Version 9 Release 1.2
September 23, 2015

IBM Interact Release Notes

IBM

This edition applies to version 9, release 1, modification 2 of IBM Interact and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

Chapter 1. System requirements and compatibility

IBM® Interact operates as part of the IBM EMM suite of products.

You can upgrade to Interact 9.1.2 from Interact version 9.1.1 or later. For instructions, see the *IBM Interact Installation Guide*.

Where to find complete system requirement and compatibility information

For a list of IBM product versions compatible with this product, see the *IBM 9.1.2 Product Compatibility Matrix* and any other product compatibility documents posted under Documentation on the IBM Support Portal website: (https://www.ibm.com/support/entry/portal/documentation).

For a list of third-party requirements for this product, see the *IBM Enterprise Products Recommended Software Environments and Minimum System Requirements* available under **Help > Product Documentation** when you are logged in to Interact, as well as from the IBM Support Portal website: (https://www.ibm.com/support/entry/portal/documentation).

Chapter 2. New features and changes in version 9.1.2

IBM Interact 9.1.2 includes the following new features.

Use the new triggered message feature to send offers to different channels

Triggered messages allows you to deliver offers to a different channel than the one where the request was sent in Interact. These offers are triggered by predefined user events and/or event patterns. Once an event or event pattern is triggered, the eligibility conditions determine what offer selection method is used and which channel is used for offer delivery. You can define your triggered messages from the **Triggered Messages** tab in Interact. You must also configure your triggered messages properties in **Interact | triggeredMessage**.

IBM Knowledge Center

All product documentation is now available in the IBM Knowledge Center at:

http://www.ibm.com/support/knowledgecenter/

You can browse or search within or across product families to find the topics that you need. To search within a single product, expand a product family in the Table of Contents, select a product, then enter your search term. Click the **X** in the toolbar to clear the Search Filter. For more information, click the **Help** icon at the top right of the toolbar.

Chapter 3. Fixed defects

The following table lists defects that are fixed in Interact 9.1.2.

Issue ID	Description
197013	When you try to save an event with full-width decimal digits in name, the event is not saved and the following error is displayed. `Name may only contain alphabetic, numeric or underscore (_) characters, and it must start with an alphabetic character.` This issue is fixed.
183139, 66401	Events and event patterns were not saved if the name contained non-ASCII characters. This issue is fixed.
173574	When you use Oracle Database 11.2.04 to run the `acir_scripts_ora.sql` script for an event pattern report, an exception was thrown. The script execution throws an error on the first SQL worksheet opened. If you try to run the script again in the same sheet, you need to open a new SQL worksheet where it can run successfully. Use Oracle Database 12 to avoid this known issue. This issue is fixed.
176401	To disable the report integration with ETL for Event Pattern reports, you must alter the trigger TR_AGGREGATE_DELTA_PATTERNS to disable on UACI_ETLPATTERNSTATERUN staging table. You must disable the report integration with ETL in Interact	ETL	patternStateETL		Report configuration properties to disable updates on the UARI_DELTA_PATTERN table. This issue is fixed.
174705	When eXtreme Scale cache management is used, the session length expires too early. Any API call after StartSesison throws error as the PostEvent request received is an invalid session ID: dk_1. This issue was caused by a conflict between eXtreme Scale and Oracle JDK. If you change the JDK to IBM JDK in both the `InteractWXSServer.sh'` / `'InteractWXSServer.bat` file and the WebLogic domain, then this functionality works correctly.
177564	Offer suppression does not work for cross session when suppression rule is set for offer acceptance or rejection. This issue is fixed.
177446	When you run the uninstaller for Interact, it removes all directories under `Interact_Home` except the `Install` and `Tools` directories.
177899	You could save empty expressions. As a result, when you deploy an interactive channel, the following error is displayed because you cannot have empty expressions. `Error occurred while parsing expression: Empty Expression` This issue is fixed.
176924	In **Advance Options** of an interaction strategy, the expressions do not validate null values properly. `getOffer` throws an error when a null value is used in an expression in **Advance Options** of an interaction strategy This issue is fixed.

Issue ID	Description
10145	If you export data from a Snapshot or MailList process, and you select **Database Table** as the **Export to** option, naming the new table with non-ASCII characters results in an export failure, and an error code 11506 may also be displayed. To work around this issue, use only ASCII characters to name the export database table. This issue is fixed.
DEF054970, DEF055064	If more than one schema is present, test run results are from the schema that comes first alphabetically. This issue is fixed.
DEF055021	**Validate Flowchart** fails to validate if a Flowchart Template created from a Batch Flowchart having MailList process is added into an interactive flowchart. **Validate Flowchart** displays "No errors detected in flowchart configuration." To avoid this problem, do not include batch flowchart templates in interactive flowcharts. This issue is fixed.
7354	When you are using the Offer Parameterization feature, if you use a table-driven offer, an incorrect date value is displayed in the offer attribute. To avoid this problem, do not use date fields in parameterized offers. This issue is fixed.
73575	After the upgrade is complete, editing a mapped profile table by clicking an existing interactive channel's **Mapped profile table** link and then clicking **Edit mapping**, clicking **Validate Mapping** displays the following error: `Validation failed. Previous strategy deployments have been corrupted. Please mark the strategies associated to this IC for deployment again and then try to deploy.` This issue is fixed.

Chapter 4. Known issues

The following table lists issues in Interact 9.1.2.

Issue	Issue ID	Description
Internal error null is displayed on strategy when the rule wizard creates about 250 rules	RTC171779	The error message, An internal error has occurred: null, is displayed on the rules strategy wizard when you try to save a large number of rules (approximately 250 rules or more). However, the rules are successfully added. This issue is related to a WebSphere® Application Server/DB2® deadlock scenario. You can set the isolation level to Read Committed to reduce the lock contention to fix this issue. For more information about this configuration, see http://pic.dhe.ibm.com/infocenter/wxsinfo/v7r1/index.jsp?topic=%2Fcom.ibm.websphere.extremescale.prog.doc%2Ftxsloadtrb.html.
Reload of an Interactive Channel fails when it contains patterns	RTC176923	When there are multiple versions of an Interactive Channel that contains different patterns in different versions and you reload the whole Interactive Channel in design time, the following error is displayed. Failed to reload interactive channel. [jcc][t4][102][10040][4.13.127] Batch failure. The batch was submitted, but at least one exception occurred on an individual member of the batch. Use getNextException() to retrieve the exceptions for specific batched elements. ERRORCODE=-4229, SQLSTATE=null When you reload the Interactive Channel that contains patterns in the flowchart, the same error message is displayed, but flowchart reloads successfully with correct data. However, the correct version of strategy is not reloaded and more patterns from previous version are present in the **Events** tab. To avoid these issues, do not reload an Interactive Channel that contains patterns. More issues are found when you reload an Interactive Channel that contains advanced patterns. When the Interactive Channel is reloaded the events present in advanced pattern are not displayed inside the pattern in **Event Patterns** section of the **Events** tab. In the interactive flowchart, only the Decision process box is displayed; all other Process boxes are missing after reload. For an Opportunity Detect integrated set up, do not reload the Interactive Channel if it contains advanced patterns.
You cannot export a PDF with a new mapped table in the snapshot process box for any locale but English.	RTC11682	You should be able to export a PDF in the **Fields to Snapshot** list on the **Snapshots** tab with a new mapped table. However, the PDF is not visible nor available for export for any locale but English.

Issue	Issue ID	Description
You can delete event patterns even if it is in use.	RTC167789	You can delete event patterns from the interactive channel **Events** tab even if the event pattern is in use; for example, if the event pattern is mapped in the flow chart and the interactive channel is deployed. If you try to deploy an interactive channel with a deleted event pattern, the following error is displayed. `Error occurred while validating processbox Decision1: Unrecognized symbol(s) [eventpattern.score_weightage]'`
Display order of entries in **Available Fields** changes in the Select process on an interactive flowchart.	RTC80938, RTC7275	When you edit or view a Select process on an interactive flowchart, the order of the entries in the **Available Fields** list may be different from other times you edit or view the process. The difference in order is cosmetic, and does not affect the operation of the Select process or the flowchart.
DB2 Loader not working with non-ASCII audience name.	DEF054920, RTC7890	The DB2 file-based loader for contact and response history logging is not supported if the Audience Level contains non-ASCII characters. To work around this issue, either make sure the audience levels use only ASCII characters, or use a memory cache instead of the file-based loader.
Cannot delete a campaign even after deleting the interaction strategy.	DEF062936	In some cases, users cannot delete a campaign even after the interaction strategy with which the campaign is associated is deleted. The ac_web.log file may contain a message similar to "`DELETE statement conflicted with the REFERENCE constraint "iTrmtRuleInv_FK3". The conflict occurred in database "Automator_UC", table "dbo.UACI_TrmtRuleInv", column 'CellID'`" in this situation. In this situation, where even the interactive flowchart is undeployed and deleted, and the strategy is deleted, the campaign cannot be deleted because it was part of a strategy that was deployed, and therefore historical data exists for that campaign that is used for reporting. This may be addressed in a future release.
Syntax checking does not work properly in the Advanced Options for an interaction strategy table.	RTC65495, APAR65498, PO01220	When a Marketing Score is determined for an offer in the interaction strategy table on the Advanced Options, the syntax check will sometimes fail. In this case, an error is observed while retrieving the offer from the API `getOffers` call after the deployment.
Suppression rule `attribute value = [auto]` for related offers does not work as expected in cross-session response tracking.	RTC91765	In cases where an offer is being suppressed using a dynamic attribute value (`attribute value = [auto]`) and cross-session response tracking is used, the offer may not be suppressed as expected. To work around this issue, use an attribute value other than `[auto]`. This issue may be addressed in a future release.
Issue with eXtreme Scale and Oracle JDK1.7	RTC175253	There is a conflict on serializing and deserializing `java.util.concurrent.ConcurrentHashMap` in eXtreme Scale while running on Oracle JDK 1.7. As a result, WXS is unable to return InteractSession objects.

Chapter 5. Known limitations

The following table lists known limitations in Interact 9.1.2.

Issue	Number	Description
Null pointer exception while saving strategy containing large number of treatment rules created by rule wizard	RTC172332	If you create approximately 900 rules by adding one offer and 900 segments with the rule wizard and try to save the strategy, the following error is displayed. `java.lang.NullPointerException`
Interact deployment rollback is not supported with Advanced Patterns (time bound and rolling time)	RTC73521	V1 is not synchronized in Advanced Patter run time if you perform the following workflow. 1. Create an interactive channel that contains only simple pattern and deploy this version V1 to the Interact run time. 2. Add an advanced pattern counter (time bound) type of pattern in interactive channel and use the same in interactive flowchart to populate segment that is based on pattern state. 3. Deploy this interactive channel to runtime and version V2 is created. The same is reflected in the Detect workspace. 4. Rollback or redeploy to version V1. After redeploy is successfully complete, the Opportunity Detect workspace shows version V2.
A persistent derived field is not profiled in a downstream Decision process in an interactive flowchart.	RTC8870	If you create a persistent derived field in a flowchart process, then connect the output of that process to a decision process to try to profile the persistent derived field, the field is not profiled. To workaround this issue, profile the original derived field.
Offers in treatment rules do not appear in Interact report	N/A	If you do not select offers created with an offer template with **Allow offers created from this template to be used in real-time interactions** selected, Interact cannot collect the correct data for reporting.
Test run result tables are not dropped from Interact test run tables	N/A	When you run a test of an interactive flowchart, Interact creates four tables in your test run tables for each interactive flowchart. These tables are not deleted if you delete the interactive flowchart.
SOAP client does not release threads	N/A	The SOAP client leaves sockets in a CLOSE_WAIT state instead of closing them. This is a known issue with the Axis2 SOAP client. See http://issues.apache.org/jira/browse/AXIS2-2883 for details.
Cannot stop an interactive flowchart test run	N/A	You cannot stop or pause an interactive flowchart test run. Test runs are designed to run on a subset of data, for example hundreds of rows. You can configure the size of your test run in the Interaction process. See the *IBM Interact User's Guide* for details.

Issue	Number	Description
Interact interactive flowcharts support a subset of Campaign macros.	DEF057366, ENH11494	By design, interactive flowcharts support (and make available for selection) only a subset of the macros available on batch flowcharts. On an interactive flowchart, in any Select or decision process boxes where you want to use a macro that is not supported (for example, the between operator, as in "AGE between 1 and 18"), an error message "Function or operation not supported" appears when you check the syntax. This is expected behavior.
Distributed caching in hybrid architecture is not supported	DEF049665	Interact does not support distributed caching in architectures that use a combination of operating systems on different instances of the runtime environment (for example, an instance on UNIX with Oracle and an instance on Windows with SQL Server). To support various components, including ETL capabilities, Interact requires that all instances of the runtime environment be of the same operating system type.
Raw SQL options are not supported in Interact flowcharts	DEF049991	Using custom macros with expression type "Raw SQL Selecting ID List" or "Raw SQL Selecting ID List+Value" in any processes in an interactive flowchart results in Error 11324.
UACI_EligStat table logs offers with effective dates that should have been excluded by effDateBehavior>	DEF054281	Offers with effective dates that falls out of the (effectiveDateBehavior + effectiveDateGracePeriodOfferAttr) are being logged as eligible offers in the UACI_EligStat table. The parameter specified in effectiveDateGracePeriodOfferAttr is not dynamic therefore if you include a "Grace_Period" attribute in effectiveDateGracePeriodOfferAttr and this is included in offers, every time the value for this parameter is changed in the offer, it requires redeployment of the interactive channel.
Offer constraints do not work as expected when multiple offer constraint rules are added in one interactive channel for same set of offers.	DEF057081	Interact currently does not support multiple constraints to be applied independently over different intervals of time for a specific deployment. Offers that fall under multiple constraints will follow the most restrictive of the constraints.
Modifying constraint parameters (such as start date or maximum number of offers per interval) results in changes to how the offers are served using that constraint.	DEF057070, DEF057076	Modifying the settings may affect constraint results in several ways: • Changing the start date of an offer constraint midstream may result in the counter being reset to zero. This occurs because when the startTime changes, the interval is recalculated and may yield a different interval, so the count may be reset. • On the Interact Constraint State page, the **Current count for this interval** data does not update if you change the offer constraint's start date to an earlier date. This issue occurs because, when the start time is changed, the interval must also be recalculated. The constraint state is updated correctly after that initial recalculation. For more information about how the constraint parameters affect the outcome, see the *IBM Interact User's Guide*.

Issue	Number	Description

When issuing the getoffersForMultipleInteractionPoints call in the Interact API, the top-level attribute requirements can accept at most one attribute.	DEF057693	For example, if you set up offers in an Interactive Channel and execute a getoffersForMultipleInteractionPoints() API call using the Offer Attribute with OfferType values "Bank Account" and "Insurance".
		
		For an eligible segment, 3 offers are assigned: 2 offers with an offer type of "Bank Account" and 1 with an offer type of "Insurance". The following getoffersForMultipleInteractionPoints() API call would produce *incorrect* results:
		
		`{DIP1,3,1,(2,Offertype=Bank account|string)`
		`  (1,Offertype=Insurance|string)}`
		
		This call would return only 2 offers with an offer type of "Bank Account."
		
		The following call would correctly return the wanted output:
		
		`{DIP1,3,1,(3,,(2,Offertype=Bank account|string)`
		`  (1,Offertype=Inssurance|string))}`

Deployment successful even if interactive flowchart contains an unconfigured process	DEF030956	If you make some configuration change which places processes in interactive flowcharts into an unconfigured state, and you have deployed the interactive flowchart in the past, the interactive flowchart will deploy. Interactive flowcharts with unconfigured processes should not deploy.
Existing installer properties files are deleted after Marketing Platform installation in silent mode	DEF042448	If a previous installation in UI mode was performed, the `installer.properties` and `installer_uep.properties` files are wiped out after you then perform Platform installation in silent mode.
WebConnector does not pick up default configuration when trying to save from GUI	DEF052958	WebConnector does not set the default values for fields when saving from the GUI.
Removing a learning attribute from the model deletes the historical data for that attribute.	DEF058996	This occurs as part of the learning feature self-maintenance, to clear out unnecessary data. In the situation where you want to add back the attribute that was removed, the Learning system will learn again from scratch for that attribute (rather than rely on old history data). If you want to keep the history for an attribute rather than allowing the system to delete it, add it to the global setting, and then avoid using it by creating a learning model that does not use that attribute, and assign at the Interactive Channel level.

Chapter 6. New features in earlier releases

This section contains changes in earlier releases of IBM Interact for reference purposes. For more detailed instructions on using these features, see the Interact documentation.

New features and changes in version 9.1.1

Ability to add or modify treatment rules with the Rule Wizard

You can use the Rule Wizard to add or modify multiple treatment rules at once. This new wizard steps you through the process of adding or modifying treatments rules. From the wizard, you can select offers and segments to be included in the rules you generate. You can also associate zones with each segment. You can also check the Syntax to validate any expressions for the rules through the wizard.

Predefined events available when event patterns are added

When you add an event pattern on the **Interactive Channel**, you can choose from predefined events when you define the events that must occur to fulfill your event pattern. The predefined events are offerAccepted, offerContacted, offerRejected, offerAcceptedInCategory, offerContactedInCategory, and offerRejectedInCategory.

If you add offerAccepted, offerContacted, or offerRejected, you are prompted to select an offer that triggers the macro. If you add offerAcceptedInCategory, offerContactedInCategory, or offerRejectedInCategory, you are prompted to set attribute values of the offers that triggered the macros. You can add each of these macros multiple times with different offers or offer attributes and values for each event pattern.

Exporting interactive channels

In Interact, you can export a previous interactive channel deployment version. When you export a deployment version, you can send this export to IBM technical support to troubleshoot any problems with your deployment.

New Interact JavaScript API

A new JavaScript version of the Interact API was added. The JavaScript API allows for end-user client (browser) to server communications.

Event Pattern report added

The Interact Event Pattern report shows you event pattern activity across interactive channels and their categories. You can use this report to analyze how personalized offers were presented to visitors through event patterns. You can also analyze how many event patterns are triggered to visitors in the interactive channels you report on.

The Event Pattern report uses the data that is contained in staging tables, which are populated by stored procedures. The stored procedures perform a delta refresh operation.

13

ETL report aggregation configuration

The Interact ETL has extra configuration options for report aggregation. These configuration options are used to aggregate the ETL data to provide pattern state activity that can be analyzed with the Event Pattern report.

The following configuration options are available for the ETL report aggregation process.

- **Enable**: Enable or disable the report integration with ETL.
- **retryAttemptsIfAggregationRunning**: The number of times the ETL attempts to check whether the report aggregation is completed if the lock flag is set.
- **sleepBeforeRetryDurationInMinutes**: Sleep time in minutes between consecutive attempts.
- **aggregationRunningCheckSql**: This property lets you define a custom SQL, which can be run to see whether the report aggregation lock flag is set.
- **aggregationRunningCheck**: Enable or disable the check if the report aggregation is running before the ETL run is performed. T

These configurations can be set in **Interact | ETL | patternStateETL**.

Configuration options for built-in learning

Interact now has extra built-in learning configuration options. You can set **Version** to 2 to set thread and record parameter to improve performance. These parameters perform the aggregation and deletion when these parameter limits are reached. **autoAdjustPercentage** can be used to set the percentage of data the run of aggregation tries to process based on the metrics of the previous run. **excludeAbnormalAttribute** can be used to determines whether to mark those attributes as invalid. If set to IncludeAttribute, abnormal attributes are included not marked as invalid. If set to ExcludeAttribute, abnormal attributes are excluded and marked as invalid. **numberOfThreads**, **maxLogTimeSpanInMin**, and **maxRecords** were added as parameters for the built-in learning configuration.

These configurations can be set in **Interact | offerserving | Built-in Learning Config**.

Configuration to catch the response events that do not have contacts

You can use the **actionOnOrphan** configuration to determine what to do with response events that do not have corresponding contact events. If set to NoAction, the response event is processed as if the corresponding contact event was posted. If set to Warning, the response event is processed as if the corresponding contact event was posted, but a warning message is written into interact.log. If set to Skip, the response even is not processed, and an error message is written into interact.log. The setting that you choose here is effective regardless if response history logging is enabled.

This configuration can be set in **Interact | services | responseHist**.

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New features and changes in version 9.1.0

Interact real-time offer suppression

This release of Interact provides improved offer suppression management features to provide users with a simple interface for determining when to stop presenting a particular offer to a particular visitor (such as after the visitor has accepted it, after the visitor has rejected it, after seeing it a certain number of times) This helps to ensure that the most relevant offer is always presented to each visitor, increasing response rates. See the *Interact User's Guide* for more information.

Support for IBM WebSphere eXtreme Scale caching solutions

This release of Interact now supports additional caching solutions to improve performance in large-volume deployments: the built-in ehCache caching solution that has always been provided continues to work as before, and for larger installations, support for the IBM WebSphere eXtreme Scale caching solution has been implemented.

By installing the optional Interact Adapter for eXtreme Caching on each runtime server, you can use WebSphere eXtreme Scale caching to store and manage customer profile and in-session contextual data during real-time operation. See the *Interact Tuning Guide* for more information.

Integration with IBM Interact Advanced Patterns for more complex event patterns and better real-time marketing decisions

Through integration with IBM Interact Advanced Patterns, Interact now supports more complex event pattern recognition during real-time decisions to increase the relevance of offers and messages. See the *Interact Administrator's Guide* and the Interact Advanced Patterns documentation for more information.

IBM EMM installation and upgrade improvements

The improvements to the installation and upgrade process include:
- Installation guides for all products have been rewritten and reorganized into separate installation and upgrade guides, to make information easier to find and use.
- The installers have been enhanced to include better descriptions of the information you need to enter and to clarify what steps to take during each stage of the installation.
- Each installer now provides links directly to the product's installation and upgrade guides, in either PDF or HTML formats.

Configuration to control collection of learning statistics

In previous releases of Interact, learning statistics were being collected for all offers returned by the `getOffers` call. To improve the collection of learning statistics and the precision of the data collected, the following changes have been made in this release:

- For all offers that are returned in a `getOffers` call, if the offers are determined by self-learning, then both the contacts and responses are now counted as a learning statistic, and are run through the learning aggregator.
- For all offers that are returned in a `getOffers` call, if the offers are not determined by self-learning, then both the contacts and responses are not counted as a learning statistic, and are not run through the learning aggregator.

Note that if learning is turned off globally, no learning attributes are logged for all treatments.

To log the learning attributes of all treatments, regardless of whether they are determined by self-learning, enable the configuration setting **interact | offerServing | alwaysLogLearningAttributes**. Enabling this setting matches the behavior of earlier versions of Interact. (RTC65426, RTC56978)

New features and changes in version 9.1.0.2 Fix Pack 2

You can optionally install Interact 9.1.0 Fix Pack 2 onto your 9.1.0 base installation to provide a number of new features.

Stand-alone event pattern ETL process.

In Interact, all event pattern data for a given AudienceID is stored as a single collection in the runtime database tables. To perform any SQL queries or reporting based on event patterns, this new ETL process is required to break up the collection of event pattern data into tables in a target database. To accomplish this, the stand-alone ETL process takes event pattern data from the Interact runtime database tables, processes it on the schedule you specify, and stores it in the target database where it is available for SQL queries or additional reporting.

System schema changes to accommodate the ETL process

The stand-alone event pattern ETL process stores the processed event pattern data in a target database for further use in SQL queries or reporting. The target database must be updated with four new tables that are required to store the data. These tables are documented here for reference in retrieving the data in your own reporting process.

Offer deduplication across offer attributes

Using the Interact application programming interface (API), two API calls deliver offers: `getOffers` and `getOffersForMultipleInteractionPoints`. `getOffersForMultipleInteractionPoints` can prevent the return of duplicate offers at the *OfferID* level, but cannot deduplicate offers across offer category. So, for example, for Interact to return only one offer from each offer category, a workaround was previously required. With the introduction of two parameters to the `startSession` API call, offer deduplication across offer attributes, such as category, is now possible.

New features and changes in version 9.0.0

Interact behavioral event handling

Interact can now personalize offers that are based on patterns of visitor activity, referred to as *event patterns*. Using event patterns (also referred to as "behavior triggers"), you can test whether an event or a collection of events is occurring during an interaction and, if the specified pattern of event occurrences is met, to trigger one or more actions in response.

For example, on a website, a pattern of events might include any combination of pages that are visited (including the number of times a page is visited), documents that are downloaded, media that are viewed, and search terms that are used. As another example, in a call center, events such as the reason for the interaction, or the actual service request that is initiated during the interaction (such as address changes or product inquiries) might be used to identify an event pattern that could trigger an action. All of these events, when they are taken together, identify a certain pattern of behavior, and these event patterns can now trigger actions in Interact session. The triggered actions can also include an External Callout.

The implementation of event patterns also includes a feature that is called *trigger events*. A trigger event is an event that is triggered by another event or event pattern. Another way to say that is that one event can, as its action, trigger another event. The trigger event can be an event that is already defined (on the Events tab within Interact), or an event that is recognized as part of a pattern and treated as an event with the specified action. For example, you might use the triggered event feature in a case where the `KitchenAppliancePageVisited` event occurs. You might decide that one of the actions that are triggered by that event is that the `KitchenRenovationsPageVisited` event also occurs, or other events, as well as their subsequent actions.

You can use both standard and trigger events in definitions of event patterns. After you create event patterns, they become available for use in interactive flowcharts.

To see the changes that are implemented to support event patterns, see the Events tab for an interactive channel.

(RTC616, RTC716, RTC717, RTC718, RTC719)

Randomizing offer presentation

In prior releases of Interact, when multiple offers in the same rule group on the Strategy tab have the same score, Interact returns the offer with the lowest offer ID. With this release, Interact randomizes among the offers that have equal scores, making it less likely that a visitor sees the same offer across multiple interactions.

Randomizing offer presentation is enabled by default, but is controlled by the `Interact | offerserving | offerTieBreakMethod` configuration property on the Interact runtime server. (RTC621)

REST API support

Prior releases of Interact provide access to its application programming interface (API) through SOAP and Java™ Serialization over HTTP. With this release, Interact supports an additional industry-standard messaging approach called REST (Representational State Transfer). The *RESTful* (conforming to REST constraints)

implementation that is used by the Interact API lets you exchange structured JSON messages over HTTP with fast response times and low processing and resource requirements.

There are two Interact classes specific to the REST API: `RestClientConnector`, which serves as a helper to connect to an Interact run time instance via REST with the format of JSON, and `RestFieldConstants`, which describes the underlying format of the JSON message that is used for API requests and responses.

After you install the Interact design time server, a sample REST client is provided at `Interact _Home/samples/javaApi/InteractRestClient.java`. Although the sample code is a simple example, it provides a good starting point for demonstrating how the REST API is used.

For a complete description of the REST API classes along with all other Interact API information, see the Javadoc that is installed on the runtime server at `Interact_Home/docs/apiJavaDoc`.

(RTC721)

WDSL Changes

Over the course of several releases of Interact, the WDSL (Web Services Description Language) support used to describe the available web services was updated. For the latest WSDL information, you can view the XML files in your Interact home directory in the following location:

- `<Interact_home>/conf/InteractService.wsdl`
- `<Interact_home>/conf/InteractAdminService.wsdl`

Specifically, be aware of the following changes:
- In Interact 8.6.0.2 and higher, the SOAP API WSDL is incompatible with previous versions because of enhancements.
- In Interact 8.6.0.3, WSDL is slightly different from 8.6.0.2. However, 8.6.0.2 WSDL works with Interact 8.6.0.3 without changes.
- See the 8.6.0.2 and 8.6.0.3 fix pack readme files for more details on specific WSDL changes relating to `NameValuePairImpl` and mandatory `minOccurs` parameters (such as `relyOnExistingSession`and `debug`).

New features and changes in version 8.6.0

Interact integration with IBM Digital Recommendations for product recommendations

Interact can now combine its sophisticated approach to offer personalization with IBM Digital Recommendations scalable product recommendation solutions to provide optimal offer and product information in customer interactions.

You can now customize your web pages to first call Interact for the offers to present to a visitor, which then use an API call to send a product category ID to Digital Recommendations to retrieve the most popular product recommendations for that offer. For example, you might configure a page so that Interact provides the best offer for the specific visitor (10% off all appliances), while Digital Recommendations provides the best product recommendations for that offer (the most popular home appliances for the specific category ID),

For additional information, see the *IBM Interact Administrator's Guide* and the sample application installed in */<Interact_home>/samples/IntelligentOfferIntegration*, available for use as a demonstration and a starting point for your own web pages.

(ENH11607)

New deployment management and versioning

For interactive channels, deployment information has been moved to a separate Deployment tab. The Deployment tab provides an enhanced user interface for managing deployments, including the following features:

- **View and undeploy active deployments.** Active deployment view provides immediate information about the current deployment, and allows you to undeploy the selected deployment as wanted.
- **View pending changes.** Pending Changes view lets you see what changes are marked for deployment but are not yet deployed, and lets you deploy the changes or only the global settings as needed to the targeted server group.
- **Roll back previous deployments.** The Deployment History section lets you select and redeploy earlier versions of a deployment, or reload and modify earlier components (flowcharts and strategy tabs).
- **Reload and modify previous Design Time components.** You can use the Deployment tab to reload interactive channels, flowcharts, and interactive strategies from previous deployments to view or modify them before redeploying.
- **Custom views.** Filter the deployment history list to show only the information that you want, such as filtering out all but the deployments to a particular server group, or only the deployments that succeeded. You can also sort lists on specific columns or on multiple combinations of columns to view deployment information exactly as needed.

(ENH11608)

External learning enhancements

In previous releases, Interact pre-built learning could not be used alongside custom learning requirements. Now, select functions of the Interact pre-built learning implementation is accessible via a new set of API calls to let you use built-in learning methods in your external learning algorithm. See the Javadocs installed in */<Interact_home>/docs/learningOptimizerJavaDocs* for additional technical details. (ENH11609)

Profile Data Service: hierarchical profile data retrieved via EXTERNALCALLOUT

You can now use the EXTERNALCALLOUT API function to import hierarchical profile data into Interact runtime sessions. This allows you to pull data from various sources, including web services. (ENH11610)

Interaction strategy tab enhancements

The Interaction Strategy tab has been redesigned to add features and to enhance ease-of-use. Improvements include:

- **New view options.** It is now much easier to manage large numbers of rules, offers, zones, segments, and so on, through the use of list filtering and multiple selections of segments and zones.
- **Apply options to many treatment rules at the same time.** You can now select multiple segments or zones in the list to assign the same set of advanced options, learning model customization, and parameterized offer attributes to all selected treatment rules at the same time.
- **Enable, disable, delete many treatment rules at the same time.** The same selection features allow enabling, disabling, and deleting multiple treatment rules in a single step.
- **Drag-and-drop interface.** The drag-and-drop interface has been enhanced, and now allows adding zones in addition to segments and offers to the rules. You can also select and drag more than one item onto the list of rules at the same time.
- New views: you can now view treatment rules by segment or by zone, as well as added information and filtering.
- Added the ability to copy an interaction strategy to another campaign through the use of the Copy Interaction Strategy icon.
- Removed the automatic save feature to prevent unwanted changes. You must now explicitly save your changes to the strategy tab, or cancel to discard unwanted modifications.

(ENH11611)

Enhanced parameterized offers

You can use offer parameterization to personalize a generic offer to individuals using attributes that are specific to the individual and session. You can now configure parameterized offers on the Strategy tab, as part of a treatment rule after an offer is mapped to a segment and zone. Parameterized offer values will be specific to the treatment rule.

Note that using the new strategy tab features, you can select multiple treatment rules and modify common parameters at the same time.

You will also be able to set the parameterized values using the Global Offers, Whitelist, and OffersBySQL tables.

(ENH11612)

Reporting enhancements

The following report enhancements have been provided with this release, if you are using the optional Interact Reports Pack:

- **Zone Performance Report by Offer.** This report, available by selecting **Analytics > Campaign Analytics**, clicking **Itnteract Reports**, and then clicking **Zone Performance**, lets you see how offers are performing by zone.
- **Cell Performance Report filter.** The Interact Cell Performance report has been enhanced so that you can run it for only the items you select, to help you improve the response rate of your interactive strategies. This enhancement allows you to filter the data on a specific cell code, more focused than the original report.

(ENH11254, ENH11253)

Secure RMI protocol

Interact currently provides two methods to retrieve JMX statistics: RMI and JMXMP (configurable through the Marketing Platform configuration. Previously, only JMXMP enabled secure access (requiring a Marketing Platform user name and password to retrieve JMX statistics). With this release, that level of security is now supported for RMI as well.

You can configure secure RMI in the Marketing Platform configuration settings on the Interact | monitoring page, by setting `protocol` to `RMI`, and `enableSecurity` to `TRUE`.

(ENH11488)

New features and changes in version 8.5.0

Interact List process box added to batch flowcharts in Campaign

A new process box has been added to Campaign batch flowcharts to allow users to easily define the tables containing candidate offers to be served by the Interact Runtime server. The new process box, called Interact List, operates in a similar manner to a Call List or Mail List process box. Use the Interact List process box on a batch flowchart to determine the offers that will be served to customers by the runtime server, including the following choices:

*   Offer suppression at an individual level (a "black list")
*   Offer assignment at an individual level (a "white list," or score override)
*   Offer assignment at an audience level (global or default offers)
*   Offer assignment by custom SQL query

The runtime server has access to the output from this process when you deploy the interactive campaign. Note that a batch flowchart may contain multiple instances of the Interact List process box. (ENH10375)

Enhanced Learning (ENH10650,ENH10651,ENH10652,ENH10654)

The Interact Learning feature has been enhanced in the following ways:

*   In addition to the Global learning model already existing in Interact, you can now enable learning and customize learning attributes at the Interactive Channel, Zone, and Rule Group level. Each of those levels can have its own set of custom learning models. This feature is also referred to as "self-learning." The global settings for learning are inherited in the following order: Global, Interactive Channel, Zone, Rule Group, with each subsequent level having the option of adding to or overriding the inherited settings.
*   Learning Observation Mode.

    Previously, Interact could not collect learning statistics unless learning was specifically enabled. Beginning in this release, Learning Observation Mode allows Interact to collect learning statistics based on a pre-defined learning model (including the Global model) even when you are not using Interact Learning to arbitrate offers.
*   Self-learning Learning Reports. (ENH10653)

    A new report has been added to support the new self-learning models described above. Marketers can now run the Learning Model Report Analysis report in the Interact Design Time environment to compare performance of two learning models over a specified period of time.

Web Connector (ENH09370)

The Web Connector enables web pages to make calls to Interact for real-time offer personalization without having to implement low-level Java or SOAP calls to the Interact server. The Web Connector manages offer arbitration, presentation, and contact/response history through two key processes: Page Load, which serves the web page with personalized offers, and Offer Click Through, which captures offer click-through and re-directs it to the specified landing page.

On your web page at load time, embedded JavaScript code links to the Web Connector, which then uses the Interact API to return a personalized offer list, which is then added to your web page in the form of HTML and other markup fragments as needed. When a user clicks a link, it's passed to the Web Connector which uses Interact to determine the correct target URL to which the user is then redirected.

Message Connector (ENH10655,ENH10656,ENH10657)

The Interact Message Connector enables email (and other electronic media) to make calls to Interact for offer personalization at open-time and click-through, determining the offer arbitration and contact/response history through the <img> tags (to retrieve personalized offers for email at open) and <href> tags, which capture click-through to redirect the user to landing pages.

Offer Constraints (ENH10646,ENH10647)

The Offer Constraints feature allows organizations to limit and manage distribution of offer impressions, limiting the number of times an offer or a collection of offers can be presented over defined periods of time. For example, you might want to suppress an offer after a predefined quota of impressions (such as a certain number of impressions in one day) has been met, or to evenly distribute offer impressions over a period of time.

Offer de-duplication (ENH10649)

The offer de-duplication policy enhances the efficiency with which Interact removes duplicate offers from requests for multiple interaction points. To accomplish this, a new call has been added to the Interact API called getOffersForMultipleInteractionPoints, which retrieves a list of offers that spans a list of specified interaction points. The API call also specifies whether the Interact server should apply de-duplication to the returned list.

Performance enhancements across Interact

Numerous performance enhancements have been implemented across all of IBM Interact, involving some of the following areas:
- Contact history session caching and other file-based cache writing (ENH10959, DEF059773, DEF059774)
- Duplicate response history entries in ETL queries are handled more efficiently (DEF055886)
- Improved memory handling for Learning (DEF059772)
- Learning aggregation in general is handled more efficiently (DEF057236)
- OfferBySQL performance has been enhanced (DEF055126)

New features and changes in version 8.2.0

Offer marketplace enhancements

The following enhancements have been made in Interact 8.2.0 to support working with large numbers of offers:

- Ability to use SQL queries to get a desired set of candidate offers. OffersBySQL allows users to configure SQL to query a table or tables, to which offer lists or offers have been written, at run time.
- New command line tool for deploying candidate offers. A Campaign batch flowchart can be configured to run on a periodic basis. When the flowchart run completes, a trigger can be called to initialize deployment of the offers in the OffersBySQL table.

How to use the OffersBySQL feature

Basic steps for using the OffersBySQL feature are as follows:

1. Organize offers in folders or in offer lists.
2. Using Campaign batch features, or any external ETL process, populate the `UACI_ICBatchOffers` table with the final list of candidate offers.
3. Deploy the interact channel using a trigger.
4. On the run time side:

   Configure SQL to be called by creating an SQL template under configuration: `Interact/profile/audienceLevels/<AudienceLevel>/offers By Raw SQL`.

   - SQL may contain references to variable names that are part of the visitor's session data (profile). For example, `"select * from MyOffers where category = ${preferredCategory}"` will rely on the session containing a variable named `preferredCategory`.
   - SQL should be configured to query the offer tables generated in Step 2 above.

The execution of the SQL will happen for every `startSession` call if the offersBySQL feature is enabled.

To have the execution occur for every `getOffers` call, a `postEvent` may be called prior to `getOffers` with the parameter `UACIQueryOffersBySQL` set to 1. The `getOffers` call (and all subsequent `getOffers`) will execute the SQL.

To execute a different SQL, set the value of the parameter `UACIOffersBySQLTemplate` to the name of the preferred SQL template.

About the command line tool

The command line tool (`runDeployment.sh/.bat`) can be found under the Interact Design Time install directory `tools/deployment`. The usage of the script is simply: `runDeployment <propertiesFile>` for each interactive channel/server group deployment combination.

A sample properties file called `deployment.properties` outlines all the possible parameters and is available in the `tools/deployment` folder.

New configuration parameters

The following new configuration parameters are introduced in Interact 8.2 to support the OffersBySQL feature.

Table 1. New Design Time configuration parameters

Path name	Description	Default
`Interact/whitelist/<audienceLevel>/` `offersBySql/defaultCellCode`	The default cell code to be used for any offer in the `OffersBySQL` table(s) that has a null value in the cell code column (or if the cell code column is missing altogether. This value must be a valid cell code.	None

Table 2. New Run Time configuration parameters

Path name	Description	Default
`profile/audienceLevels/<AudienceLevel>/` `offers By Raw SQL/enableOffersByRawSQL`	Boolean flag to enable the offersBySQL feature for this audience level.	FALSE
`profile/audienceLevels/<AudienceLevel>/` `offers By Raw SQL/cacheSize`	Size of cache; used to store results of the OfferBySQL queries. NOTE: Using cache may have negative impact if query results are unique for most sessions.	-1 (off)
`profile/audienceLevels/<AudienceLevel>/` `offers By Raw SQL/cacheLifeInMinutes`	The number of minutes before the system will clear the cache to avoid staleness.	-1 (off)
`profile/audienceLevels/<AudienceLevel>/` `offers By Raw SQL/defaultSQLTemplate`	The name of the SQL template to use if not specified via the API	None
`profile/audienceLevels/<AudienceLevel>/` `offers By Raw SQL/<SQLTemplate>/name`	The name of the SQL template.	None

New distance macro

The new Distance macro, available in both IBM Campaign and IBM Interact, supports calculating the distance between two geographical points, when two pairs of latitude and longitude coordinates are provided. For complete details, refer to the *IBM Macros for IBM EMM User's Guide*.

Ability to set JDBC fetchSize when retrieving records from staging tables

A new configuration parameter, `fetchSize` has been added to allow setting the JDBC fetchSize when retrieving records from staging tables.

The path to the parameter in Configuration Manager in Marketing Platform is `Affinium | Campaign | partitions | partition1 | Interact | contactAndResponseHistTracking | fetchSize`

The 8.2 installation automatically adds this parameter to your configuration.

On Oracle databases especially, adjust the setting to the number of records that the JDBC should retrieve with each network round trip. For large batches of 100K or more, try 10000. Care must be taken not to go too large as that will have an impact on memory usage and the gains will become negligible, if not detrimental.

Interact contact and response history ETL script enhancements

The following enhancements have been made in Interact 8.2.0:

1. Ability to specify a larger batch size for ETL using the new configuration property `maxJDBCFetchBatchSize`.

   The CH/RH records will be read from the Interact Runtime data source in chunks of the size specified in the `maxJDBCFetchChunkSize` property, and written to the Campaign data source.

   For example, to process 2.5 million contact history records a day, you should set `maxJDBCFetchBatchSize` to a number greater than 2.5M so that all records for one day will be processed. `maxJDBCFetchChunkSize` and `maxJDBCInsertBatchSize` should be set to smaller values, say 50,000 and 10,000 respectively. Some records from the next day will be processed as well, but retained until the next day.

2. Ability to schedule an ETL run

   An option is now available to run the ETL once a day, with the ability to specify a preferred time window for the run. The ETL will start during the specified tiem interval and will process at most the number of records specified using `maxJDBCFetchBatchSize`.

3. Option to retain process contact and response history records

   An option is now available to retain processed contact and response history records.

4. ETL completion notification

   You can now specify an absolute path to a script that will be run when ETL completes. Four arguments are passed to the completion notification script: start time, end time, total number of CH records processed, and total number of RH records processed. The start time and end time are numeric values representing number of milliseconds elapsed since 1970.

Note: If ETL takes more than 24 hours to execute, and thus misses the start time for the next day, it will skip that day and run at the scheduled time the following day. For example, if ETL is configured to run between 1AM to 3AM, and the process starts at 1AM on Monday and completes at 2AM on Tuesday, the next run, originally scheduled for 1AM on Tuesday, will be skipped, and the next ETL will start at 1AM on Wednesday.

Note: ETL scheduling does not account for Daylight Savings Time changes. For example, if ETL scheduled to run between 1AM and 3AM, it could run at 12AM or 2AM when the DST change occurs.

Start/Effective dates of offers now taken into consideration in Interact

Two new configuration parameters have been added to allow managing start/effective date behavior with offers. Both are located in the following path in Configuration Manager in Marketing Platform:

```
Affinium > Interact > offerServing
```

Table 3. Summary of start/effective date changes

Parameter name	Description
`effectiveDateBehavior`	This parameter is a global configuration that impacts all offers. By default, it is set to 0 (use effective date). Possible values are: • `-1` -- Ignore effective date (equivalent to behavior prior to this enhancement) • `0` -- Use effective date (default) • `>0` -- Grace period (number of days added to currect date. If the effective date is greater than the calculated date (current date plus grace period), the offer will be filtered out)
`effectiveDateGracePeriodOfferAttr`	This parameter allows each offer created from a template to have a different grace period value. It maps to a custom offer attribute for setting the number of days before the effective date that an offer can be served. The value is the name of the custom attribute created in the offer template, and the default is blank or no value. If `effectiveDateGracePeriodOfferAttr` is set, Interact looks for the named attribute in each offer. If an offer contains the named attribute, Interact reads the value and determines the grace period. If an offer does not contain the named attribute or if effectiveDateGracePeriodOfferAttr is not set, Interact uses the `effectiveDateBehavior` setting. To configure `effectiveDateGracePeriodOfferAttr`, 1. Create a custom offer attribute in Campaign. 2. Set the value of `effectiveDateGracePeriodOfferAttr` to the name of the new custom offer attribute. 3. Assign the custom offer attribute to each offer template for which you want to specify a grace period. 4. In offers created from the offer template, set this attribute to the number of days to be added to the current date to allow as a grace period.

Chapter 7. About the IBM Interact Reports Package

The Interact Reports Package delivers reporting schemas that you can use to track campaign, offer, and cell performance based on the interactive channel and other Interact-specific metrics.

The reports package contains the following features:
* Schemas and schema templates that are registered with Marketing Platform during installation. They describe the attributes and metrics that represent the product's reporting schema and include:
  – Five base schemas that are the basis of the reporting schema (with no custom attributes)
  – One schema template that you can use to create new schemas
* IBM Cognos® customizable model and reports to be deployed on an IBM Cognos BI Server
* Reference documentation that describes the IBM Cognos model and reports

  Reference documentation for report packages is no longer available on the documentation server where the PDF versions of the product documentation are posted. You can access the reference documentation for report packages after you install the reporting schemas on the machine where the Marketing Platform is installed. The reference documentation is in a subdirectory of the Cognos10 directory under the report package installation.

The Interact reports retrieve data from three data sources:
* Interact system tables (design environment)
* Interact learning database
* Interact runtime database

Reporting schemas

Following are the schemas:
* Interact Views provides the standard attribute views of Interact design environment system tables (campaign, offer, cell, TreatmentRuleInv, and so on).
* Interact Performance is used for measuring performance starting at the campaign or interactive channel level across a combination of other dimensions: offers, cells, segments, interaction points, and over time (hours/last 24-hours or days/last seven days). The metrics are divided into contact and response metrics.
* Deployment History is used by reports that provide information about interactive channel deployments.
* Interact Runtime Views is used by reports that retrieve eligibility statistics, defaulted statistics, and event activity from the runtime system tables.
  – Eligibility statistics are summarized by the following dimensions: interactive channel, interaction point, offers, cells, and time.

    Defaulted statistics are summarized by the following dimensions: interactive channel, interaction point, and segment.

    Event activity is summarized by hour and day.
* Interact Learning View is used by reports that retrieve data from the Interact learning database.

Template

The package contains a template for the Interact Performance schema so that you can create additional performance reporting schemas for additional audience levels.

Reports

Following are the reports available from the Campaign Analysis section and Campaign Analysis tab:
- Channel Deployment History
- Channel Learning Model Performance Over Time
- Event pattern
- Interactive Cell Lift Analysis
- Interactive Cell Performance by Offer
- Interactive Cell Performance Over Time
- Interactive Offer Learning Details
- Interactive Offer Learning Details
- Interactive Offer Performance Over Time
- Interactive Offer Performance by Cell

Following are the reports available from the Interactive Channel Analysis tab:
- Channel Deployment History
- Channel Event Activity Summary
- Channel Interaction Point Performance Summary
- Interactive Segment Lift Analysis
- Channel Learning Model Performance Over Time
- Zone Performance Report by Offer

Following are the available dashboard reports:
- Interaction Point Performance

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- Detailed error messages that you see when the issue occurs.
- Detailed steps to reproduce the issue.
- Related log files, session files, configuration files, and data files.
- Information about your product and system environment, which you can obtain as described in "System information."

System information

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Contact information for IBM technical support

For ways to contact IBM technical support, see the IBM Product Technical Support website: (http://www.ibm.com/support/entry/portal/open_service_request).

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