

Version 10 Release 0
February 2017

IBM Interact Release Notes



Note

Before using this information and the product it supports, read the information in "Notices" on page 33.

This edition applies to version 10, release 0, modification 0 of IBM Interact and to all subsequent releases and modifications until otherwise indicated in new editions.

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Chapter 1. System requirements and compatibility

IBM® Interact operates as part of the IBM Marketing Software suite of products.

You can upgrade to Interact 10.0 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 10.0 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 Marketing Software 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 10.0

IBM Interact 10.0 includes the following new features.

New gateways supported for triggered messages

You can use the new triggered message gateways to send and receive offer information from inbound and outbound channels.

The following gateways are now supported.

- UBX inbound gateway
- UBX outbound gateway
- Silverpop Transact Email outbound gateway
- Marketing Cloud Mobile Push outbound gateway

Run simulations to test API scenarios

You can run basic and advanced simulations in design time to easily test the events, event patterns, and strategies you defined for your interactive channel to make sure you receive the results you are expecting in runtime.

Basic scenarios simulate startSession and getOffer APIs. For basic scenarios, you can define a name, description, audience level, audience ID, zone, and number of offers for your scenario.

Interact | monitoring | activitySubscribers node added to configuration properties

This set of configuration properties enables the root node for the settings that are related to remote subscribers that can receive periodic update on basic performance data in the Interact runtime environment.

Search for interactive channels

You can now search your interactive channel listing to quickly find the interactive channel you want to work with.

Installation changes for the Event Pattern ETL

The Event Pattern ETL is now installed by default when the Interact runtime component is selected during installation.

Context-sensitive help for Configuration properties

When you view configuration properties under **Settings > Configuration**, you can choose **Help > Help for this page** to display context-sensitive help. For example, if you request help for the **Campaign | caching** page, you see a help topic that specifically describes all of the caching options. You must have an internet connection to use this feature.

Enhanced user interface for Marketing Platform, Campaign, Interact, and Contact Optimization

This release updates the user interface so that it is easy to use, offers a clean, modern design, and delivers improved inline text and error messages. The new look does not change how the product works, and you can get updated documentation from the **Help** menu.

EMM files and directories renamed to IMS

Files and folders that included "EMM" have been changed to IMS. For example, the default top-level directory is now C:\IBM\IMS and the names of the installers are IBM_Marketing_Software_Installer_10.0.0.0_linux.bin, IBM_Marketing_Software_Installer_10.0.0.0.sh, and IBM_Marketing_Software_Installer_10.0.0.0_win.exe.

Chapter 3. Fixed defects

The following table lists defects that are fixed in Interact 10.0.

Issue ID	Description
RTC175253	There is a conflict on serializing and deserializing <code>java.util.concurrent.ConcurrentHashMap</code> in eXtreme Scale while running on Oracle JDK 1.7. As a result, WXS is unable to return <code>InteractSession</code> objects.
RTC211473	The default value for a parametrized attribute of a offer is set to NULL. There is a column in the profile table with the same name as the attribute, which is NULL for all customers.
RTC211996	In the audience tables there was one column <code>NA_NUMBER</code> as text type. All the data in this audience column was actually numbers starting with zero such as 011250814. There was offer attribute with same name <code>NA_NUMBER</code> which was also text. When score override was enabled and served offer explicitly using score override. In output of <code>getoffers</code> , value of offer attribute <code>NA_NUMBER</code> was changed to the audience value from profile table, which was expected, but its data type comes as numeric instead of TEXT.
RTC213215	Orphan records were getting created in <code>ua_offerhistory</code> and <code>ua_offerhistattrib</code> . The outcome of this defect was redundant orphan records in <code>UA_OfferHistory</code> and <code>UA_OfferHistAttrib</code> tables, but no data was lost.
RTC213718	Interact <code>SampleOutboundGateway</code> class did not provide basic error handling for missing configuration parameter 'outputFileName'.
RTC210435	Strange numbers were displayed in the Zone Performance by Offer Report.
RTC204175	Fixed the non-ascii characters issue on Interact API test client. <code>zh_CN</code> characters can now be correctly displayed on Interact API test client.
RTC205730	In a scenario where Interact is integrated with Opportunity Detect, and interactive channel with advance pattern deployment will show correct status. The deployment status will be in sync with that of Opportunity Detect.
RTC208501	A new JVM parameter has been introduced <code>-Dcom.ibm.interact.logTimeInfoPerSession=true</code> . This will allows Interact to log an INFO entry in <code>interact.log</code> for each session with the following format <code>Session <session ID> with audience <audience ID> started at <StartTime> and finished at <Finish Time></code>
RTC212780	When Campaign is installed, the <code>ac_populate_tables_<db>.sql</code> script is run. This creates entries in the <code>UA_Calendar</code> table used by Interact and Campaign. In older versions of Campaign, this table was created by the script with entries supporting dates through Dec 31, 2015. In newer versions Campaign, this table was created by the script with entries supporting dates through Dec 31, 2025. Customers should check their tables and make sure to extend them through a desired time frame.

Chapter 4. Known issues

The following table lists issues in Interact 10.0.

Issue	Issue ID	Description
Internal error null is displayed on strategy when the rule wizard creates about 250 rules	RTC171779	<p>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.</p> <p>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.</p>
Reload of an Interactive Channel fails when it contains patterns	RTC176923	<p>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.</p> <pre>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</pre> <p>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.</p> <p>To avoid these issues, do not reload an Interactive Channel that contains patterns.</p> <p>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.</p>
You cannot export a PDF with a new mapped table in the snapshot process box for any locale but English.	RTC11682	<p>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.</p>

Issue	Issue ID	Description
You can delete event patterns even if it is in use.	RTC167789	<p>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.</p> <p>If you try to deploy an interactive channel with a deleted event pattern, the following error is displayed.</p> <p>Error occurred while validating processbox Decision1: Unrecognized symbol(s) [eventpattern.score_weightage]'</p>
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.
Cannot delete a campaign even after deleting the interaction strategy.	DEF062936	<p>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.</p> <p>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.</p>
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	<p>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.</p> <p>To work around this issue, use an attribute value other than [auto]. This issue may be addressed in a future release.</p>
Event patterns can be deleted even when they are mapped to a flowchart and included in a deployed interactive channel.	RTC167789	You can delete an event pattern even if the event pattern is mapped to a flowchart or the interactive channel is deployed. If you deploy the interactive channel after you delete the event pattern, you will receive the error: Error occurred while validating processbox Decision1: Unrecognized symbol(s) [eventpattern.score_weightage].
For upgrades from version 9.1. or earlier, you must reconfigure your session timeoutinsec.	RTC207011	If you upgrade from version 9.1 or earlier, you must configure the timeoutinsec property for your session. It configuration property was previously found under Interact sessionManagement . It is now found under Interact cacheManagement caches InteractCache .

Issue	Issue ID	Description
<p>The in score override (white list) type functionality score of an offer does not consider the profile table parameter value that is passed in the startSession() call.</p>	<p>RTC220008</p>	<p>If you create a derived field named DF_Score in the Interact list process box and assign an expression that includes a profile column such as Salary/1000 where Salary is a profile table column. Then if you map the DF_Score to the table field Score in the personalization options dialog of the Interact list process box (Offer by SQL/Whitelist or Global Offer) and run the flowchart. The correct score values is populated in the resulting list table. However, when you pass the parameter Salary,90000,numeric in startSession () and call the getOffers () API, the score returned is the score stored in the list table not 90. The offer score returned is based on the offline data in this particular scenario.</p> <p>The desired result can be achieved with the predicate expression and using EnableStateID=3.</p>
<p>Interact reports do not format properly when using Excel 2002.</p>	<p>RTC183144</p>	<p>In IBM Cognos, when you export reports to Excel 2002 the reports are not formatted correctly. Instead, use Excel 2007 when you export reports.</p>
<p>NULL constants in offer attribute number types are not checked.</p>	<p>RTC93925</p>	<p>NULL constants are not supported for the number type of an offer attribute. NULL constant is supported for string and date types of offer attributes.</p>
<p>The JMX monitoring port in Interact should be limited to specific secure IP addresses via firewall configurations, or disabled entirely if not in use for Interact diagnostics and monitoring.</p>	<p>RTC218460</p>	<p>This configuration is highly recommended for security due to a JMX vulnerability recently found in the third party Apache Commons Library. The JMX Remoting functionality in Apache Geronimo 3.x before 3.0.1, as used in IBM WebSphere Application Server (WAS) Community Edition 3.0.0.3 and other products, does not properly implement the RMI classloader, which allows remote attackers to execute arbitrary code by using the JMX connector to send a crafted serialized object. See http://www-01.ibm.com/support/docview.wss?uid=swg21643282 for more information. Additional information is available in the Interact server ports and network security section in the Interact Administrator's Guide.</p>
<p>When users try to add a large expression in the Interact Strategy Offer attributes and try to deploy to Interact, an error is thrown in the logsORA-12899: value too large for column. "CAMP911"."UACL_RULEOFFERATTR_OVERRIDE"."EXPRESSION"</p>	<p>RTC204413</p>	<p>System administrators must manually increase the size of the EXPRESSION field in UACL_RULEOFFERATTR_OVERRIDE and restart the server to correct this error.</p>

Chapter 5. Known limitations

The following table lists known limitations in Interact 10.0.

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. <code>java.lang.NullPointerException</code>
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. <ol style="list-style-type: none"> 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 <i>IBM Interact User's Guide</i> 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	<p>Modifying the settings may affect constraint results in several ways:</p> <ul style="list-style-type: none"> • 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. <p>For more information about how the constraint parameters affect the outcome, see the <i>IBM Interact User's Guide</i>.</p>

Issue	Number	Description
When issuing the <code>getoffersForMultipleInteractionPoints</code> call in the Interact API, the top-level attribute requirements can accept at most one attribute.	DEF057693	<p>For example, if you set up offers in an Interactive Channel and execute a <code>getoffersForMultipleInteractionPoints()</code> API call using the Offer Attribute with OfferType values "Bank Account" and "Insurance".</p> <p>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 <code>getoffersForMultipleInteractionPoints()</code> API call would produce <i>incorrect</i> results:</p> <pre>{DIP1,3,1,(2,Offertype=Bank account string) (1,Offertype=Insurance string)}</pre> <p>This call would return only 2 offers with an offer type of "Bank Account."</p> <p>The following call would correctly return the wanted output:</p> <pre>{DIP1,3,1,(3,,(2,Offertype=Bank account string) (1,Offertype=Insurance string))}</pre>
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 <code>installer.properties</code> and <code>installer_uep.properties</code> 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.
In Interact you cannot change the Campaign field name for the audience ID to a different value from the source field name.	RTC219848	In a batch flowchart, if a Select Process Box is used with an Interact list process box that creates a new table to export offer lists using white list (score override), the Campaign field name for the audience ID cannot be changed to a different value from the source field name. Interact uses the source field name in order to query the export table where the offer list would be, and if an alias is used for the audience ID in the Campaign field name, then Interact uses a query parameter that does not exist in the offer list. If this is not followed, a SQL error occurs during <code>getOffers</code> specifying that the source field name is an invalid identifier.

Issue	Number	Description
WSDL not available via URL	RTC222516	Including InteractService.wsdl in WEB-INF/services/InteractService.aar/META-INF makes the SOAP service stop working, so the change is reverted. This makes http://<host_name>:<port>/interact/services/InteractService?wsdl unable to show the WSDL file. Instead customers must go to the \$INTERACT_HOME/conf directory to get the WSDL file.
An additional script is required to populate the dates greater than December 2015 in the UA_Calendar table.	224814	Once the successful execution of aciUpgradeTool_runtab.bat/sh you must run the following scripts on the runtime database to populate dates greater than December 2015 in the UA_Calendar table. Interact_Home/ddl/aci_populate_runtab_db2.sql Interact_Home/ddl/aci_populate_runtab_ora.sql Interact_Home/ddl/aci_populate_runtab_sqlsvr.sql In the script, look for the comment, --populate UA_Calendar with data from year 2010 to year 2025.

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 9.1.2

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.

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.

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 Marketing Software 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)

WSDL Changes

Over the course of several releases of Interact, the WSDL (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 **Interact 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 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)

Table 2. New Run Time configuration parameters (continued)

Path name	Description	Default
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 Marketing Software 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 time 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	<p>This parameter is a global configuration that impacts all offers. By default, it is set to 0 (use effective date).</p> <p>Possible values are:</p> <ul style="list-style-type: none">• -1 -- Ignore effective date (equivalent to behavior prior to this enhancement)• 0 -- Use effective date (default)• >0 -- Grace period (number of days added to current date. If the effective date is greater than the calculated date (current date plus grace period), the offer will be filtered out)

Table 3. Summary of start/effective date changes (continued)

Parameter name	Description
effectiveDateGracePeriodOfferAttr	<p>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.</p> <p>The value is the name of the custom attribute created in the offer template, and the default is blank or no value.</p> <p>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.</p> <p>If an offer does not contain the named attribute or if effectiveDateGracePeriodOfferAttr is not set, Interact uses the effectiveDateBehavior setting.</p> <p>To configure effectiveDateGracePeriodOfferAttr,</p> <ol style="list-style-type: none"> 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.

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