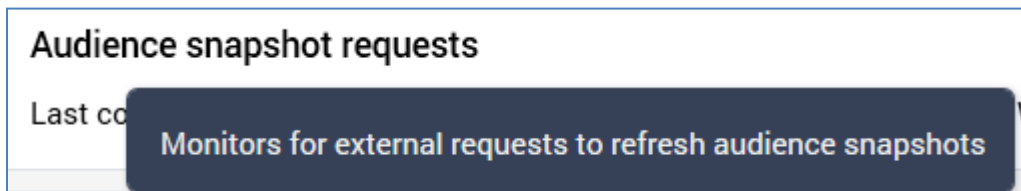
For each system task, the following are shown:

- Status icon: illustrates the current state of the task. A tooltip is shown on hover:



A task's status may be one of the following:

- Last run succeeded
 - Last run failed
 - Run requested
 - Running
- Name: a descriptive tooltip is shown on hover:



- Last completed... details: the date and time of the task's most recent execution are displayed, along with the date and time at which the task is next scheduled to run, in the following format:

Last completed at 10/23/2018 16:45 and ran for 8 seconds. Will run again at 10/23/2018 16:54.

If a task is Disabled, the message 'This task is disabled' is displayed instead of its Last completed... details

If a task is Enabled, and its status is Run requested or Last run succeeded, its Last completed... details continue to be shown.

If a task is Enabled, and its status is Running, its Last completed... details are replaced by the message 'Now running'.

If a task's Enabled status is changed, or its schedule updated, its Last completed... details are replaced by the message 'Save Changes to complete the update to this task's schedule'.

- Polling/Schedule details: these are displayed to the top right of the task. Its manner of display is dependent on whether the task is defined as executing on a daily basis at a specific time:

Scheduled to run every day at 01:00

...or whether defined as executing at a periodic interval:

Polling every 10 minutes

Polling/Schedule details are only displayed if the task is Enabled.

- Enabled/Disabled: this button is displayed to the left of the task. By default, tasks are Enabled. Clicking the toggle button changes the task's current enabled state to either enabled:

Enabled

...or Disabled:

Disabled

When you change a task's Enabled status, an orange message is shown at the top of the list of system tasks:

Task status updates are currently suspended and will be resumed after the changes have been saved

In addition, its Last completed... details are replaced by the text 'Save Changes to complete the update to this task's schedule'.

Clicking Save Changes at the System Tasks toolbar persists the change to the task's Enabled status (along with any other outstanding changes) and removes the message from display.

A task's Enabled status has an effect upon its display:

If a task is Disabled, the following message is displayed instead of its Last completed... details.:

'This task is currently disabled, but last completed at [date/time] and ran for [duration]'

Its Polling/Schedule details and Edit Schedule and Run Task Now buttons are not shown.

If a task is Enabled, and its status is Run requested, its Last completed... details continue to be shown, as do its Polling/Schedule details. Edit Schedule remains enabled, but the Run Task Now button is disabled.

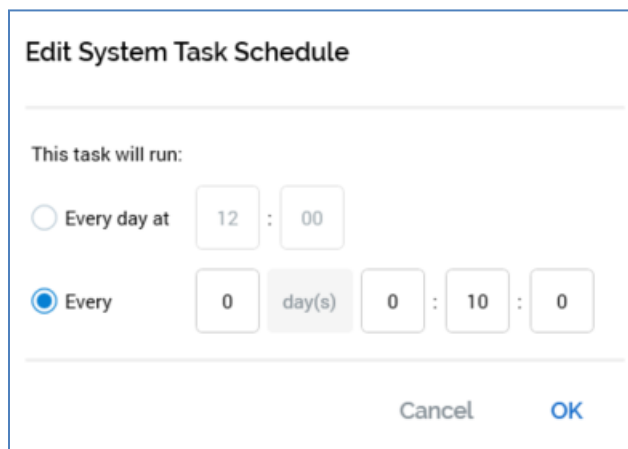
If a task is Enabled, and its status is Running, its Last completed... details are replaced by the message:

'Now running. Started at [date/time]. Last completed at [date/time] and ran for [n] [units]. Will run again at [date/time]'

Edit Schedule remains enabled, and the Run Task Now button is disabled.

If a task is Enabled, and its status is Last run succeeded, its Last completed... details and Polling/Schedule details are displayed. Both Edit Schedule and the Run Task Now button are enabled.

- Actions button: exposing Run Task Now and Edit Schedule options (each covered separately).
- Run Task Now: this option, accessible from the Actions button's menu, is only available if the task is Enabled. Invocation sets its status initially to Run Requested, then to Running.
- Edit Schedule: this option, accessible from the Actions button's menu, is only available if the task is Enabled. It allows you to define when the task will execute. Invocation displays the Edit System Task Schedule dialog.



The screenshot shows a dialog box titled "Edit System Task Schedule". It contains a section labeled "This task will run:" with two radio button options. The first option is "Every day at" with a time picker set to 12:00. The second option is "Every" with a frequency picker set to 0 day(s) and a time picker set to 0:10:0. At the bottom right, there are "Cancel" and "OK" buttons.

A radio button allows you to define whether the task will run:

- Every day at [hour] : [minute]
- Every [n] day(s) [hours] : [minutes] : [seconds]

When you change a task's schedule, an orange message is shown at the top of the list of system tasks:

Task status updates are currently suspended and will be resumed after the changes have been saved

In addition, its Last completed... details are replaced by the text 'Save Changes to complete the update to this task's schedule'.

Clicking Save Changes at the System Tasks toolbar persists the change to the task's schedule (along with any other outstanding changes) and removes the message from display.

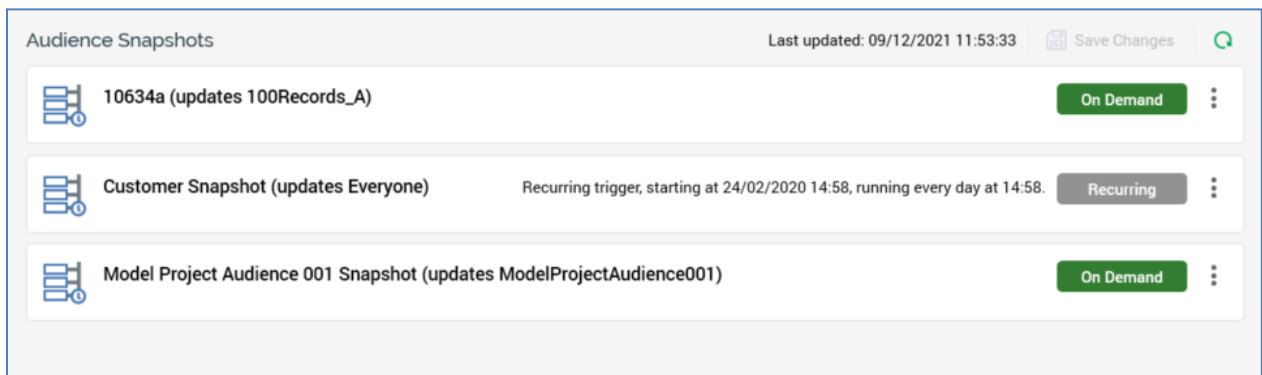
- Error details: these are only shown when you highlight a task with a Last run failed status. You can copy the error details to the clipboard.

22.6 Audience Snapshots Tab

An audience snapshot allows you to improve query performance by persisting the results of the execution of a commonly-run audience in a data warehouse table. You can then build attributes from this table, which you can leverage to build highly performant selection rules (which can, in turn, be used in other audiences).

For example, suppose you have a complex audience, execution of the logic in which takes several hours. Suppose also that the data queried by the audience is refreshed once a week. You can build an audience snapshot that executes the rules in the audience and writes the results to a data warehouse table. It then becomes a simple exercise to build attributes based on the snapshot table and use them to identify the persons targeted by the original audience (and, if required, the segments within which they qualify). These can then be used in selection rules, and, in turn, in an audience that executes much more quickly than the original.

Management of the execution of audience snapshots is carried out in the Audience Snapshots tab within the Operations interface.

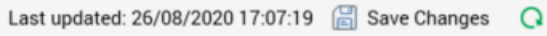




A separate Audience Snapshots configuration interface is found in the Configuration Workbench; this is used to define audience snapshots. It is recommended that you save any changes to audience snapshots' operational configuration, and close the Operations interface, before administering audience snapshots in the Configuration Workbench.

The Audience Snapshots tab contains the following:

22.6.1 Toolbar

The toolbar exposes the following options:

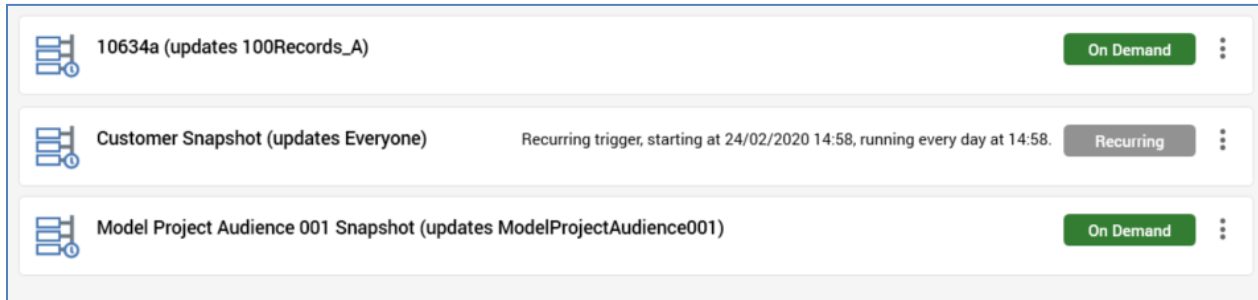


Last updated: 26/08/2020 17:07:19  Save Changes 

- Last updated: this reflects the time of the most recent refresh of the audience snapshots list.
- Save Changes: this button is enabled when changes exist within one or more audience snapshots. Invocation persists any outstanding audience snapshot changes. Execution of a recurring snapshot commences in accordance with its defined schedule.
- Refresh: clicking this button reloads audience snapshot details. You can also click it to abandon any changes made within the interface.

22.6.2 Audience Snapshots List

All audience snapshots defined within the Audience Snapshots configuration interface are displayed in the list.




If an audience snapshot is deleted in the configuration interface, it is no longer listed in the Operations tab. An advisory message is displayed if no audience snapshots have been configured.

For each audience snapshot, the following are displayed:

- Icon: a halo represents the status of the most recent instance of the audience snapshot that executed, and is shown in a tooltip on hover. Status may be one of the following:
 - Never run (the initial state)
 - Not started
 - Play Requested
 - Playing
 - Completed
 - Waiting for next trigger
 - Failed
- [Name] updates [data warehouse table]
- Recurrence summary: displayed only for recurring audience snapshots. A verbal description of the snapshot's recurrence settings is provided, e.g.:

'Recurring trigger, starting at [date/time], running every week on [day] at [time]'

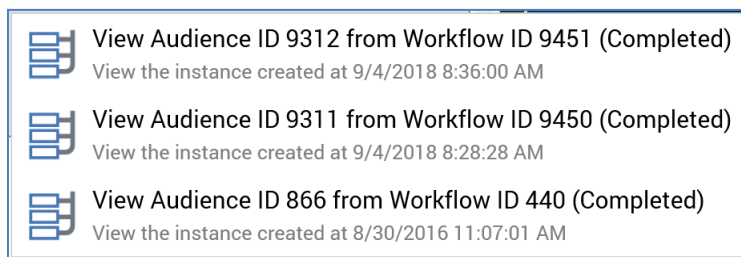
When outstanding changes exist within an audience snapshot, the recurrence summary (if shown) is replaced by a message:

 Save Changes to complete the update to this Audience Snapshot

- On Demand/Recurring: this toggle button is set to On Demand by default. It defines whether the audience snapshot is to be executed manually, or in accordance with a defined recurrence schedule. Having converted an audience snapshot to Recurring, when you save changes to

the snapshot, execution commences in accordance with its recurrence schedule. Having converted an audience snapshot to On Demand, when you save changes, what happens next depends on the snapshot's current status:

- If Waiting for next trigger, its status set to Completed. No more audience instances will be created automatically and you must execute the snapshot manually.
- If Play Requested or Playing, the current instance completes, and the status' snapshot is then set to Completed.
- Actions menu: exposing the following:
 - Open Previous Instance: this button gives access to an audience snapshot's previous audience instances. If no instances exist, an advisory message is shown on invocation. If one or more audience instances exist, a list is displayed on invocation.



Selection of an instance displays it in the Audience Instance Viewer.

- Run Snapshot Now: this button is not available when outstanding changes exist within the audience snapshot, when its status is Play Requested or Playing, or when a recurring snapshot has Completed. Invocation is protected by an 'Are You Sure?' dialog, and an informational message advises that the audience snapshot has been scheduled to run. The snapshot's status, in turn, is set to Play Requested, Playing then Completed.

Please see below for details of the data warehouse ramifications of the execution of audience snapshot.

- Edit Recurrence Schedule: this button is only shown if the snapshot is Recurring. Invocation displays the Edit Audience Snapshot Schedule dialog.

Edit Audience Snapshot Schedule

Snapshots of this audience will be taken according to the following schedule:

Start at:

and

Daily Weekly Monthly Manual

Once every Every

Day(s)	At <input type="button" value="ⓘ"/>	Duration	From
<input type="text" value="1"/>	<input type="text" value="14 : 58"/>	<input type="text"/>	<input type="text" value=":"/> <input type="button" value="⌵"/>

If firing missed, trigger will fire as soon as able to. Thereafter

The dialog allows you to define the frequency at which the snapshot will be refreshed, and the number of instances that will be created. You can control:

- The date and time at which the execution of the audience snapshot, and creation of audience instances, will begin.
- Whether creation of audience instances will never end, will end when a given number of instances have been created, or will end by a given date and time.
- Whether the audience snapshot will execute on a daily basis, and if so, once every [n] days at a given time, or every [n] minute(s) or hour(s) throughout the day for a given duration.
- Whether the audience snapshot will execute on a weekly basis, and, if so, every [n] weeks at a given time on selected day(s) of the week.
- Whether the audience snapshot will execute on a monthly basis, and, if so, on day [x] of every [y] months at a given time, or on the [nth] [day of the week] of every [x] months, also at a given time.

An orange message is displayed at the top of the list when unsaved changes exist within one or more audience snapshots therein.

Audience Snapshot updates are currently suspended and will be resumed after the changes have been saved

If you attempt to close the Operations interface when unsaved changes are present, an 'Are You Sure?' dialog is displayed (note that, in this case, the interface is not closed if you elect to save changes).

22.6.3 Audience Snapshot Execution

An audience snapshot is executed manually if On Demand (using the Run Snapshot Now button detailed above), or automatically in accordance with its recurrence schedule if Recurring.

During audience snapshot execution a new audience instance based on the rules recorded in the snapshot's related audience is created and run to completion.

If it is the first time that a snapshot has run, a table is created in the data warehouse in accordance with the Snapshot table name defined in the Audience Snapshots configuration interface. The table contains the following:

- The key column from the resolution level associated with the audience definition upon which the audience snapshot's audience is based. The column's data type is set accordingly. The column is used to hold key values for all persons targeted by the audience.
- OutputName: nvarchar(100); the audience segment to which a given target belongs.

If the data warehouse table already exists, the data therein is dropped and refreshed at manual audience snapshot execution.

Joins to the snapshot table are not created automatically and must be managed manually.

An index, based on the snapshot table's resolution key, is created at the table's creation when the snapshot is run for the first time.

You can also invoke the execution of an audience snapshot externally by inserting a value matching an existing audience snapshot's external key into the KeyName column in data warehouse table RPI_DataflowSnapshotRequests. The system task Audience snapshot requests monitors for the insertion of data into this table and, if the value inserted matches the external key of an existing snapshot, the snapshot in question is executed and an audience instance created.

22.7 Execution Services Tab

The Execution Services tab provides visibility of work undertaken at the current RPI cluster's Execution Service(s).

The screenshot shows the 'Execution Services' tab with a table of services and a detailed view of work items.

Server Name	Suspended	Last Status Update	Last Work Started	Last Work Completed	Work Items	System Tasks	Client Jobs	Activities	Max Workload	Service ID
LAPTOP-7JK7SML7	<input checked="" type="checkbox"/>	17/02/2021 14:00:03	17/02/2021 14:00:00	17/02/2021 14:00:01	0	0	0	0	25	1885a7ec-d7

Active	Name	Type	Status	File	Server Name	Active Duration	Added	Scheduled
<input checked="" type="checkbox"/>		Workflow Tidyup	Completed			0.00:00:00.74	17/02/2021 13:59:45	17/02/2021 13:59:45
<input checked="" type="checkbox"/>		Workflow Tidyup	Completed			0.00:00:00.76	17/02/2021 13:59:43	17/02/2021 13:59:43
<input checked="" type="checkbox"/>	DC09	Fulfillment	Completed	DC09		0.00:00:02.17	17/02/2021 13:59:43	17/02/2021 13:59:43
<input checked="" type="checkbox"/>	Audience selection for connector...	Audience	Completed	DC09		0.00:00:02.38	17/02/2021 13:59:41	17/02/2021 13:59:41
<input checked="" type="checkbox"/>	Audience selection for connector...	Audience	Failed	DC07		0.00:00:02.15	17/02/2021 13:59:41	17/02/2021 13:59:41
<input checked="" type="checkbox"/>		Workflow Tidyup	Completed			0.00:00:00.49	17/02/2021 13:58:44	17/02/2021 13:58:44
<input checked="" type="checkbox"/>	DC09	Fulfillment	Completed	DC09		0.00:00:02.13	17/02/2021 13:58:42	17/02/2021 13:58:42
<input checked="" type="checkbox"/>		Workflow Tidyup	Completed			0.00:00:00.86	17/02/2021 13:58:42	17/02/2021 13:58:42
<input checked="" type="checkbox"/>	Audience selection for connector...	Audience	Completed	DC09		0.00:00:02.41	17/02/2021 13:58:39	17/02/2021 13:58:39

The tab contains Execution Services and Execution Services Work Items grids.

22.7.1 Execution Services Grid

The upper grid displays the list of Execution Services installed in the current RPI cluster.

Server Name	Suspended	Last Status Update	Last Work Started	Last Work Completed	Work Items	System Tasks	Client Jobs	Activities	Max Workload
LAPTOP-7JK7SML7	<input checked="" type="checkbox"/>	26/08/2020 18:11:26	26/08/2020 17:11:12	26/08/2020 17:11:14	0	0	0	0	25

A toolbar shown above the grid exposes the following:

- **Master node:** this read-only property indicates if a master Node Manager is currently registered as available to assign work. It is set to one of Registered or Not registered.
- **Last updated status:** the most recent date/time at which the master Node Manager updated its status.
- **Manage/View Enabled Status at Client/Cluster:** clicking this button displays the Enabled Status dialog, which allows you to control the activities undertaken by the currently-selected Execution Service at the current client.

Enabled Status

Client	Cluster
<input checked="" type="checkbox"/> Workflows	<input checked="" type="checkbox"/> Workflows
<input checked="" type="checkbox"/> Client jobs	<input checked="" type="checkbox"/> Client jobs
<input checked="" type="checkbox"/> Tasks	<input checked="" type="checkbox"/> Tasks

The button's icon is augmented as follows if one or more contexts of execution are currently disabled:



The dialog contains Client and Cluster lists.

The Client list displays three writeable checkboxes:

- Workflows
- Client jobs
- Tasks

All are checked by default. The following apply when any of the checkboxes are unchecked.

- Workflows: any new workflows initiated at the client will start playing, but no activity will take place therein. Within playing workflows, the next activity's execution will not commence.
- Client jobs: any new client jobs initiated at the client will not execute. Any client jobs already executing are unaffected.
- Tasks: any new system tasks initiated at the client will not execute. Any system tasks already executing are unaffected.

When checking a previously-unchecked checkbox, the following apply:

- Workflows: any new workflows initiated at the client start playing. Within playing workflows, next activity execution will commence.
- Client jobs: any new client jobs initiated at the client are executed.
- Tasks: any new system tasks initiated at the client are executed.

The Cluster list displays the same three checkboxes as the Client list; however, all are disabled. The checkboxes describe each category's enabled status as set at the cluster level in the execution Services interface within the Server Workbench application. If a checkbox is unchecked at the cluster, it has the same effect as being unchecked at a client but is applied across all clients in the cluster.

Two buttons appear at the bottom of the dialog:

- Save: clicking this button persists any changes made within the dialog and applies the same to the selected Execution service at the current client.
- Cancel: clicking this button removes the dialog from display, abandoning any changes made therein. Clicking off the dialog has the same effect.
- Refresh: clicking this button reloads the list of Execution Services.

The read-only grid lists all of the current RPI cluster's Execution Services. For each, the following properties are displayed:

- Server Name
- Suspended: an Execution service can be suspended from the Execution Services interface in Server Workbench.
- Last Status Update
- Last Work Started
- Last Work Completed
- Work Items
- System Tasks
- Client Jobs
- Activities
- Max Workload
- Service ID

22.7.2 Execution Services Work Items Grid

The lower grid lists work items associated with the listed Execution Service(s).

Active	Name	Type	Status	File	Server Name	Active Duration	Added	Scheduled
<input type="checkbox"/>		Workflow Tidyup	Completed			0.00:00:00.74	17/02/2021 13:59:45	17/02/2021 13:59:45
<input type="checkbox"/>		Workflow Tidyup	Completed			0.00:00:00.76	17/02/2021 13:59:43	17/02/2021 13:59:43
<input type="checkbox"/>	DC09	Fulfillment	Completed	DC09		0.00:00:02.17	17/02/2021 13:59:43	17/02/2021 13:59:43
<input type="checkbox"/>	Audience selection for connector...	Audience	Completed	DC09		0.00:00:02.38	17/02/2021 13:59:41	17/02/2021 13:59:41
<input type="checkbox"/>	Audience selection for connector...	Audience	Failed	DC07		0.00:00:02.15	17/02/2021 13:59:41	17/02/2021 13:59:41
<input type="checkbox"/>		Workflow Tidyup	Completed			0.00:00:00.49	17/02/2021 13:58:44	17/02/2021 13:58:44
<input type="checkbox"/>	DC09	Fulfillment	Completed	DC09		0.00:00:02.13	17/02/2021 13:58:42	17/02/2021 13:58:42
<input type="checkbox"/>		Workflow Tidyup	Completed			0.00:00:00.86	17/02/2021 13:58:42	17/02/2021 13:58:42
<input type="checkbox"/>	Audience selection for connector...	Audience	Completed	DC09		0.00:00:02.41	17/02/2021 13:58:39	17/02/2021 13:58:39

A toolbar displayed above the grid exposes the following options:

- **Export Search Results:** this button is enabled when results are displayed in the grid. Invocation displays the Save Execution Service Search Results Windows file system dialog. The default filename provided is 'Execution Service Search Results [yyyy-mm-dd].txt'. You can click Save to initiate the file save (the file is saved directly, without creation of a job). The file itself contains a tab-delimited dump of the data displayed in the grid. A header row is provided.
- **Previous page:** this button is enabled when the list of work items will not fit into a single page, and a page other than the first is displayed. Invocation displays the previous page's worth of data.
- **Next page:** this button is enabled when the list of work items will not fit into a single page, and a page other than the last is displayed. Invocation displays the next page's worth of data.
- **Show/Hide Execution Service Search Options:** this toggle button controls display of the search options toolbar. It is selected by default.
- **Search:** clicking this button refreshes the grid with only work items that match the supplied criteria.

The search options toolbar exposes the following filter options:

- **Last status update from:** this date/time defaults to today, 12:00AM.
- **[Last status update to]:** this date/time defaults to tomorrow, 12:00AM.
- **Show:** this dropdown allows you to filter the list of work items by status. It exposes the following values:
 - (All Statuses): the default
 - New
 - Initializing

- Running
- Suspended
- Completed
- Failed
- Terminated
- Invalid
- Show/Hide Execution Service Search Options: a toggle button, which, when selected, displays the Execution Service Search Options dialog.

The dialog allows you to filter the list of work items by:

- Server name
- File name

The read-only grid lists work items instances matching the current search criteria. The number of records shown per page is controlled by system configuration setting MaxTableSearchRows. Records are presented in descending Added order.

The following columns are displayed:

- Active: a tick or cross icon
- Name
- Type
- Status
- File: only if relevant; if populated, accompanied by Open Latest Version and Open File Location buttons
- Server Name: only shown when activity is currently taking place
- Active Duration: days, hours, minutes, seconds
- Added: date/time
- Scheduled: date/time
- Last Status Update: date/time
- Last Status Message
- Execution ID: GUID
- Workflow Association Instance ID: only if relevant
- Activity ID: GUID if relevant
- Workflow Added: date/time
- Workflow Active: a tick or cross icon

- Workflow Execution Status
- Execution Service ID: GUID; only shown when activity taking place
- File ID: GUID; only shown when relevant

You can sort data in the grid by clicking on a column header.

22.8 Server & Client Log Tab

The Server & Client Log tab gives you access to RPI server and client log entries.

The screenshot shows the 'Server & Client Log' window. At the top, there is a toolbar with a search icon, a filter dropdown set to '(All Severities)', a message type dropdown set to 'Both client and server messages', and a date range from '17/02/2021 00:00' to '18/02/2021 00:00'. Below this is a table with columns: Timestamp, Severity, Machine, Process, Log ID, and Origin. The table contains 10 rows of error logs from machine 'LAPTOP-7JK7SML7'. Below the table, a detailed error message is displayed for the selected entry (Log ID 438021):

```
17/02/2021 13:36:31
Cannot use the ROW granularity hint on the table 'dbo.Dataflow_1824' because locking at the specified granularity is inhibited.

Local DateTime : 02/17/2021 13:36:31
Full Type : System.Data.SqlClient.SqlException, System.Data, Version=4.0.0.0, Culture=neutral, PublicKeyToken=b77a5c561934e089
Message : Cannot use the ROW granularity hint on the table 'dbo.Dataflow_1824' because locking at the specified granularity is inhibited.
Source : .Net SqlClient Data Provider
Help link :
Errors : System.Data.SqlClient.SqlErrorCollection
ClientConnectionId : d610e337-97ba-478d-a200-8f2ff7fd93ab
Class : 16
LineNumber : 1
```

It contains a toolbar, Server & Client Log entries grid and selected log entry details.

22.8.1 Toolbar

The Server & Client Log toolbar exposes the following:



- **Export Log:** this option allows you to export the displayed log file entries to a text file. Invocation presents the Windows file system dialog to allow you to specify to where the file is to be saved.
- **Previous page:** when more than one page's worth of log file entries are available, and you have navigated past the first page, the Previous page button is enabled. Clicking it shows the previous page of results.
- **Next page:** when more than one page's worth of log file entries are available, and you are not displaying the final page, the Next page button is enabled. Clicking it shows the next page of results.
- **Show/Hide Server & Client Log Search Options:** this toggle button controls display of the search options toolbar. It is selected by default.
- **Search:** clicking this button initiates a search in accordance with the supplied search criteria and displays the matching log entries in the Server & Client Log entries grid.

The search options toolbar exposes the following filter options:

- Filter by machine name: this text field allows you to specify the name of the server and/or client machine in respect of which log messages were written. It defaults to blank.
- Show: two dropdowns are displayed:
 - The first allows you to specify whether to show all logs (the default), or just those of a specific severity (Critical, Error, Information or Warning).
 - The second exposes values Client messages only, Server messages only and Both client and server messages. On closing and re-displaying the Operations interface, your most recent selection is applied.
- From: the first date and time from which point log entries are to be displayed. Date from defaults to 00:00 today.
- to: the last date and time to which point log entries are to be displayed. Date to defaults to tomorrow, 00:00.

Any specified filter options are applied automatically at Search invocation.

22.8.2 Server & Client Log Grid

The grid is populated automatically on displaying the tab for the first time, in accordance with the default search criteria.

Timestamp	Severity	Machine	Process	Log ID	
26/08/2020 17:05:26	Error	LAPTOP-7JK7SML7	C:\DeploymentFiles\Client\Interaction.exe	288566	
26/08/2020 17:05:26	Error	LAPTOP-7JK7SML7	C:\DeploymentFiles\Client\Interaction.exe	288565	
26/08/2020 17:05:26	Error	LAPTOP-7JK7SML7	c:\windows\system32\inetrv\w3wp.exe	288563	
26/08/2020 17:05:26	Error	LAPTOP-7JK7SML7	C:\DeploymentFiles\Client\Interaction.exe	288564	Client
26/08/2020 17:05:26	Error	LAPTOP-7JK7SML7	C:\DeploymentFiles\Client\Interaction.exe	288561	Client
26/08/2020 17:05:26	Error	LAPTOP-7JK7SML7	c:\windows\system32\inetrv\w3wp.exe	288559	Server
26/08/2020 17:05:16	Error	LAPTOP-7JK7SML7	C:\DeploymentFiles\Client\Interaction.exe	288555	Client
26/08/2020 17:05:16	Error	LAPTOP-7JK7SML7	C:\DeploymentFiles\Client\Interaction.exe	288554	Client
26/08/2020 17:05:16	Error	LAPTOP-7JK7SML7	C:\DeploymentFiles\Client\Interaction.exe	288553	Client
26/08/2020 17:05:16	Error	LAPTOP-7JK7SML7	C:\DeploymentFiles\Client\Interaction.exe	288552	Client
26/08/2020 17:05:16	Error	LAPTOP-7JK7SML7	C:\DeploymentFiles\Client\Interaction.exe	288551	Client
26/08/2020 17:05:16	Error	LAPTOP-7JK7SML7	C:\DeploymentFiles\Client\Interaction.exe	288550	Client
26/08/2020 17:05:16	Error	LAPTOP-7JK7SML7	C:\DeploymentFiles\Client\Interaction.exe	288549	Client
26/08/2020 17:05:16	Error	LAPTOP-7JK7SML7	C:\DeploymentFiles\Client\Interaction.exe	288548	Client
26/08/2020 17:05:16	Error	LAPTOP-7JK7SML7	C:\DeploymentFiles\Client\Interaction.exe	288547	Client

Server & Client Log Search Options

Show: Both client and server messages

Machine name:

Following subsequent execution of a search, any matching log entries are listed in the Server & Client Log grid. If no matching entries exist, a message is displayed. For each log entry, the following properties are displayed:

- Timestamp
- Severity
- Machine
- Process

- Log ID
- Origin (Server or Client)

22.8.3 Selected Log Entry Details

You can click on a log entry in the results grid to view its read-only details at the bottom of the server trace logs tab.

```
10/23/2018 4:21:46 PM HandlingInstanceID: c49cdc76-d74f-46b7-b414-93666a29686c
An exception of type 'Cassandra.NoHostAvailableException' occurred and was caught.

10/23/2018 16:21:46
Type : Cassandra.NoHostAvailableException, Cassandra, Version=3.99.0.0, Culture=neutral, PublicKeyToken=10b231bfc8c4b4d
Message : All hosts tried for query failed (tried 127.0.0.1:9042: SocketException 'No connection could be made because the target machine actively refused it')
Source : RedPoint.Shared
Help link :
Errors : System.Collections.Generic.Dictionary`2[System.Net.IPEndPoint,System.Exception]
Data : System.Collections.ListDictionaryInternal
TargetSite : Void HandleRetries(System.Exception, Int32 ByRef, System.String, System.Data.IDbConnection ByRef)
HResult : -2146233088
Stack Trace : at RedPoint.Shared.DatabaseAccess.DatabaseAccessBase.HandleRetries(Exception ex, Int32& reTries, String query, IDbConnection& conn)
at RedPoint.Shared.DatabaseAccess.DatabaseAccessBase.GetConnection(Int32& reTries)
```

If required, you can highlight the contents of the field and copy them to the clipboard.

22.9 Workflow Summaries Tab

The Workflow Summaries tab gives you the ability to, at a glance, view a summary of those interactions, audiences and data connectors that utilize workflows to effect their execution, and which are or were in given states across a given period of time within the current client's RPI server installation.

Note that the inclusion of audiences in this context refers to their execution as audience tests.

The screenshot displays the 'Workflow Summaries' interface. At the top, there is a toolbar with a date range filter set from '26/08/2020 00:00' to '27/08/2020 00:00', a 'Show All Statuses' dropdown, and search and navigation icons. Below the toolbar, a treeview on the left lists workflow items with their IDs and activity dates. The selected item, ID 374, is expanded to show its components: 'Queue Listener' and 'Queue Activity'. To the right of the treeview, a summary for item 374 shows 'First activated' at 30/07/2020 10:04 and 'Most recent activity' at 26/08/2020 17:14. It also provides counts for 'Workflows (active)', 'Workflows (executed)', 'Activities (active)', and 'Activities (executed)'. Below this summary are two panels: 'Audit Log' and 'Pulses (includes system Pulses)'. The 'Audit Log' panel shows two entries: '30/07/2020 10:04:49 Interaction Event Workflow Activation Request' and '30/07/2020 10:04:36 File Access Save File'. The 'Pulses' panel displays the message 'No Pulse messages found'.

The Workflow Summaries tab contains a toolbar, treeview and selected item details section.

22.9.1 Toolbar

The Workflow Summaries toolbar exposes the following:



- Previous Page: this option is only enabled when a previous page's worth of data is available. Invocation displays the previous page.
- Next Page: only enabled when a next page's worth of data is available. Invocation displays the next page.
- Show/Hide Workflow Summaries Search Options: this toggle button controls display of the search options toolbar. It is selected by default.
- Search: clicking Search refreshes the treeview with a list of files matching the specified search criteria.

The search options toolbar exposes the following filter options:

- Filter by file name: this text field allows you to limit the search for files in order to display to only those with names matching the specified search string.
- Show: a dropdown field that exposes the following values:
 - All statuses
 - Completed
 - Expired
 - Failed
 - Paused
 - Playing (the default)
 - Requested
 - Rolled Back
 - Stopped
 - Waiting

When a search is executed, a file is displayed if at least one workflow or activity therein is or was in the selected status within the selected time period (subject to any other search options applied).

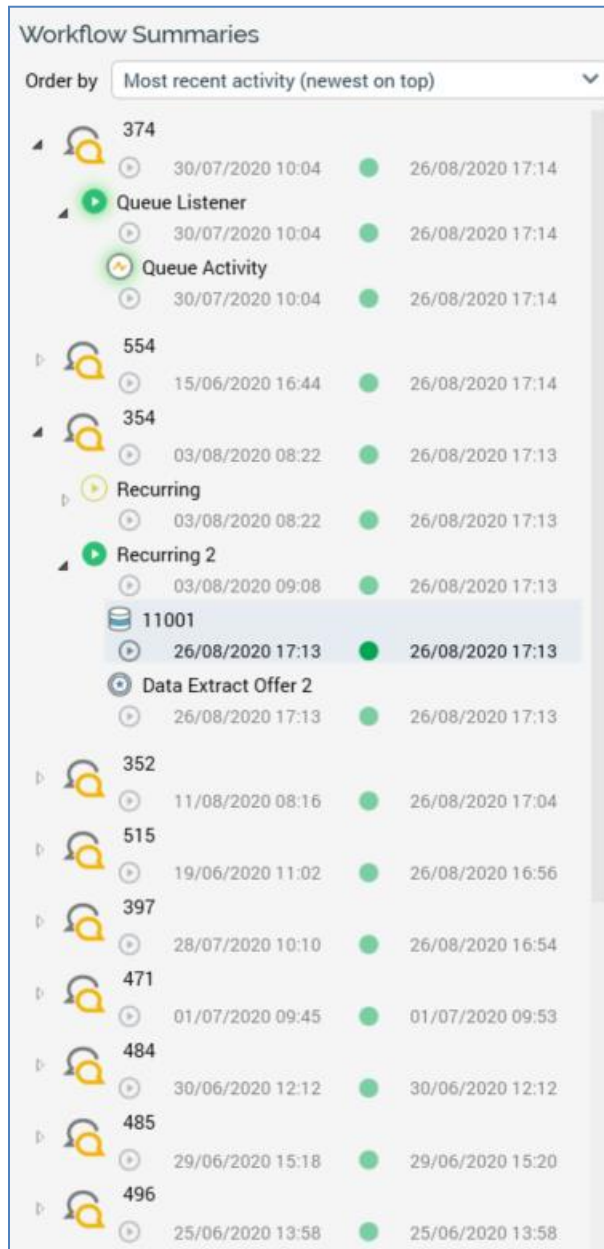
- First activated/Most recent activity from: this dropdown field gives you control over the manner in which date comparisons are executed when searching for records to display. By default, the field is set to 'Most recent activity from', but you can also choose to search against dates when workflows were 'First activated'.
- [From]: a date/time value that defaults to today's date, 00:00.

- to: a date/time value that defaults to tomorrow, 00:00.

Any specified filter options are applied automatically at Search invocation.

22.9.2 Treeview

On initialization, the treeview is populated with files matching the tab's default search settings.



The following types of file are displayed:

- Interactions

- Audiences that have been subject to the execution of test instances that match the supplied search criteria

The treeview contains the following.

- Order by: this dropdown allows you to select the manner in which treeview items are to be ordered. The available values are as follows:
 - File name
 - File type
 - First activated (newest on top)
 - First activated (oldest on top) (the default)
 - Most recent activity (newest on top)
 - Most recent activity (oldest on top)

Selecting a value re-orders the contents of the treeview accordingly.

- Treeview items. For each top-level file shown in the treeview, the following are displayed:
 - Icon: one of interaction or audience.
 - Name
 - Description (shown in a tooltip when hovering over the file)
 - First activated
 - Most recent activity
- Expanding a top-level file reveals a list of its workflows (note that a workflow in an audience is named as per the template itself). For each workflow, the following are displayed:
 - Icon: a halo indicates the workflow's status
 - Trigger name
 - For the most recent workflow instance:
 - First activated
 - Most recent activity
- Expanding a workflow reveals a list of its activities. Activities are ordered alphabetically by name. For each activity, the following are displayed:
 - Icon: halo indicates the activity's status
 - Activity name
 - First activated
 - Most recent activity

22.9.3 Selected Item Details

A selected item details panel is displayed to the right of the treeview. It displays details of the currently-selected treeview item. Its contents are dependent on the type of item selected.

If an interaction, audience or data connector is selected at the treeview, the panel contains:

The screenshot displays the details for item 11001, which is completed and activated in production mode. It shows activity logs, a query trace log with SQL statements, an audit log for 354 items, and a pulses section for 354 items.

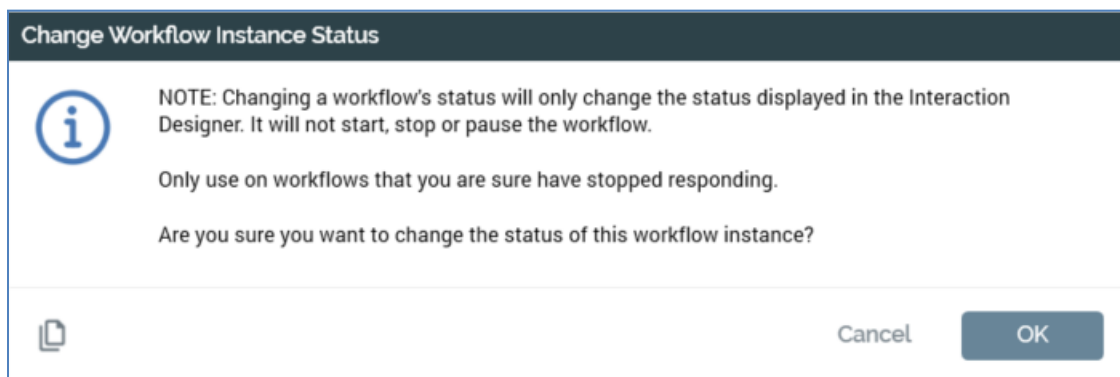
- Icon: indicating the file's type
- File name
- Description
- First activated: 'The date and time at which a workflow within the file commenced execution'
- Workflows (active): 'The count of workflows within the file that are currently in an active state (e.g. Playing or Paused)'
- Workflows (executed): 'The count of workflows in the file that have executed at least once'

- Most recent activity: 'The most recent date and time at which execution of a workflow activity occurred'
- Activities (active): 'The count of workflow activities in the file that are currently in an active state (e.g. Playing or Paused)'
- Activities (executed): 'The count of workflow activities in the file that have executed at least once'
- A toolbar, exposing the following options:
 - Open latest version: invocation displays the file in its relevant designer.
 - Open file location: invocation displays the contents of the RPI file system folder in which the file is persisted in the File System Dialog and highlights the file in question.
- Audit log: this section displays all audit log entries relevant to file in question
 - View in Audit Log tab button: displays the Operations Audit Log interface, filtering its contents to show only audit records relevant to the file in question.
- Pulses: displays all pulses related to the current file, including system-generated pulses. Pulses are listed in reverse chronological order. Only displayed if system configuration setting EnablePulseMessages is set to True.
 - View in Pulses window button: invocation of this option displays the Pulses Window, in which pulses related to the current file are listed.

If a workflow is selected at the treeview, the panel contains:

Workflow icon: the icon's color indicates its mode of execution, and its halo provides status information.

- Trigger name
- Status
- Activated in Test | Production Mode
- First activated: 'The date and time at which the workflow commenced execution'
- Activities (active): 'The count of activities in the workflow that are currently in an active state (e.g. Playing or Paused)'
- Activities (executed): 'The count of activities in the workflow that have commenced execution'
- Most recent activity: 'The most recent date and time at which execution of an activity within the workflow occurred'
- Workflow instance ID (most recent): 'The unique ID of the most recently-created instance of the workflow'
- Duration: 'Total workflow duration from initial activation to most recent activity'
- A toolbar, exposing the following options:
 - Change status to: a dropdown, exposing the following values:
 - Completed
 - Not started
 - Paused
 - Stopped
 - Change the status of the Workflow Instance to the selected status: invocation of this option displays the following dialog:



If you elect to proceed, the workflow instance's status is set to the value selected at the Change status to dropdown.

- Open Workflow Instance: displays the workflow instance in the Workflow Instance Viewer.
- Audit log for [File Name]: this section displays all audit log entries relevant to the current workflow's file.
 - View in Audit Log tab button: invocation displays the Operations Interface's Audit Log tab, filtering its contents to show only those audit records relevant to the current workflow's file.
- Pulses for [File Name]: this section displays all pulses related to the current workflow's file, including system-generated pulses. Pulses are listed in reverse chronological order. The section is only displayed if system configuration setting EnablePulseMessages is set to True.
 - View in Pulses window button: invocation of this option displays the Pulses Window, in which pulses related to current workflow's file are listed.

If an activity is selected at the treeview, the panel contains:

- Icon: activity type-specific, with a halo that provides status information.
- Activity name
- Status
- Activated in Test | Production Mode
- First activated: 'The date and time at which the activity commenced execution'
- Most recent activity: 'The most recent date and time at which execution of the activity occurred'
- Duration: 'Total activity duration from initial activation to most recent occurrence therein'
- A toolbar, exposing the following option:
 - View Audience Instance: this option is only available when a batch audience or interactive activity configured with an audience is selected at the treeview. Invocation displays the audience instance in the Audience Instance Viewer.
- Log: this panel displays log messages related to the activity's execution. Messages are presented in reverse chronological order.
- Query Trace Log: this panel displays Query Trace log messages related to the activity's execution. Messages are presented in reverse chronological order. For each, the date/time, duration and SQL statement are shown.
 - View in Query Trace Log tab: invocation of this option displays the Operations Interface's Query Trace Log tab, filtered to only display Query Trace records relevant to execution of the activity in question.
- Audit log for [File Name]: this section displays all audit log entries relevant to the current activity's file.
 - View in Audit Log tab button: invocation of this option displays the Operations Interface's Audit Log, filtered to only display audit records relevant to the activity's file.

- Pulses for [File Name]: this section displays all pulses related to the current activity's file, including system-generated pulses. Pulses are listed in reverse chronological order. The section is only displayed if system configuration setting EnablePulseMessages is set to True.
 - View in Pulses window button: invocation of this option displays the Pulses Window, in which pulses related to current activity's file are listed.

22.10 Workflow Instances Tab

The Workflow Instance tab allows you to search for current and historical workflow instances within the current client's RPI installation.

Interaction Name	Trigger Name	Mode	Last Event	Status	Initiated By	Active	Instance ID	Host ID	Interaction ID
201	Manual	Production	17/02/2021 09:36:54	Stopped	coreuser	⊗	7795	111	8d3d015d-6c
202	Manual	Production	16/02/2021 15:20:47	Completed	coreuser	⊗	7248	111	e6ab7b8b-76
206	Manual	Test	03/02/2021 09:44:54	TestCompleted	coreuser	⊗	6529	111	47a8a4cd-eb
208	Manual	Test	29/01/2021 11:12:37	TestCompleted	coreuser	⊗	6528	111	052f77c2-2e5
213	Queue Listener	Production	21/01/2021 09:51:52	Completed	coreuser	⊗	6524		60dcb39f-74c
214	Queue Listener	Production	20/01/2021 12:00:51	Completed	coreuser	⊗	6522		ffc71e17-10d
214	Queue Listener	Test	20/01/2021 11:59:50	TestCompleted	coreuser	⊗	6523		ffc71e17-10d
215	Manual	Production	20/01/2021 10:42:47	Completed	coreuser	⊗	6521	111	6426be3f-4cc
216	Manual	Production	19/01/2021 15:43:40	Completed	coreuser	⊗	6519	111	bb5b9f6f-69a
217	Manual	Production	19/01/2021 15:35:15	Playing	coreuser	⊙	6517	111	e6a0ee69-27

--- Name: '13288' Status: Completed ---
 2021/02/03 09:44:51 Audience complete
 2021/02/03 09:44:48 Generating any Audience reports
 2021/02/03 09:44:48 Deleting temporary tables
 2021/02/03 09:44:48 Tidying up Audience
 2021/02/03 09:44:48 Preparing to run any actions
 2021/02/03 09:44:48 Inserting offer history data
 2021/02/03 09:44:48 Completing Audience execution
 2021/02/03 09:44:48 Block: Commute A - Copy Activity: Block complete
 2021/02/03 09:44:48 Block: Commute A - Copy Activity: Source codes updated
 2021/02/03 09:44:47 Block: Commute A - Copy Activity: Preparing to update cell codes
 2021/02/03 09:44:47 Block: Split Activity: About to play block Commute A - Copy
 2021/02/03 09:44:47 Block: Commute A Activity: Block complete

It contains a toolbar, Workflow Instances grid and selected workflow instance details.

22.10.1 Toolbar



- **Export Workflow Instances:** invocation of this option displays the Save Workflow Instance Details Windows file system dialog. The default file type is set to Tab Delimited Files, file name to 'Workflow Instances [yyyy]-[mm]-[dd]' and folder to the folder in which the client application is currently running. You can click Save to save the workflow instance details to a file or Cancel to close the dialog without saving.

The tab-separated file thus generated contains details of all of the workflow instances displayed in the Workflow Instances grid. For each workflow instance, the following information is shown:

- Interaction Name
- Trigger Name
- Last Event
- Status
- Initiated By
- Active

- Instance ID
- Host ID
- Interaction ID
- Initialized
- Open the selected Workflow Instance: this option is only available when a workflow instance is selected. Invocation displays the selected workflow instance in the Workflow Instance Viewer.
- Show/Hide Filters: this toggle button controls display of the filters toolbar. It is selected by default.
- Refresh: initiates a refresh of the list of workflow instances in accordance with the supplied filter criteria.

The filter options toolbar exposes the following filter options:

- Filter by Interaction Name: you can limit the list of workflow instances to just those hosted within interactions with names matching a filter value entered here.
- Show: a dropdown allows you to specify whether to show workflows of all statuses (the default), or just those of a specific status (e.g. Playing, Paused).
- Last event from: the first date and time from which point workflow instances are to be displayed. Only workflows in which an event occurred after the date will be retrieved. Last event from defaults to 00:00 today.
- to: the last date and time up to which point workflow instances are to be displayed. Only workflows in which an event occurred before the date will be retrieved. Last event from defaults to tomorrow, 00:00.

22.10.2 Workflow Instances Grid

The grid is populated automatically on displaying the tab for the first time, in accordance with the default search criteria.

Interaction Name	Trigger Name	Mode	Last Event	Status	Initiated By	Active	Instance ID	Host ID	Interaction ID
201	Manual	Production	17/02/2021 09:36:54	Stopped	coreuser	⊗	7795	111	8d3d015d-6c
202	Manual	Production	16/02/2021 15:20:47	Completed	coreuser	⊗	7248	111	e6ab7b8b-76
206	Manual	Test	03/02/2021 09:44:54	TestCompleted	coreuser	⊗	6529	111	47a8a4cd-eb
208	Manual	Test	29/01/2021 11:12:37	TestCompleted	coreuser	⊗	6528	111	052177c2-2ef
213	Queue Listener	Production	21/01/2021 09:51:52	Completed	coreuser	⊗	6524		60dcb39f-74c
214	Queue Listener	Production	20/01/2021 12:00:51	Completed	coreuser	⊗	6522		ffc71e17-10d
214	Queue Listener	Test	20/01/2021 11:59:50	TestCompleted	coreuser	⊗	6523		ffc71e17-10d
215	Manual	Production	20/01/2021 10:42:47	Completed	coreuser	⊗	6521	111	6426be3f-4ce
216	Manual	Production	19/01/2021 15:43:40	Completed	coreuser	⊗	6519	111	bb5b9f6f-69a
217	Manual	Production	19/01/2021 15:35:15	Playing	coreuser	⊙	6517	111	e6a0ee69-27f

Following subsequent execution of a search, any matching entries are listed in the Workflow Instances grid. If no matching entries exist, a message is displayed. For each instance, the following properties are displayed:

- Interaction Name
- Trigger Name
- Mode
- Last Event: date/time
- Status
- Initiated By: username
- Active: a true/false flag, indicated using a tick or cross
- Instance ID: unique integer ID of the workflow instance
- Host ID
- Interaction ID: GUID ID of the workflow's interaction
- Initialized: date/time

Having displayed search results, you can highlight a workflow instance and right-click it to display a context menu. The following options are shown:

- Open Workflow Instance: displays the instance's details in the Workflow Instance Viewer.
- Open Latest Parent Interaction Version: displays the workflow's parent interaction in the Interaction Designer.
- Stop Workflow Instance: this option is only available when the workflow instance's status is Playing or Paused (in either Test or Production mode). Invocation is protected by an 'Are you sure?' dialog and stops the workflow instance.

When viewing a recurring trigger that has fired at least once, and has been configured to create a new workflow instance at each instance of firing, invocation of Open Workflow Instance results in the display of a warning ('The selected workflow instance has not yet been created'). In addition, the Interaction Name is shown as blank.

22.10.3 Selected Workflow Instance Details

You can highlight a workflow instance in the Workflow Instances grid in order to view read-only related log messages in the selected workflow instance details field.

```

----- Name: '11000' Status: Completed -----
2018/09/24 12:12:43 Audience complete
2018/09/24 12:12:43 Generating any Audience reports
2018/09/24 12:12:43 Deleting temporary tables
2018/09/24 12:12:43 Tidying up Audience
2018/09/24 12:12:43 Preparing to run any actions
2018/09/24 12:12:43 Copying files to the FTP server
2018/09/24 12:12:43 File output folder (C:\Output\WFAI9471) does not exist, creating it now
2018/09/24 12:12:43 Generating audience validation files
2018/09/24 12:12:43 Inserting offer history data
2018/09/24 12:12:43 Completing Audience execution
2018/09/24 12:12:43 Block: 11000 Activity: Block complete
2018/09/24 12:12:43 Block: 11000 Activity: Applying filter 11000
2018/09/24 12:12:43 Playing first block
2018/09/24 12:12:43 Audience opening to start

```

If required, you can highlight the contents of the field and copy them to the clipboard.

22.11 Audience Instances Tab

The Audience Instances tab allows you to search for current and historical audience instances within the current client's RPI installation.

Last Event	Status	Internal Status	Initiated By	Has Result...	Results Count	Active Block	Current Activity	Audience	Aud. Instance...	WF Instance ID
17/02/2021 14:06:48	Completed	Completed	coreuser	✓	1	[None]	Fulfillment Act...	DC09	3377	8075
17/02/2021 14:06:47	Completed	Completed	coreuser	✓	1	[None]	Audience com...	Drip Feed	3377	8075
17/02/2021 14:06:46	Failed	Failed	coreuser	✓	13771	[None]	Audience faile...	Drip Feed	1824	6526
17/02/2021 14:05:47	Completed	Completed	coreuser	✓	1	[None]	Fulfillment Act...	DC09	3376	8074
17/02/2021 14:05:45	Completed	Completed	coreuser	✓	1	[None]	Audience com...	Drip Feed	3376	8074
17/02/2021 14:04:46	Completed	Completed	coreuser	✓	1	[None]	Fulfillment Act...	DC09	3375	8073
17/02/2021 14:04:44	Completed	Completed	coreuser	✓	1	[None]	Audience com...	Drip Feed	3375	8073
17/02/2021 14:03:46	Completed	Completed	coreuser	✓	1	[None]	Fulfillment Act...	DC09	3374	8072
17/02/2021 14:03:43	Completed	Completed	coreuser	✓	1	[None]	Audience com...	Drip Feed	3374	8072
17/02/2021 14:02:45	Completed	Completed	coreuser	✓	1	[None]	Fulfillment Act...	DC09	3373	8071

The activity has failed

2021/02/17 14:06:46 Audience failed: Cannot use the ROW granularity hint on the table "dbo.Dataflow_1824" because locking at the specified granularity is inhibited.
 2021/02/17 14:06:46 Inserting offer history data
 2021/02/17 14:06:46 Completing Audience execution
 2021/02/17 14:06:46 Block: Split Activity: Block complete
 2021/02/17 14:06:46 Block: Split Activity: Applying split rules
 2021/02/17 14:06:46 Playing first block
 2021/02/17 14:06:46 Audience preparing to start
 2021/02/17 14:06:46 Preparing to execute

It contains a toolbar, Audience Instances grid and selected audience instance details.

22.11.1 Toolbar

The Audience Instances toolbar exposes the following:



- **Export Audience Instances:** invocation of this option displays the Save Audience Instance Details Windows file system dialog. The default file type is set to Tab Delimited Files, file name to ' Audience Instances [yyyy]-[mm]-[dd]' and folder to the folder in which the client application is running. You can click Save to save the audience instance details to a file or Cancel to close the dialog without saving.

The tab-separated file thus generated contains details of all displayed audience instances. For each, the following information is shown:

- Last Event
 - Status
 - Internal Status
 - Initialized
 - Initiated By
 - Has Results
 - Has Assets
 - Results Count
 - Active Block
 - Current Activity
 - Audience
 - Host ID
 - Activity ID
 - Interaction ID
- **Open the selected Audience Instance:** only available when an audience instance is selected. Displays the selected audience instance in the Audience Instance Viewer.
 - **Previous page:** when more than one page's worth of audience instances are available, and you have navigated past the first page, the Previous page button is enabled. Clicking it shows the previous page of results.
 - **Next page:** when more than one page's worth of audience instances are available, and you are not displaying the final page, the Next page button is enabled. Clicking it shows the next page of results.
 - **Show/Hide Filters:** this toggle button controls display of the filters toolbar. It is selected by default.

- Search: initiates a search in accordance with the supplied filter criteria.

The filters toolbar exposes the following options:

- Filter on last event from: the first date and time from which point audience instances are to be displayed. Last event from defaults to 00:00 today.
- to: the first date and time from which point audience instances are to be displayed. Last event from defaults to tomorrow, 00:00.
- Show: a dropdown allows you to specify whether to show audiences of all statuses (the default), or just those of a specific status.

Any specified filter options are applied automatically at Search invocation.

22.11.2 Audience Instances Grid

The grid is populated automatically on displaying the tab for the first time, in accordance with the default search criteria.

Last Event	Status	Internal Status	Initiated By	Has Res...	Results Count	Active Block	Current Activity	Audience	Aud. Instance...	WF Inst
26/08/2020 17:18:49	Completed	Completed	coreuser	✓	1	[None]	Fulfillment Act...	Data Extract Offer 2	1416	3208
26/08/2020 17:18:47	Completed	Completed	coreuser	✓	1	[None]	Fulfillment Act...	Data Extract Offer	1415	3207
26/08/2020 17:18:46	Completed	Completed	coreuser	✓	1	[None]	Audience com...	11001	1416	3208
26/08/2020 17:18:46	Completed	Completed	coreuser	✓	1	[None]	Audience com...	11000	1415	3207
26/08/2020 17:04:26	Completed	Completed	coreuser	✓	8830	[None]	Fulfillment Act...	Control	1426	3218
26/08/2020 17:04:24	Completed	Completed	coreuser	✓	8830	[None]	Audience com...	Drip Feed	1426	3218
26/08/2020 16:56:06	Completed	Completed	coreuser	✓	769	[None]	Fulfillment Act...	Control	1180	1998
26/08/2020 16:56:05	Completed	Completed	coreuser	✓	769	[None]	Audience com...	Drip Feed	1180	1998
26/08/2020 16:54:08	Completed	Completed	coreuser	✓	318	[None]	Fulfillment Act...	Control	1370	2163
26/08/2020 16:54:07	Completed	Completed	coreuser	✓	318	[None]	Audience com...	Drip Feed	1370	2163
26/08/2020 14:58:02	Completed	Completed	coreuser	✓	18484	[None]	Audience com...	Everyone	1455	3246

Following subsequent execution of a search, any matching entries are listed in the Audience Instances grid. If no matching entries exist, a message is displayed. For each audience instance, the following properties are displayed:

- Last Event: date/time
- Status: As reported within the Interaction Designer
- Internal Status: used for troubleshooting purposes only
- Initiated By: username
- Has Results: a true/false flag, indicated using a tick or cross
- Results Count
- Active Block: the name of the currently-executing block (if one exists).

- **Current Activity:** details of the current activity being undertaken within the audience.
- **Audience :** the name of the template upon which the audience instance is based.
- **Aud. Instance ID:** the audience instance ID
- **WF Instance ID:** the ID of the workflow in which the audience instance executed or is executing
- **Host ID**
- **Interaction ID:** the GUID of the interaction within which the audience instance is being/was executed.
- **Activity ID:** the GUID of the interaction activity (batch audience or interactive activity) within which the audience instance executed or is executing
- **Initialized:** date/time

Having displayed search results, you can highlight an audience instance and right-click it to display a context menu. Two options are shown:

- **Open Audience Instance:** displays the instance's details in the Audience Instance Viewer.
- **Stop Audience Instance:** this option is only available when the audience instance is Playing or Paused (in either Test or Production mode). Invocation is protected by an 'Are You Sure?' dialog and stops the audience instance.

22.11.3 Selected Audience Instance Details

You can highlight an audience instance in the results grid in order to view read-only related log messages in the selected audience instance details field.

```

2018/10/18 09:03:13 Audience complete
2018/10/18 09:03:13 Generating any Audience reports
2018/10/18 09:03:13 Deleting temporary tables
2018/10/18 09:03:13 Tidying up Audience
2018/10/18 09:03:13 Preparing to run any actions
2018/10/18 09:03:13 Copying files to the FTP server
2018/10/18 09:03:13 File output folder (C:\Output\WFAI9480) does not exist, creating it now
2018/10/18 09:03:13 Generating audience validation files
2018/10/18 09:03:13 Inserting offer history data
2018/10/18 09:03:13 Completing Audience execution
2018/10/18 09:03:13 Block: Split Activity: Block complete
2018/10/18 09:03:13 Block: Split Activity: Applying split rules
2018/10/18 09:03:13 Block: 100 Records Activity: About to play block Split
2018/10/18 09:03:13 Block: 100 Records Activity: Block complete
2018/10/18 09:03:13 Block: 100 Records Activity: Applying filter 100 Records

```

If required, you can highlight the contents of the field and copy them to the clipboard.

22.12 Query Trace Log Tab

The Query Trace Log tab provides visibility of the SQL generated and run during selection rule, audience and interaction fulfillment activity execution.

The screenshot displays the 'Query Trace Log' window. At the top, there is a toolbar with icons for refresh, back, forward, and search. Below the toolbar, a filter bar shows the date range 'From 17/02/2021 00:00 to 18/02/2021 00:00', a 'Show (All Statuses)' dropdown, and input fields for 'Activity ID' and 'Workflow instance ID'. The main area is a table with the following columns: File name, Activity Name, Execution Type, Context, Started, Ended, Duration, Status, Result, and Workflow instance... The table contains 12 rows of data, all with a status of 'Completed'. Below the table is a SQL query editor with the following text:

```

SELECT [CustomerKey] = a3.[CustomerKey]
,[FirstName] = a3.[FirstName]
,[LastName] = a3.[LastName]
,[EnglishEducation] = a3.[EnglishEducation]
,[EnglishOccupation] = a3.[EnglishOccupation]
,[Gender] = a3.[Gender]
FROM [dbo].[DimCustomer] a3
INNER JOIN [dbo].[Dataflow_3378] a4 ON a3.[CustomerKey] = a4.[CustomerKey]
WHERE (
    a4.[DataflowID] = 3378
    AND a4.[DateInserted] > '20210217 14:06:48.943'

```

At the bottom of the window, there are two tabs: 'Query' and 'Query (Raw)'. The 'Query' tab is currently selected.

It consists of a toolbar, Query Trace Log grid, and SQL Query, SQL Query (Raw) and Error Message tabs.

22.12.1 Toolbar

The toolbar exposes the following:



- **Export Query Trace Log:** invocation of this option displays the Save Query Trace Log Windows file system dialog. The default file type is set to Text Files, file name to 'Query Trace Log [yyyy]-[mm]-[dd]' and folder to the folder in which the client application is currently running. You can click Save to save the Query Trace log to a file or Cancel to close the dialog without saving.

The file thus generated contains details of all of the displayed Query Trace logs (even if displayed across multiple pages. For each log entry, the following information is shown:

- Execution type
- Context
- Query status
- Query result
- Started
- Ended
- Duration
- File [name] ([GUID])
- Activity [name] ([GUID]) ('N/A' if selection rule)
- Workflow Instance ID
- Query String
- Error Message

Two hyphens are added at the beginning of any non-SQL lines of text within an exported Query Trace log. The same applies at any error messages. This makes it easier to execute the resultant SQL immediately in a SQL execution environment (e.g. SQL Server Management Studio).

- **Previous page:** this option is enabled if multiple pages' worth of Query Trace logs are shown, and a page other than the first is displayed. Invocation returns to the previous page of results.
- **Next page:** this option is enabled if multiple pages' worth of Query Trace logs are shown, and a page other than the last is displayed. Invocation moves to the next page of results.
- **Show/Hide Query Trace Log Search Options:** this toggle button controls display of the search options toolbar. It is selected by default.

- Search: invocation of this option initiates search for all SQL logs matching the supplied search criteria. Search results are displayed in the Query Trace Log grid. A message is displayed when no matching records exist.

The search options toolbar exposes the following filter options:

- Date from: the first date and time from which point Query Trace logs are to be displayed. Date from defaults to 00:00 today.
- Date to: the latest date and time to which point Query Trace logs are to be displayed. Date to defaults to tomorrow, 00:00..
- Show: a dropdown, which allows you to choose whether to view All Statuses (the default), or just Completed or Failed SQL statements' logs.
- Activity ID
- Workflow Instance ID

Any specified filter options are applied automatically at Search invocation.

22.12.2 Query Trace Log Grid

The grid is populated automatically on displaying the tab for the first time, in accordance with the default search criteria.

File name	Activity Name	Execution Type	Context	Started	Ended	Duration	Status	Result	Workflow in
354	Data Extract Offer	Fulfillment	Select channel data	26/08/2020 17:23:49	26/08/2020 17:23:49	00:00:00	Completed	-1	3207
354	Data Extract Offer	Fulfillment	Testing fulfillment queri...	26/08/2020 17:23:49	26/08/2020 17:23:49	00:00:00	Completed	-1	3207
354	Data Extract Offer	Fulfillment	Testing fulfillment queri...	26/08/2020 17:23:49	26/08/2020 17:23:49	00:00:00	Completed	-1	3207
354	Data Extract Offer	Fulfillment	Testing fulfillment queri...	26/08/2020 17:23:49	26/08/2020 17:23:49	00:00:00	Completed	-1	3207
354	Data Extract Offer	Fulfillment	Testing fulfillment queri...	26/08/2020 17:23:49	26/08/2020 17:23:49	00:00:00	Completed	-1	3207
354	Data Extract Offer	Fulfillment	Testing fulfillment queri...	26/08/2020 17:23:49	26/08/2020 17:23:49	00:00:00	Completed	-1	3207
354	Data Extract Offer	Fulfillment	Testing fulfillment queri...	26/08/2020 17:23:49	26/08/2020 17:23:49	00:00:00	Completed	0	3207
354	Data Extract Offer	Fulfillment	Testing fulfillment queri...	26/08/2020 17:23:49	26/08/2020 17:23:49	00:00:00	Completed	-1	3207
354	Data Extract Offer 2	Fulfillment	Export channel data	26/08/2020 17:23:49	26/08/2020 17:23:49	00:00:00	Completed	0	3208
354	Data Extract Offer	Fulfillment	Testing fulfillment queri...	26/08/2020 17:23:49	26/08/2020 17:23:49	00:00:00	Completed	0	3207
354	Data Extract Offer	Fulfillment	Testing fulfillment queri...	26/08/2020 17:23:49	26/08/2020 17:23:49	00:00:00	Completed	-1	3207
354	Data Extract Offer	Fulfillment	Testing fulfillment queri...	26/08/2020 17:23:49	26/08/2020 17:23:49	00:00:00	Completed	0	3207
354	Data Extract Offer	Fulfillment	Testing fulfillment queri...	26/08/2020 17:23:49	26/08/2020 17:23:49	00:00:00	Completed	-1	3207
354	Data Extract Offer	Fulfillment	Testing fulfillment queri...	26/08/2020 17:23:49	26/08/2020 17:23:49	00:00:00	Completed	0	3207

Following execution of a search, any matching log entries are listed in the Query Trace Log grid. If no matching entries exist, a message is displayed. Log entries are ordered by Started date. For each log entry, the following properties are displayed:

- File Name
- Activity Name: blank if selection rule
- Execution Type: one of Audience , Fulfillment, Selection rule or Analysis Panel
- Context: describing the scenario in which the SQL execution occurred

- Started: date/time
- Ended: date/time
- Duration: HH:MM:SS
- Status
- Result: if a select query, the number of records returned. If a non-query transaction (e.g. an insert or update), 0 (False) or -1 (True).
- Workflow Instance ID
- Activity ID: GUID
- File ID: GUID

Note that the time for which RPI will wait before adding a Query Trace log for a long-running query is controlled by system configuration setting LongQueryTraceLimit.

22.12.3 Selected Query Trace Log Details

This section contains three tabs:

- Query: this tab displays a formatted read-only representation of the currently-selected Query Trace log entry.

```

IF EXISTS (
  SELECT 1
  FROM INFORMATION_SCHEMA.TABLES WITH (NOLOCK)
  WHERE TABLE_SCHEMA = 'dbo'
  AND TABLE_NAME = 'RPI_200826172349471_ds_da253544ccf54a398b9782329ad'
)
DROP TABLE [dbo].[RPI_200826172349471_ds_da253544ccf54a398b9782329ad]

```

- You can copy the entry to the clipboard if required.
- Query (Raw): this tab displays an unformatted read-only representation of the currently-selected Query Trace log entry.

```
IF EXISTS (SELECT 1 FROM INFORMATION_SCHEMA.TABLES WITH(NOLOCK) WHERE TABLE_SCHEMA = 'dbo' AND TABLE_NAME = 'RPI_200826172349471_ds_da253544ccf54a398b9782329ad') DROP
TABLE [dbo].[RPI_200826172349471_ds_da253544ccf54a398b9782329ad]
```

Query Query (Raw)

You can copy the entry to the clipboard if required.

- Error Message: this tab displays a read-only representation of the error message associated with the currently-selected Query Trace log entry.

You can copy the entry to the clipboard if required.

22.13 Housekeeping Tab

The Housekeeping tab gives you access to RPI housekeeping log messages, which are generated during execution of the RPI housekeeper system task, responsible for running a series of 'housekeepers' that assist the RPI server's optimal performance through the removal of a series of now-irrelevant items – for example, expired workflows, old audit messages, etc.

Housekeeper	Running	Started	Completed
Staged offer content housekeeper	⊗	26/08/2020 05:56:13	26/08/2020 05:56:13
My jobs housekeeper	⊗	26/08/2020 05:56:12	26/08/2020 05:56:13
Fulfillment activity housekeeper	⊗	26/08/2020 05:56:12	26/08/2020 05:56:12
File system housekeeper	⊗	26/08/2020 05:56:12	26/08/2020 05:56:12
Audience housekeeper	⊗	26/08/2020 05:56:11	26/08/2020 05:56:12
Audit record housekeeper	⊗	26/08/2020 05:56:01	26/08/2020 05:56:04
Staged offer content housekeeper	⊗	25/08/2020 05:54:05	25/08/2020 05:54:05
My jobs housekeeper	⊗	25/08/2020 05:54:05	25/08/2020 05:54:05
Fulfillment activity housekeeper	⊗	25/08/2020 05:54:04	25/08/2020 05:54:05
File system housekeeper	⊗	25/08/2020 05:54:04	25/08/2020 05:54:04
Audience housekeeper	⊗	25/08/2020 05:54:04	25/08/2020 05:54:04
Audit record housekeeper	⊗	25/08/2020 05:53:54	25/08/2020 05:53:57
Staged offer content housekeeper	⊗	24/08/2020 06:08:10	24/08/2020 06:08:10
My jobs housekeeper	⊗	24/08/2020 06:08:09	24/08/2020 06:08:10
Fulfillment activity housekeeper	⊗	24/08/2020 06:08:08	24/08/2020 06:08:09

25/08/2020 05:54 (UTC): Deactivating old fulfillment activities
25/08/2020 05:54 (UTC): Deactivating any fulfillment activity prior to 26/07/2020 05:54(UTC)
25/08/2020 05:54 (UTC): Deactivating activity. Workflow Association Instance ID:2090 Activity Name:Data Extract Offer 2
25/08/2020 05:54 (UTC): Finished fulfillment activity de-activation

The tab contains a toolbar, Housekeeping Log grid and selected housekeeper details.

22.13.1 Toolbar

The Housekeeping tab toolbar exposes the following:

- Last refreshed: the date and time at which the list of housekeepers was refreshed (using the attendant Refresh button).
- Export Housekeeping Details: invocation of this option displays the Save Housekeeping Details Windows file system dialog. The default file type: is Text Files, file name is set to 'Housekeeping Details [yyyy]-[mm]-[dd]' and folder to the folder in which the client application is running. You can click Save to save the housekeeping details to a file or Cancel to close the dialog without saving.

The file thus generated contains details of all the housekeepers displayed in the tab. For each housekeeper, the following information is shown:

- Housekeeper: name
- Running: False/True
- Started: date/time
- Completed: date/time
- Log: as displayed in selected housekeeper details
- Refresh: retrieves the 20 most recent housekeeping log messages and updates the Last refreshed date and time.

22.13.2 Housekeeping Log Grid

The grid is populated with the 20 most recent instances of housekeeper execution.

Housekeeper	Running	Started	Completed
Staged offer content housekeeper	⊗	26/08/2020 05:56:13	26/08/2020 05:56:13
My jobs housekeeper	⊗	26/08/2020 05:56:12	26/08/2020 05:56:13
Fulfillment activity housekeeper	⊗	26/08/2020 05:56:12	26/08/2020 05:56:12
File system housekeeper	⊗	26/08/2020 05:56:12	26/08/2020 05:56:12
Audience housekeeper	⊗	26/08/2020 05:56:11	26/08/2020 05:56:12
Audit record housekeeper	⊗	26/08/2020 05:56:01	26/08/2020 05:56:04
Staged offer content housekeeper	⊗	25/08/2020 05:54:05	25/08/2020 05:54:05
My jobs housekeeper	⊗	25/08/2020 05:54:05	25/08/2020 05:54:05
Fulfillment activity housekeeper	⊗	25/08/2020 05:54:04	25/08/2020 05:54:05
File system housekeeper	⊗	25/08/2020 05:54:04	25/08/2020 05:54:04
Audience housekeeper	⊗	25/08/2020 05:54:04	25/08/2020 05:54:04
Audit record housekeeper	⊗	25/08/2020 05:53:54	25/08/2020 05:53:57
Staged offer content housekeeper	⊗	24/08/2020 06:08:10	24/08/2020 06:08:10
My jobs housekeeper	⊗	24/08/2020 06:08:09	24/08/2020 06:08:10
Fulfillment activity housekeeper	⊗	24/08/2020 06:08:08	24/08/2020 06:08:09

Instances are displayed in reverse chronological order. The following columns are displayed:

- Housekeeper: one of:
 - Audit record housekeeper: responsible for the removal of expired audit entries from the operational database. The default retention period is 90 days.
 - File system housekeeper: responsible for the removal of files from:
 - The file system Recycle Bin. Files are removed after a default retention period of 90 days.

- The folder defined by client system configuration setting FileOutputDirectory or server setting GlobalFileOutputDirectory (as appropriate). Files are retained in the folder for the number of days defined by system configuration setting FileOutputDirectoryFileLifetime. After this period, the file system housekeeper deletes any files in the (Global)FileOutputDirectory. In addition, any deleted files' parent folders are removed. By default, FileOutputDirectoryFileLifetime is set to 90 days at new RPI client installations.
- Audience housekeeper: responsible for the removal of leftover temporary audience tables from the data warehouse. An audience may remain in a Paused, Failed or Rolled Back state for 28 days before expiry. An audience may remain in a Playing state without occurrence of new activity for 100 days. A Completed or Stopped audience remains stored in the database for 7 days.
- Fulfillment activity housekeeper: ceases fulfillment activities' monitoring for fulfillment state changes after 30 days. Also requests that channels clean up any external provider-supplied entities (e.g. SFMC email send definitions, which are deleted in accordance with a channel's No. of days fulfillment active property).
- My jobs housekeeper: responsible for the removal of expired jobs from the operational database. On the housekeeper's execution, any jobs with a housekeeping date less than the current date and time are removed. At a job's creation, its housekeeping date is set as follows:
 - Config jobs: now + 28 days
 - Others: now + 90 days
- Staged offer content housekeeper: removes any staged email offer content after a period in days accordant with system configuration setting DaysToRetainStagedContent (set to 90 days by default).
- Running: a true/false flag, indicated using a tick or cross.
- Started: the date and time of housekeeper activity commencement.
- Completed: the date and time of housekeeper activity completion.

22.13.3 Cluster Housekeepers

In addition to the housekeepers listed above, which are managed at the client level, the following housekeepers are managed at the cluster. This means that they handle all cluster clients, and will not be shown in an individual client's Operations interface's Housekeeping tab.

- System log housekeeper: responsible for the removal of old system log messages. It also removes expired rows from the Pulse.RPI_Packages table. Trigger and Interaction packages are removed if Completed and more than 2 years old. Other packages are removed if Completed and more than 6 months old.
- Workflow system housekeeper: responsible for the removal of expired workflows from the workflow host, and the cleanup of leftover data from expired workflows from the audience ('Dataflow') table. Expired workflows' statuses are set to Expired. A workflow may remain in a Paused or Failed state for 14 days before expiry (although parent workflows that manage

failed audience tests are removed after 7 days). A workflow may remain in a Playing state without the occurrence of new activity for 7 days.

22.13.4 Selected Housekeeper Details

You can highlight a housekeeper execution instance in the results grid in order to view read-only related log messages in the selected housekeeper details field.

```
10/23/2018 5:30 AM (UTC): Deactivating old fulfillment activities  
10/23/2018 5:30 AM (UTC): Deactivating any fulfillment activity prior to 9/23/2018 5:30 AM(UTC)  
10/23/2018 5:30 AM (UTC): Finished fulfillment activity de-activation
```

If required, you can highlight the contents of the field and copy them to the clipboard.

22.14 Approval Summary

The Approval Summary interface provides an at-a-glance synopsis of the current approval states of files of types for which file approval is enabled within the current client's RPI server installation. Currently offer and interaction files support approval processes.

File Approval Summary							
Name	File Type	Folder	Latest	Approved	Approval Status	Date Modified	Modified by
<input type="radio"/> Data Extract Offer 2	Offer	coreuser		0.1	Awaiting approval	26/08/2020 10:06:19	coreuser
<input type="radio"/> 11909	Offer	coreuser		0.5	Not Approved	25/08/2020 09:10:04	coreuser
<input type="radio"/> RSA in QA Email	Offer	coreuser		0.1	Not Approved	24/08/2020 09:36:59	coreuser
<input type="radio"/> Realtime in Outbound Email...	Offer	coreuser		0.1	Not Approved	20/08/2020 16:07:17	coreuser
<input type="radio"/> 11920	Offer	coreuser		0.2	Not Approved	20/08/2020 13:48:28	coreuser
<input type="radio"/> 11909a	Offer	coreuser		0.1	Not Approved	18/08/2020 11:41:36	coreuser
<input type="radio"/> 11730	Offer	coreuser		0.1	Not Approved	14/08/2020 14:49:01	coreuser
<input type="radio"/> Birds e0	Offer	coreuser		0.2	Not Approved	31/07/2020 11:07:42	coreuser
<input type="radio"/> Finishing ASAs e0	Offer	coreuser		0.2	Not Approved	31/07/2020 10:38:50	coreuser
<input type="radio"/> 11782	Offer	coreuser		0.1	Not Approved	31/07/2020 09:16:18	coreuser
<input type="radio"/> Smart Asset Email Offer	Offer	coreuser		0.5	Not Approved	29/07/2020 09:24:53	coreuser
<input type="radio"/> SARO Email Offer	Offer	coreuser		0.2	Not Approved	28/07/2020 10:43:40	coreuser
<input type="radio"/> 11734a	Offer	coreuser		0.1	Not Approved	28/07/2020 08:47:58	coreuser
<input type="radio"/> 11734	Offer	coreuser		0.1	Not Approved	28/07/2020 08:47:52	coreuser
<input type="radio"/> Save As 2	Offer	coreuser		0.1	Not Approved	23/07/2020 16:19:03	coreuser
<input type="radio"/> Save As 1	Offer	coreuser		0.1	Not Approved	23/07/2020 16:18:57	coreuser
<input type="radio"/> Rule SA RDR e0	Offer	coreuser		0.2	Not Approved	23/07/2020 15:42:30	coreuser
<input type="radio"/> Adv SA RDR e0	Offer	coreuser		0.2	Not Approved	23/07/2020 15:26:27	coreuser
<input type="radio"/> Att SA RDR e0	Offer	coreuser		0.1	Not Approved	23/07/2020 15:19:37	coreuser
<input type="radio"/> Goal Smart Asset RDR e0	Offer	coreuser		0.2	Not Approved	23/07/2020 14:42:06	coreuser
<input type="radio"/> Link Rule SA e0	Offer	coreuser		0.1	Not Approved	23/07/2020 11:45:49	coreuser
<input type="radio"/> Realtime in Outbound e0	Offer	coreuser		0.1	Not Approved	23/07/2020 09:56:24	coreuser
<input type="radio"/> 11683	Offer	coreuser		0.1	Not Approved	21/07/2020 08:22:29	coreuser
<input type="radio"/> 11596	Offer	coreuser		0.2	Not Approved	17/07/2020 10:27:26	coreuser
<input type="radio"/> 11199	Offer	coreuser		0.1	Not Approved	16/07/2020 13:50:07	coreuser

It contains a toolbar and File Approval Summary grid.

22.14.1 Toolbar

The Approval Summary toolbar exposes the following options:

- Show/Hide File Approval Search Options: invocation of this option displays or hides the File Approval Search Options dialog (as appropriate).

File Approval Search Options

File name:

Approval states:

- Approval denied
- Approval denied (previous version appro...
- Approved
- Awaiting approval
- Awaiting approval (previous version app...
- Not approved
- Not approved (previous version approve...

File types:

- Interaction
- Offer

The dialog contains the following:

- File name: you can limit the files listed to only those that match the specified search string
- Approval states: checkboxes are shown alongside the following approval states:
 - Not approved
 - Awaiting approval
 - Approval denied
 - Approved
 - Not approved (previous version approved)
 - Awaiting approval (previous version approved)
 - Approval denied (previous version approved)

All are unchecked by default. You can limit the files listed to only those with approval statuses matching your selections.

- File types: checkboxes are also shown alongside the following file types:
 - Interaction
 - Offer

Again, all are unchecked by default.

The dialog is removed from display when you invoke Search. If you provided search options, they are applied when search results are returned.

- Search: invocation of this option filters the list of files in accordance with the selected search options.

- Open the latest version of the selected file: displays the latest version of the file in an appropriate designer instance. If the version in question is already open, its designer receives the focus.
- Previous page: this option is only available when the initial page of results is not shown. Invocation displays the previous page's worth of results.
- Next page: this option is only available when the final page of results is not shown. Invocation displays the next page's worth of results

22.14.2 File Approval Summary Grid

This read-only grid lists all files of supported types for which approvals are enabled.

Name	File Type	Folder	Latest	Approved	Approval Status	Date Modified	Modified by
🕒 Data Extract Offer 2	Offer	coreuser	0.1		Awaiting approval	26/08/2020 10:06:19	coreuser
🕒 11909	Offer	coreuser	0.5		Not Approved	25/08/2020 09:10:04	coreuser
🕒 RSA in QA Email	Offer	coreuser	0.1		Not Approved	24/08/2020 09:36:59	coreuser
🕒 Realtime in Outbound Email...	Offer	coreuser	0.1		Not Approved	20/08/2020 16:07:17	coreuser
🕒 11920	Offer	coreuser	0.2		Not Approved	20/08/2020 13:48:28	coreuser
🕒 11909a	Offer	coreuser	0.1		Not Approved	18/08/2020 11:41:36	coreuser
🕒 11730	Offer	coreuser	0.1		Not Approved	14/08/2020 14:49:01	coreuser
🕒 Birds e0	Offer	coreuser	0.2		Not Approved	31/07/2020 11:07:42	coreuser
🕒 Finishing ASAs e0	Offer	coreuser	0.2		Not Approved	31/07/2020 10:38:50	coreuser
🕒 11782	Offer	coreuser	0.1		Not Approved	31/07/2020 09:16:18	coreuser
🕒 Smart Asset Email Offer	Offer	coreuser	0.5		Not Approved	29/07/2020 09:24:53	coreuser
🕒 SARO Email Offer	Offer	coreuser	0.2		Not Approved	28/07/2020 10:43:40	coreuser
🕒 11734a	Offer	coreuser	0.1		Not Approved	28/07/2020 08:47:58	coreuser
🕒 11734	Offer	coreuser	0.1		Not Approved	28/07/2020 08:47:52	coreuser
🕒 Save As 2	Offer	coreuser	0.1		Not Approved	23/07/2020 16:19:03	coreuser
🕒 Save As 1	Offer	coreuser	0.1		Not Approved	23/07/2020 16:18:57	coreuser

Files are presented in descending date modified order. For each file, the following are shown:

- Icon
- Name
- File Type: one of Interaction or Offer
- Folder
- Latest (Version)
- Approved (Version)
- Approval Status
- Date Modified
- Modified By
- Description

Double-clicking an entry in the grid displays the file in question in its relevant designer.

22.15 Audit Log Tab

The Audit Log allows you access from the Operations interface to the audit records generated during RPI usage.

Audit Log							
Audit Timestamp	Audit Type	Audit Sub Type	Username	Computer Name	Computer IP	Object Name	Object Folder
26/08/2020 17:28:56	File Access	Save File	coreuser	LAPTOP-7JK7SML7	127.0.0.1	FileTypeApprovers	Configuration Co
26/08/2020 17:28:51	Interaction Event	Activity Completed	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	Data Extract Offer 2	
26/08/2020 17:28:50	Interaction Event	Activity Completed	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	Data Extract Offer	
26/08/2020 17:28:49	Interaction Event	Activity Started	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	Data Extract Offer	
26/08/2020 17:28:49	Interaction Event	Activity Started	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	Data Extract Offer 2	
26/08/2020 17:28:47	Interaction Event	Activity Completed	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	11000	
26/08/2020 17:28:47	Interaction Event	Activity Completed	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	11001	
26/08/2020 17:28:47	Interaction Event	Activity Started	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	11001	
26/08/2020 17:28:47	Interaction Event	Activity Started	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	11000	
26/08/2020 17:28:45	Interaction Event	Workflow Started	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...		
26/08/2020 17:28:45	Interaction Event	Workflow Started	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...		
26/08/2020 17:23:51	Interaction Event	Activity Completed	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	Data Extract Offer 2	
26/08/2020 17:23:49	Interaction Event	Activity Completed	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	Data Extract Offer	
26/08/2020 17:23:49	Interaction Event	Activity Started	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	Data Extract Offer 2	

<details op="3" cID="7becf83b-fb0f-45df-b2ef-8d28241b2af7" wAID="3208" cNm="11001" iNm="354" wType="Interaction" isTest="False" />

The Audit Log tab consists of a toolbar, Audit Log grid and selected audit log details section.

22.15.1 Toolbar

The Audit Log tab toolbar exposes the following:



- **Export Audit Log:** invocation of this option displays the Save Audit Log Windows file system dialog. The default file type is set to Tab Delimited Files, file name to 'Audit Log [yyyy]-[mm]-[dd]' and folder to the folder in which the client application is running. You can click Save to save the audit log to a file or Cancel to close the dialog without saving.

The resultant file contains details of all of the audit logs that match the supplied search criteria. For each log entry, the following information is shown:

- Audit Timestamp
- Audit Type
- Audit Sub Type
- Username
- Computer Name
- Computer IP
- Object Name
- Object Folder
- Object Version
- Object ID
- Server Name
- **Previous page:** when more than one page's worth of audit log entries are available, and you have navigated past the first page, the Previous page button is enabled. Clicking it shows the previous page of results.
- **Next page:** when more than one page's worth of audit log entries are available, and you are not displaying the final page, the Next page button is enabled. Clicking it shows the next page of results
- **Show/Hide Audit Log Search Options:** this toggle button controls display of the search options toolbar. It is selected by default.
- **Search:** invocation of this option initiates a search for audit logs matching supplied criteria. Search results are displayed in the Audit Log grid. A message is displayed when no matching records are found.

The search options toolbar exposes the following filter options:

- From: the first date and time from which point audit logs are to be displayed. Date from defaults to 00:00 today.
- to: the last date and time to which point audit logs are to be displayed. Date to defaults to tomorrow, 00:00..
- More Options: a toggle button; the Audit Log Search Options dialog shown when selected. When search criteria are specified, the button icon is enhanced with a green circle, and the tooltip augmented accordingly. The dialog is hidden when Search is invoked. It contains the following:

Audit Log Search Options

Search on the following:

Audit type

Audit sub type

Username

Computer name

Computer IP

Object name

Object ID

Object folder

Search on the file version control ID:

- Search on the following: a radio button, selected by default, affords access to the following search options:
 - Audit type: a dropdown, listing
 - Client Job
 - Configuration
 - File Access
 - Interaction Event

- Object Execution
 - Operations
 - Security
 - System Access
- Audit sub type: this dropdown is populated with values that depend on your Audit type selection:
 - Client Job: Connectivity Test, File Download, File Export, File Import, Upload File To ECP, Fulfillment Test, Publish To Web, Delete Staged Email Offer Content, Rule Count, Validate Channels, Catalog Re-sync, Joins Refresh, Re-subscribe Contacts, Validate Audience Definitions, Analyze File, Validate And Load File, Download Asset From ECP, Email Delivery Test, Sample Database Table, Rule Export, Selection Rule Waterfall, File External Copy, Email Link Test, Upload Asset To ECP, Validate SQL Expression, Workflow Waterfall Report, Refresh Value Lists, AML Model Builder
 - Configuration: Manage Attribute Values, Delete Attribute Values, Clear All Attribute Values, Create Attributes From Database, Import Seeds, Export Seeds
 - File Access: Add Folder, Delete File, Delete Folder, Load File, Modify Folder, Move Folder, Copy Folder, Copy File, Move File, Permanently Delete File, Rename File, Restore File, Roll Forward, Save File, Request File Approval, Approve File, Deny File Approval Request, Cancel File Approval Request, Resend File Approval Request, Overwrite File, Export To File, Import From File, Copy From Another Client, Copy To Another Client, Copy To External Content Provider, Copy From External Content Provider, Update Permissions
 - Interaction Event: Workflow Completed, Workflow Failed, Workflow Paused, Workflow Restarted, Workflow Started, Workflow Stopped, Workflow Activation Request, Workflow Deactivation Request, Workflow Pause Request, Workflow Resume Request, Workflow Stop Request, Workflow Rollback Request, Workflow Trigger Request, Activity Pause Request, Activity Resume Request, Activity Stop Request, Activity Skip Request, Activity Trigger Request, Initialize Audience Test, Workflow Reactivation Request, Workflow Termination Request, File Download, Activity Completed, Activity Failed, Activity Paused, Activity Restarted, Activity Started, Activity Stopped, Trigger Deactivated
 - Object Execution: Selection Rule Count, Selection Rule Export, Selection Rule Waterfall, Landing Page Publish, Landing Page Unpublish, Smart Asset Publish, Smart Asset Unpublish, Audience Definitions Validate, Analysis Panel Refresh, Unstage, Offer Test Links, Offer Test Email, Offer Test SMS, Offer Email Delivery Test, Data Project Load Data, Data Project Analyze Date, Attribute Refresh Attribute Values, Attribute Validate SQL Expression
 - Operations: Trigger Snapshot, Update Snapshots, Force Workflow Status, Update System Task
 - Security: Create User Group, Edit user Group, Delete User Group, Edit User
 - System Access: Change Password, Change User Details, Login, Login Failed, Log Out, Reset User Password, Change Registered Alerts

- Username: if an interaction workflow event, the username of the user who initiated the workflow in the first place.
- Computer name
- Computer IP
- Object name
- Object ID
- Object folder
- Search on the file version control ID: this radio button, not selected by default, affords access to a field that is used when the tab is invoked in respect of a specific file and version thereof from the Workflow Summaries tab.

Any specified filter options are applied automatically at Search invocation.

22.15.2 Audit Log Grid

The grid is populated automatically on displaying the tab for the first time, in accordance with the default search criteria.

Audit Timestamp	Audit Type	Audit Sub Type	Username	Computer Name	Computer IP	Object Name	Object Folder
26/08/2020 17:28:56	File Access	Save File	coreuser	LAPTOP-7JK7SML7	127.0.0.1	FileTypeApprovers	Configuration C
26/08/2020 17:28:51	Interaction Event	Activity Completed	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	Data Extract Offer 2	
26/08/2020 17:28:50	Interaction Event	Activity Completed	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	Data Extract Offer	
26/08/2020 17:28:49	Interaction Event	Activity Started	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	Data Extract Offer	
26/08/2020 17:28:49	Interaction Event	Activity Started	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	Data Extract Offer 2	
26/08/2020 17:28:47	Interaction Event	Activity Completed	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	11000	
26/08/2020 17:28:47	Interaction Event	Activity Completed	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	11001	
26/08/2020 17:28:47	Interaction Event	Activity Started	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	11001	
26/08/2020 17:28:47	Interaction Event	Activity Started	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	11000	
26/08/2020 17:28:45	Interaction Event	Workflow Started	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...		
26/08/2020 17:28:45	Interaction Event	Workflow Started	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...		
26/08/2020 17:23:51	Interaction Event	Activity Completed	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	Data Extract Offer 2	
26/08/2020 17:23:49	Interaction Event	Activity Completed	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	Data Extract Offer	
26/08/2020 17:23:49	Interaction Event	Activity Started	coreuser	LAPTOP-7JK7SML7	fe80::193c:1637:b78e:3...	Data Extract Offer 2	

Following subsequent execution of a search, any matching log entries are listed in the Audit Log grid. If no matching entries exist, a message is displayed. Audit log records are presented in descending Audit Timestamp order. For each log entry, the following properties are displayed:

- Audit Timestamp
- Audit Type
- Audit Sub Type
- Username
- Computer Name: client machine
- Computer IP: client machine
- Object Name: only if relevant
- Object Folder: only if relevant
- Object Version: only if relevant
- Object ID: only if relevant
- Server Name

22.15.3 Selected Audit Log Details

This section displays the details XML for the currently-selected audit record.

22.16 The Operations Interface and NoSQL Databases

When working with the Operations interface in a NoSQL environment, the following considerations apply:

- The following interface is not shown:
 - Audience Snapshots
- System Tasks tab:
 - The following tasks are disabled by default:
 - Attribute value catalog
 - Audience snapshot requests
- Query Trace Log tab:
 - Rule execution entries are shown as 'Rule count' at NoSQL selection rules (applies also at Workflow Summaries tab).
- Housekeeping tab:
 - The Audience housekeeper removes NoSQL test audience records that are more than 28 days old.