

Version 9 Release 1.2
September 23, 2015

*IBM Marketing Operations and
Campaign Integration Guide*

IBM

Note

Before using this information and the product it supports, read the information in "Notices" on page 59.

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

© **Copyright IBM Corporation 2002, 2015.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

| | |
|---|-----------|
| Chapter 1. Introduction to the integration | 1 |
| Integration with IBM Campaign | 1 |
| Overview of the data transfer between IBM Marketing Operations and IBM Campaign | 2 |
| Differences between integrated and stand-alone IBM Campaign | 3 |
| Differences between integrated and stand-alone IBM Marketing Operations | 4 |
| License and permission issues for IBM Marketing Operations and IBM Campaign integration | 4 |
| Disable and re-enable integration | 5 |
| Integrating Marketing Operations and Campaign | 6 |
| Configuring property settings for integrated deployment. | 6 |
| Marketing Operations documentation and help. | 7 |
| | |
| Chapter 2. Campaign project template design | 11 |
| Design your campaign project templates, forms, and attributes | 11 |
| Target Cell Spreadsheet and other forms. | 11 |
| Designing offer templates. | 14 |
| Designing attributes | 15 |
| Creating and enabling a shared attribute | 18 |
| Creating a Target Cell Spreadsheet. | 19 |
| Share IBM Campaign contact and response data with Marketing Operations | 20 |
| Mapping IBM Campaign contact and response counts to Marketing Operations metrics | 20 |
| Metrics data mapping file | 21 |
| Adding data mapping files | 21 |
| Editing data mapping files | 22 |
| Data Mapping Definitions | 22 |
| Campaign project templates | 23 |
| Creating campaign project templates | 23 |
| Project template Campaign tab for communicating with Campaign. | 23 |
| Copying information automatically from Marketing Operations to Campaign | 24 |
| Marketing Operations and Campaign Integration reports package | 25 |
| Installation prerequisites for the Integration Report Package | 25 |
| Step 1: Run the installer on the IBM Cognos system | 26 |
| Step 2: Import the reports folder in Cognos Connection | 26 |
| Step 3: Enable internal links in the reports | 27 |
| Step 4: Verify the data source names and publish | 27 |
| Step 5: Configure the IBM Cognos application's firewall. | 28 |
| Step 6: Create the IBM Cognos data sources for the application databases. | 28 |

| | |
|---|-----------|
| Chapter 3. Creating a campaign in an integrated environment | 31 |
| Campaign projects in an integrated system | 31 |
| Project codes and campaign codes | 32 |
| Creating projects. | 32 |
| Starting projects | 33 |
| Campaign Summary section. | 34 |
| Creating requests | 34 |
| Changing the status of multiple projects or requests | 35 |
| Special characters in IBM Campaign object names | 36 |
| Creating a linked campaign | 36 |
| Updating a linked campaign. | 37 |
| The Target Cell Spreadsheet | 38 |
| Grid edit mode | 38 |
| Adding grid rows | 39 |
| Editing grid rows | 40 |
| Deleting grid rows | 40 |
| Publishing the TCS. | 41 |
| Accessing a campaign in IBM Campaign | 41 |
| Updating cell status data in the TCS | 42 |
| Flowchart management | 43 |
| Creating flowcharts. | 43 |
| Test runs for flowcharts | 44 |
| TCS approval. | 45 |
| Approving an individual TCS row. | 45 |
| Approving all rows of the TCS | 46 |
| Denying approval to all TCS rows. | 46 |
| Running flowcharts. | 46 |
| Running a flowchart | 46 |
| Importing metrics from a campaign | 47 |
| Integration reports | 48 |
| | |
| Chapter 4. Offers and offer templates in an integrated system | 49 |
| Offer workflow features | 49 |
| Offer templates and integration with IBM Digital Recommendations (optional) | 50 |
| Enabling offer integration in Marketing Operations | 50 |
| Importing offers from Campaign | 51 |
| Creating offers in an integrated system | 52 |
| Managing offer templates and attributes when offer integration is enabled | 53 |
| Managing offers when offer integration is enabled | 54 |
| Assigning offers and offer lists to cells when offer integration is enabled | 56 |
| | |
| Before you contact IBM technical support | 57 |
| | |
| Notices | 59 |
| Trademarks | 61 |
| Privacy Policy and Terms of Use Considerations | 61 |

Chapter 1. Introduction to the integration

IBM® Marketing Operations and Campaign to use the marketing resource management features of Marketing Operations to create, plan, and approve campaigns.

After integration, you manage campaigns, projects, offers, and Target Cell Spreadsheets in Marketing Operations, for use within Campaign. You create and run the flowcharts within Campaign. Integration eliminates the need to enter cell information in both products.

Integration with IBM Campaign

Campaign can be integrated with Marketing Operations to use its marketing resource management features to create, plan, and approve campaigns.

When Campaign is integrated with Marketing Operations, many of the tasks that were previously done in a stand-alone Campaign environment are done in Marketing Operations. You do the following Campaign tasks in Marketing Operations when the products are integrated.

- Working with campaigns:
 - Creating campaigns
 - Viewing campaigns
 - Deleting campaigns
 - Working with campaign summary details
- Working with Target Cell Spreadsheets
- Assigning offers to cells
- Specifying control cells
- Creating and populating custom campaign attributes
- Creating and populating custom cell attributes

The following tasks are done in Campaign in both stand-alone and integrated environments:

- Creating flowcharts
- Running flowcharts
- Detailed analysis of campaigns/offers/cells
- Reporting on Campaign performance (depending on the reporting pack installed)

If offer integration is also enabled, you do the following tasks in Marketing Operations:

- Designing offers
 - Defining offer attributes
 - Creating offer templates
- Creating, approving, publishing, editing, and retiring offers
- Organizing offers into offer lists and offer folders

For information about enabling offer integration, see the chapter on "Managing offers and offer templates in an integrated system". For more information about offers, see the Campaign guides for administrators and users.

Overview of the data transfer between IBM Marketing Operations and IBM Campaign

The three main areas of data transfer are campaign data, cell data (in the TCS), and offer data. The transfer of data between the products is primarily one way, from Marketing Operations to Campaign.

When integration is enabled, the name and code of the campaign project in Marketing Operations are the same as the name and code as the campaign in Campaign. The campaign project in Marketing Operations is automatically linked to the corresponding campaign in Campaign.

Integration eliminates the need for duplicate data entry. Marketing Operations provides a single view of all data and a single location to enter and edit data. You can view and edit shared data only in Marketing Operations. You use Marketing Operations to control when data that is required for campaign execution is published.

The ongoing transfer of data must be initiated from Marketing Operations through publishing. Campaign responds to requests for data (for example, retrieval of cell status information or campaign metrics) and receives data from Marketing Operations (for example, campaign attributes or TCS data). However, Campaign cannot send data to Marketing Operations if the data was not requested.

Campaign data transfer

In Marketing Operations, you can define any number of custom campaign attributes and place them on a campaign project template, along with standard campaign attributes. You enter data for these attributes in Marketing Operations and manually publish the data to Campaign. In Campaign, these campaign attributes are available as generated fields within the flowchart and for reporting and analytics. The Marketing Operations user controls when a campaign is created in Campaign and when campaign attribute data is published to Campaign. Campaign always uses the last set of published campaign attributes.

Cell data transfer

The second major area of ongoing data transfer is the Target Cell Spreadsheet. The TCS manages cell-level information for target and control cells, including cell names, cell codes, assigned offers, control cell linkages, and custom cell attributes. The transfer of cell definitions from Marketing Operations to Campaign and the transfer of cell status back to Marketing Operations can be iterative. Companies often require several cycles before cell definitions and counts are finalized, rows of the TCS are individually approved, and the campaign is ready to be run.

Offer data transfer

For systems that enable offer integration, the third major area of ongoing data transfer is offer data. Offers are created in Marketing Operations. When a new offer is created in Marketing Operations, the offer state is Draft. Changing the state

of an offer to Published pushes the offer instance to Campaign. The first publish creates the offer in Campaign; subsequent publishing updates the offer instance in Campaign.

Similarly, changing the state of an offer template to Published pushes both the offer template and any offer attributes that you defined in Marketing Operations to Campaign.

When you initially enable offer integration, you can import any pre-existing offer metadata and data into Marketing Operations from Campaign. See “Importing offers from Campaign” on page 51.

Differences between integrated and stand-alone IBM Campaign

When Campaign is integrated with Marketing Operations, the Campaign installation differs from a stand-alone installation.

- The only way to create or access campaigns (other than campaigns created before you enabled integration) is through the corresponding Marketing Operations project. The All Campaigns page in Campaign displays only campaigns that were created before integration was enabled.
- The Target Cell Spreadsheet (TCS) and custom cell attributes are created, viewed, and managed solely in Marketing Operations. Custom cell attributes are defined in a "campaign project" template. As a result, each type of campaign can have different custom cell attributes, or present custom attributes in a different order. By contrast, in stand-alone Campaign, all campaigns have the same cell attributes in the same order.
- The TCS can be top-down or bottom-up. Bottom-up cells are allowed for integrated Marketing Operations-Campaign systems when the **MO_UC_BottomUpTargetCells** setting is Yes (**Settings > Configuration > IBM EMM > Campaign > partitions > partition[n] > server > internal**).
- If the **Bottom-up TCS** setting is Yes, flowcharts can be run in production mode in Campaign even if they are not linked to top-down cells in the TCS.
- The Summary tab for campaigns does not exist in Campaign. To see summary information for a campaign, view the Campaign Summary section of the Summary tab in the campaign project in Marketing Operations. The offer and segment information displays in a new Segments/Offer tab in Campaign. Because you manage campaign project templates in Marketing Operations, each campaign template can have a different set of campaign custom attributes. These custom attributes can be organized on one or more tabs within the project. You also can take advantage of the more robust attribute features in Marketing Operations. These features include options for layout, identifying attributes as required versus optional, making lists conditional in the user interface, and dynamic data values from database tables. In stand-alone Campaign, all campaigns have the same custom campaign attributes in the same order.
- When offer integration is enabled by setting **IBM Marketing Operations - Offer integration** to Yes (**Settings > Configuration > IBM EMM > Platform**), you cannot create or work with offer templates or offers in Campaign. Instead, you use Marketing Operations to create offer templates and to create, modify, approve, publish, or retire offers. Offer templates and approved offers can then be published to Campaign for use.

Note: Offer integration is a separate option from campaign integration. When campaign integration is enabled, offer integration can also be enabled. For more information, see “Enabling offer integration in Marketing Operations” on page 50.

Differences between integrated and stand-alone IBM Marketing Operations

If campaign integration is enabled, you manage campaign projects in Marketing Operations and take advantage of tightly coupled Campaign features. If offer integration is also enabled, you can manage offer lifecycles in Marketing Operations and publish offers to Campaign.

Campaign project management

If campaign integration is enabled, users create projects in Marketing Operations from campaign project templates.

In a stand-alone Marketing Operations installation, campaign project templates are not available for creating new projects. In a stand-alone installation, you can create project templates to use for administering marketing campaigns. However, these objects do not link to a corresponding campaign or Target Cell Spreadsheet in Campaign. There is no integration with offers, and no metrics are passed for campaign contacts and responders.

With an integrated installation, campaign projects have icons and links that initiate data transfers with Campaign and that navigate to and from the corresponding campaign in Campaign.

Offer lifecycle management

If campaign integration is enabled, then you can also enable offer integration. If offer integration is enabled (**Settings > Configuration > EMM > Platform**), you use Marketing Operations exclusively for offer lifecycle management. You use Marketing Operations to create offer templates and to create, modify, approve, publish, or retire offers. Approved offers can be published to Campaign for use.

License and permission issues for IBM Marketing Operations and IBM Campaign integration

When Marketing Operations and Campaign are integrated, every person who is involved in the design, creation, and execution of the campaign needs a Marketing Operations license.

The team members who work exclusively in Campaign such as flowchart developer, need a Marketing Operations license so they can receive workflow notifications and access campaigns. In an integrated environment, the only way to access a campaign is through Marketing Operations.

Some actions in a Marketing Operations campaign project require a Campaign permission. You can create a role in Campaign that grants these permissions and assigns the role to users who work in Marketing Operations. The following table lists the actions and the required permissions:

Table 1. Permissions required for campaign actions.

The following two-columned table describes action in one column, and required Campaign permissions in the second column.

| Action | Required Campaign permission |
|-------------------------------------|------------------------------|
| Create linked campaign | Create Campaign |
| Update linked campaign | Edit campaign |
| Publish TCS | Manage campaign target cells |
| Get cell run status | Manage campaign target cells |
| Search for and assign offers in TCS | View offer summary |
| Import metrics | Analyze campaign |

Disable and re-enable integration

Although it is possible to disable integration after you enable it, it is best to avoid this action if possible.

Disabling Marketing Operations-Campaign integration

If you disable Marketing Operations and Campaign integration, Campaign reverts to its stand-alone behavior and appearance. However, there are several important issues to keep in mind:

- To access flowcharts that are associated with integrated campaigns after you disable the integration, you must publish all campaigns in Marketing Operations before you turn off the integration. The campaigns are then available in the top-level folder in Campaign.
- If you disable the integration, there is no navigation link between campaign projects and campaigns. Users can still access their campaign projects, but the icons for creating and updating campaigns are disabled. The options for publishing TCS data and getting cell status are not available. Campaign project templates are not included in the list of templates that users see.
- If you want to re-enable integration, contact IBM technical support to discuss the implications. Any changes that are made to campaigns while integration is disabled are overwritten the first time you update the campaign or publish the TCS from within Marketing Operations after you re-enable the integration.

Disabling offer integration

Try to avoid disabling offer integration, as this action can lead to inconsistent data. For example, an offer is created in Marketing Operations and published to Campaign. After offer integration is turned off, that offer is modified in Campaign. If offer integration is turned on again, the change that is made in Campaign is not synchronized with Marketing Operations. Marketing Operations does not have the updated offer information, even if offer data is reimported from Campaign. The transfer of data between the products is primarily one way, from Marketing Operations to Campaign.

Related tasks:

“Configuring property settings for integrated deployment” on page 6

Integrating Marketing Operations and Campaign

The workflow for integrating IBM Marketing Operations and Campaign consists of the following steps.

About this task

Complete the following steps to integrate Marketing Operations and Campaign.

Procedure

1. Install both Marketing Operations and Campaign. For details, see the *IBM Marketing Operations Installation Guide* and the *IBM Campaign Installation Guide*.
2. Adjust the configuration settings to support an integrated deployment. See “Configuring property settings for integrated deployment.”
3. Design the attributes, forms, and campaign project templates that you need.
If offer integration is enabled on your system, you also design offer templates by using offer attributes. See Chapter 4, “Offers and offer templates in an integrated system,” on page 49.
4. Create the shared attributes.
5. Create the forms and local attributes, including the form that contains the Target Cell Spreadsheet.
6. Create a metrics map file that associates Campaign contact and response counts with Marketing Operations metrics.
7. Create the campaign project and offer templates.

Configuring property settings for integrated deployment

When Marketing Operations and Campaign are integrated, you use Marketing Operations to plan, create, and approve campaigns.

About this task

For systems that enable offer integration, features for offer lifecycle management are added to Marketing Operations. See “Enabling offer integration in Marketing Operations” on page 50.

To integrate Marketing Operations and Campaign, set the following properties.

Procedure

1. On the **Settings > Configuration** page, under **EMM**, click **Platform**.
2. Click **Edit Settings** and set **IBM Marketing Operations - Campaign integration** to **True**. This setting enables integration so that you can use Marketing Operations to create, plan, and approve campaigns.
3. If your Campaign installation has multiple partitions, set the properties for each partition where you want to enable integration. Expand **EMM > Campaign > partitions > partition[n] > server** and click **internal**.
4. Click **Edit Settings** and set **MO_UC_integration** to **Yes**. This setting enables Marketing Operations-Campaign integration for this partition.

Note: To set either of the next two options to **Yes**, you must first set **MO_UC_integration** to **Yes**. The following options apply only when **MO_UC_integration** is enabled.

5. Optional: Set **MO_UC_BottomUpTargetCells** to **Yes**.

When **MO_UC_integration** is enabled, TCS cells that are created from Marketing Operations are always top-down. To allow for bottom-up Target Cell Spreadsheet cells for this partition, set this property to **Yes**. When set to **Yes**, both top-down and bottom-up target cells are visible, and a **Get Bottom Up Cells** control is available in the Marketing Operations Target Cell Spreadsheet. This control gets bottom-up cells that are created in Campaign into Marketing Operations. The bottom-up cells are read-only in Marketing Operations, and cannot be published back to Campaign from Marketing Operations.

6. Optional: Set **Legacy_campaigns** to **Yes**.

This setting enables access to campaigns created before integration, including campaigns that were created in Affinium Campaign 7.x and linked to Affinium Plan 7.x projects.

7. Repeat steps 4-6 for other partitions as needed.

8. Expand **EMM > Marketing Operations > umoConfiguration** and click **campaignIntegration**.

9. Click **Edit Settings** and set the **defaultCampaignPartition**.

When Marketing Operations and Campaign are integrated, this parameter specifies the default Campaign partition to use when the campaign-partition-id is not defined by the project template. The default is **partition1**.

10. Set the **webServiceTimeoutInMilliseconds** for Web Services integration API calls.

This parameter is used as a timeout for web services API calls.

Results

Continue with the steps for “Enabling offer integration in Marketing Operations” on page 50.

Related concepts:

“Disable and re-enable integration” on page 5

Marketing Operations documentation and help

Different people in your organization use IBM Marketing Operations to accomplish different tasks. Information about Marketing Operations is available in a set of guides, each of which is intended for use by team members with specific objectives and skill sets.

The following table describes the information available in each guide.

Table 2. Guides in the Marketing Operations documentation set.

The following three-column table describes tasks in one column, guide names in the second column, and audience in the third column.

| If you | See | Audience |
|--|---|---|
| <ul style="list-style-type: none"> • Plan and manage projects • Establish workflow tasks, milestones, and personnel • Track project expenses • Get reviews and approvals for content • Produce reports | <i>IBM Marketing Operations User's Guide</i> | <ul style="list-style-type: none"> • Project managers • Creative designers • Direct mail marketing managers |
| <ul style="list-style-type: none"> • Design templates, forms, attributes, and metrics • Customize the user interface • Define user access levels and security • Implement optional features • Configure and tune Marketing Operations | <i>IBM Marketing Operations Administrator's Guide</i> | <ul style="list-style-type: none"> • Project managers • IT administrators • Implementation consultants |
| <ul style="list-style-type: none"> • Create marketing campaigns • Plan offers • Implement integration between Marketing Operations and Campaign • Implement integration between Marketing Operations and IBM Digital Recommendations | <i>IBM Marketing Operations and IBM Integration Guide</i> | <ul style="list-style-type: none"> • Project managers • Marketing execution specialists • Direct marketing managers |
| <ul style="list-style-type: none"> • Learn about new system features • Research known issues and workarounds | <i>IBM Marketing Operations Release Notes</i> | Everyone who uses Marketing Operations |
| <ul style="list-style-type: none"> • Install Marketing Operations • Configure Marketing Operations • Upgrade to a new version of Marketing Operations | <i>IBM Marketing Operations Installation Guide</i> | <ul style="list-style-type: none"> • Software implementation consultants • IT administrators • Database administrators |
| Create custom procedures to integrate Marketing Operations with other applications | <i>IBM Marketing Operations Integration Module</i> and the API JavaDocs available when you click Help > Product Documentation in Marketing Operations, and then download the IBM<version>PublicAPI.zip file | <ul style="list-style-type: none"> • IT administrators • Database administrators • Implementation consultants |
| Learn about the structure of the Marketing Operations database | <i>IBM Marketing Operations System Schema</i> | Database administrators |

Table 2. Guides in the Marketing Operations documentation set (continued).

The following three-column table describes tasks in one column, guide names in the second column, and audience in the third column.

| If you | See | Audience |
|--------------------------------------|--|--|
| Need more information while you work | <ul style="list-style-type: none"> • Get help and search or browse the <i>Marketing Operations User's, Administrator's, or Marketing Operations Installation</i> guides: Click Help > Help for this page • Access all of the Marketing Operations guides: Click Help > Product Documentation • Access guides for all IBM Enterprise Marketing Management (EMM) products: Click Help > All IBM EMM Suite Documentation | Everyone who uses Marketing Operations |

Chapter 2. Campaign project template design

You can create as many campaign project templates as you want. For example, you might want to create a separate campaign project template for each type of campaign that you run.

You create a separate template for each unique combination of forms you need. For example, if you need to gather different information to define your target cells for some campaigns, you create different Target Cell Spreadsheets (TCS). Then, associate each TCS with a different template. Similarly, if some custom campaign attributes are relevant only for certain types of campaigns, you can create different campaign project templates. You can create separate templates to control custom campaign attributes, the attribute display order, and their organization on tabs.

Design your campaign project templates, forms, and attributes

Before you begin creating objects in Marketing Operations, you plan and design your campaign project templates and the forms and attributes they require.

The result of the design process is a list of attributes and forms to create and details about them, such as:

- Whether an attribute is suited for use on multiple forms (shared) or on a single form (local)
- Whether users select from data that is supplied by a table, a list of items you define, or enter text directly for an attribute
- What constraints are needed on the user interface field, and whether an offer attribute must be parameterized (editable) when added to a form, or set to static or hidden static

Campaign attributes and cell attributes must be shared attributes. Form and grid attributes can be either shared or local.

Target Cell Spreadsheet and other forms

By default, projects have the following tabs: Summary, People, Workflow, Tracking, Attachments, and Analysis. If the Financial Management module is installed, projects also have a Budget tab.

In a campaign project, the Summary tab includes a set of fields for basic campaign information. You cannot remove or reorder these basic campaign attributes.

If you want to enable users to enter more information about the project, you must create forms and add the forms to the project template. Each form displays on the Summary tab or on another tab in projects that are created from that template.

All campaign project templates must have a TCS form. Other forms are optional.

Campaign Summary section

All campaign projects contain a **Campaign Summary** section on the **Summary** tab.

The **Campaign Summary** section contains the following default campaign attributes:

Table 3. Default campaign attributes on the Campaign Summary section.

The following two-columned table contains attributes in one column and field description in the second column.

| Attribute | Field Description |
|--------------------------|--|
| Campaign description | Text field |
| Campaign start date | Date field |
| Campaign end date | Date field |
| Campaign objective | Text field |
| Campaign initiative | Text field |
| Campaign security policy | Drop-down list with all the security policies defined for Campaign |

The default campaign attributes do not display in the list of campaign attributes on the Shared Attributes page in the Administrative Settings and cannot be edited.

Target cell spreadsheets

A Target Cell Spreadsheet (TCS) is an editable grid component that has a set of predefined attributes. You use Target Cell Spreadsheets when IBM Marketing Operations-Campaign integration is enabled.

The TCS specifies the data that users must enter in a campaign project to define the target and control cells for the campaign. Each column on the TCS corresponds to an attribute. Values for the predefined, or default, attributes are automatically passed to Campaign. In addition to these default attributes, you can add an unlimited number of custom attributes to a TCS.

Cell attributes and grid attributes

A TCS can contain attributes that get passed to IBM Campaign (cell attributes) and attributes that display only in IBM Marketing Operations (grid attributes).

Use cell attributes for information you want to pass to Campaign. For example, attribute values you want to include in an output list, contact history, or report must be created as cell attributes.

Use grid attributes for descriptions, calculations, and data that is not needed in Campaign.

Target Cell Spreadsheets and forms

You add a TCS to a form by creating a new editable grid and identifying it as a TCS. (The form can contain other attributes in addition to the TCS.) When you place a TCS grid component on a form, it contains the default cell attributes. You cannot delete the default attributes.

Transfer of cell attribute data

When a user links a flowchart cell to the TCS row, the data values supplied for the default attributes are passed to Campaign automatically. Custom cell attributes are available automatically in Campaign as IBM Campaign Generated fields in contact processes. For details on Generated fields, see the *IBM Campaign User's Guide*.

Target Cell Spreadsheets and templates

Each campaign project template can contain only one TCS.

Default cell attributes for Target Cell Spreadsheets

All TCS grids include the predefined cell attributes by default. These attributes are available specifically for use in a TCS grid, and not displayed on the Shared Attributes page.

Descriptions of how these attributes display to users in a campaign project follow.

Table 4. Default cell attributes.

The following three-columned table describes cell names in one column, publish requirements in the second column, and their description in the third column.

| Name | Required to publish the TCS? | Description |
|-----------------|------------------------------|---|
| Cell Name | Yes | Text field. |
| Cell Code | No | Text field. |
| Description | No | Text field. |
| Is Control Cell | Yes | Drop-down list with Yes and No options. |
| Control Cell | No | Drop-down list of control cells. |
| Assigned Offers | No | A selection control that you can use to select one or more offers or offer lists. |
| Is Approved | No | Drop-down list with Yes and No options. This column is included only if Approval required is checked in the campaign project template. |
| Flowchart | No | Read-only field that displays the name of the flowchart in which the cell is used. |
| Last Run | No | Read-only field that displays the date and time that the flowchart that contains this cell was last run. |
| Actual Count | No | Read-only field that shows the last run count for this cell (count of unique audience IDs in the cell). |
| Run Type | No | Read-only field that shows the run type for the last run for the flowchart that contains this cell (production or test; flowchart, branch, or process box). |

After you add a TCS grid, you can edit the Attribute Display Name, Description, and some of the other properties for the individual cell attributes. You cannot edit the predefined values for these properties:

- Attribute Category
- Attribute Type
- Attribute Internal Name
- Attribute Display Name
- Attribute Database Column Name
- Can group by
- Form Element Type
- Special behavior

Designing offer templates

If offer integration is enabled, you can create offer templates in Marketing Operations to guide users in creating offers. To work with offer templates, you design the templates first and then create the custom offer attributes and forms that are used to build them.

About this task

Note: For more information about administering and by using offers, see the Campaign guides for administrators and users.

Procedure

1. When you are ready to create an offer template, select **Settings > Marketing Operations Settings > Template Configuration > Templates**.
2. Complete the options in the Offer Templates section.
3. You can import from Campaign any pre-existing offer templates, attributes, offers, offer lists, and offer folders.

Including IBM Digital Recommendations categories

In IBM Marketing Operations, administrators can configure offer templates to populate category data that uses IBM Digital Recommendations.

Before you begin

The server that hosts Marketing Operations must have internet connectivity that is enabled. When users create offers from these templates, they choose a client ID and category IDs and names from lists instead of entering them manually.

To implement this feature in an offer template:

Procedure

1. Select the **Use Offer Integration** check box.
2. Supply the **URL** for Digital Recommendations.

Note: After users create offer instances from this template, do not change the supplied URL.

3. Specify **Client IDs**: you can enter values then **Add** them, or you can **Import** values from a previously defined list. See "Defining the client list."

Results

When users create an offer from a template that is configured in this way, they select a client ID from the list of values you supplied. The list of category names and IDs for the selected client is then populated directly from Digital Recommendations.

Defining the client list

The Marketing Operations user interface presents several list box controls that administrators can configure with customized options.

About this task

Note: For more information about defined lists, see the chapter on "Defining list options" in the *IBM Marketing Operations Administrator's Guide*.

To define a list of the client IDs and names in use by an IBM Digital Recommendations implementation, complete the following step.

Procedure

Select **Settings > List Definitions > Coremetrics Clients**.

Designing attributes

Each item of information that users can enter for a project has a corresponding attribute on a tab in the template.

About this task

To include information in campaign, cell, or offer performance reports, make sure that information is collected by a corresponding attribute. The information is passed to Campaign by a campaign, cell, or offer attribute.

Campaign project templates can include the following attribute categories:

Procedure

- For information that is used only in Marketing Operations on a form outside of a grid, use form attributes.
- For information is used only in Marketing Operations on a form within a grid (including TCS grids), use grid attributes.
- For information that is shared with Campaign and that appears on a form outside of a grid, use campaign attributes.
- For information that is shared with Campaign and that appears on a form within the TCS grid, use cell attributes.
- For systems that also integrate offers, use offer attributes to collect offer information to share with Campaign. Offer attributes are synchronized with Campaign when an offer that uses the attributes is published to Campaign.
- To view or define shared attributes, choose **Settings > Marketing Operations Settings > Template Configuration > Shared Attributes**. You create all campaign, cell, and offer attributes as shared attributes. You can create form and grid attributes as local if they are relevant to a single form only, or shared if you plan to use them on multiple forms.

Note: Standard, default attributes cannot be edited, and are not listed on the Shared Attributes page. For example, default cell attributes appear in all Target Cell Spreadsheets, but are not listed on the Shared Attributes page.

Campaign attributes

When IBM Marketing Operations and Campaign are integrated, you create custom campaign attributes in Marketing Operations. All campaign attributes are shared, and you use Marketing Operations to add them to the forms that make up your campaign project templates.

When users create the linked campaign for a campaign project from a template that includes custom campaign attributes, the corresponding attributes are created in Campaign. If users change the data they enter in a field that is created by a campaign attribute after they create the linked campaign, they must update the campaign to send the new information to Campaign. You use campaign attribute descriptions and form descriptions to inform users which fields require them to update the campaign.

Cell attributes

Cell attributes are IBM Marketing Operations attributes that map to IBM Campaign for use in Target Cell Spreadsheets. Marketing Operations includes a set of default cell attributes that are included in every TCS.

You can also create custom cell attributes in Marketing Operations. When users create the linked campaign for a campaign project from a template that includes custom cell attributes, the corresponding cell attributes are created automatically in Campaign.

Offer attributes

When offer integration is enabled, a set of standard offer attributes is supplied in Marketing Operations to correspond to the standard attributes in Campaign. You can also create custom offer attributes in Marketing Operations.

All offer attributes are shared attributes.

To work with offer attributes, select **Settings > Marketing Operations Settings > Template Configuration > Shared Attributes**.

Standard offer attributes:

The following table lists the offer attributes that are available in Marketing Operations systems that enable offer integration.

Table 5. Standard offer attributes

| Attribute Display Name | Attribute Internal Name* | Attribute Type |
|------------------------|--------------------------|--------------------|
| Avg. Response Revenue | AverageResponseRevenue | Money |
| Channel | Channel | Single-Select |
| Channel Type | ChannelType | Single-Select |
| Cost Per Offer | CostPerOffer | Money |
| Creative URL | CreativeURL | Creative URL |
| Effective Date | EffectiveDate | Date Select |
| Expiration Date | ExpirationDate | Date Select |
| Expiration Duration | ExpirationDuration | Float |
| Fulfillment Cost | FulfillmentCost | Money |
| Interaction Point ID | UACInteractionPointID | Float |
| Interaction Point | UACInteractionPointName | Text - Single-Line |
| Offer Fixed Cost | OfferFixedCost | Money |

*In Marketing Operations systems that enable offer integration, attribute internal names are stored as all lowercase text.

Offer attribute behavior options:

When administrators import an offer attribute into a form, they select its behavior and supply a default value.

The behavior options for an offer attribute are:

- Parameterized, which means that the attribute is a required field in the user interface. Users can accept the default or supply a different value.

- **Static**, which means that the attribute is an optional field in the user interface. Users can accept the default, supply a different value, or leave the field null.
- **Hidden static**, which means that the attribute and value do not display to users. Hidden static attributes and their values can be included in reports.

These behavior choices correspond to the ways you can use offers in Campaign. For more information about these choices, see the *IBM Campaign Administrator's Guide*.

To define the behavior for an offer attribute in a form (when you import attributes into the form you select **Static**, **Hidden**, or **Parameterized Attributes**), click the name of the attribute and click **>>**.

Creative URL offer attribute:

A "Creative URL" is a link to a digital asset, such as a product logo, brand image, marketing research document, or document template. When an offer template includes the system-supplied Creative URL offer attribute, users select a digital asset from the Marketing Operations asset libraries to include in each offer.

The Creative URL offer attribute is a system-supplied, shared attribute with the following characteristics.

- When administrators work with form definitions in Marketing Operations, they can import the shared Creative URL attribute as parameterized, static, or hidden. If Creative URL is parameterized, an asset value is required in the form definition and corresponding offer instances.
- The Creative URL attribute has its own attribute type. In the user interface, the Creative URL attribute type presents a field and associated **Select** button. Users click **Select** to choose an existing asset or to add an asset. The asset name displays in the associated field.
- When administrators export or import a form or an offer template, both the source and target systems must be running the same version of Marketing Operations. The export and import files use an internal field name of **digitalasset** for the Creative URL attribute.
- When administrators set up customized alerts, the Creative URL attribute can be included as a variable. The message text displays the asset name.
- Users can include columns for the Creative URL attribute on the **Operations > Offers** list page.
- On the **Operations > Offers** list page, users can use the Creative URL attribute to search for offers. The search uses the asset name.
- When users create a smart offer list, they can include the Creative URL attribute in its conditions. The condition uses the asset name to return results.

Campaign, cell, and offer attributes

Only attribute types that exist in both IBM Marketing Operations and IBM Campaign are available for campaign and cell attributes.

For systems that also integrate offers, the same constraint applies to offer attributes with the following exception: when published to Campaign, the attribute type for the Creative URL offer attribute changes to Text Field - String.

Table 6. Attribute types for campaign, cell, and offer attributes in Marketing Operations

| Attribute type | Campaign attributes | Cell attributes | Offer attributes |
|--------------------------------|---------------------|-----------------|------------------|
| Text - Single-Line | X | X | X |
| Text - Multi-Line | X | X | X |
| Single-Select | X | | X |
| Single-Select - Database | X | | X |
| Multiple-Select - Database | | | |
| Yes or No | X | X | |
| Date Select | X | X | X |
| Integer | X | X | |
| Decimal | X | X | X |
| Money | X | X | X |
| User-Select | | | |
| External Data source | | | |
| Calculated | X | X | X |
| URL Field | | | |
| Single Select Object Reference | | | |
| Multi-Select Object Reference | | | |
| Image | | | |
| Creative URL | | | X |

Note: For attributes that have the Single-Select - Database attribute type, IBM Marketing Operations passes the lookup value (not the display value) of the selection to IBM Campaign. You determine the lookup value and the display value when you create the lookup table.

There is no attribute type in Marketing Operations that corresponds to the "Modifiable drop-down list" that is available for custom attributes in stand-alone IBM Campaign.

Creating and enabling a shared attribute

You can create and enable a shared attribute by using Marketing Operations shared attributes function.

Procedure

1. Select **Settings > Marketing Operations Settings**.
2. Click **Template Configuration**.
3. Click **Shared Attributes**.

The page that displays contains one section for each shared attribute category.

4. Click **Create a <category> Attribute** for the attribute you want to create.
The Create a New Shared Attribute dialog opens.
5. Supply values to define the attribute.
6. Click **Save and Exit** to create the attribute and return to the Shared Attributes page, or click **Save and Create Another** to create the attribute and enter values for another new attribute.

You can select a different attribute category.

7. On the Shared Attributes page, click **Enable** in the row for each new attribute to make it available for use on a form.

Creating a Target Cell Spreadsheet

You can create a Target Cell Spreadsheet by following these steps.

Before you begin

Before you create a TCS, you must create any custom cell attributes that you want to include. Cell attributes map to IBM Campaign and can be created only as shared attributes.

Procedure

1. Select **Settings > Marketing Operations Settings**.
2. Under Other Options, click **Template Configuration**.
3. Under Template Components, click **Forms**.
4. On the Form Definitions page, click **Create New Form**. The Form Editor interface displays.
5. Complete the Form Properties tab and click **Save Changes**. The Add an Element tab displays.
6. Click **Create New Grid**. The Create New Grid dialog opens.
7. From the **Grid Type** drop-down list, select **Editable Grid View**.
8. Select the **Is TCS** check box.
9. Complete the remaining options and click **Save and Exit**.
On the **Add an Element** tab, click to expand the list of **Form Attributes**. Your TCS grid component displays.
10. To add a TCS grid to a form, you must place it within a group. If the form does not already contain a group for the grid, click and drag **Attribute Group Header** onto the form design area then name it appropriately.
11. From the list of **Form Elements**, click and drag your TCS grid component and drop it onto the group.
The default cell attributes display on the grid. See “Default cell attributes for Target Cell Spreadsheets” on page 13.
12. Add any attributes that you want to include in the TCS. You can do either of the following steps.
 - Import custom cell attributes and add them to the TCS to create more columns. these columns are passed to IBM Campaign.
 - Create or import grid attributes and add them to the TCS to create more columns. These columns display only in IBM Marketing Operations.
13. Click **Save and Exit** to save the TCS and return to the Form Definitions list page.

Related concepts:

“The Target Cell Spreadsheet” on page 38

Share IBM Campaign contact and response data with Marketing Operations

To enable users to import contact and response counts into Marketing Operations, you must map the contact count and the response types to Marketing Operations metrics.

Note: Campaign passes data to Marketing Operations for one audience level only, the audience level that is mapped to the UA_ContactHistory, UA_ResponseHistory, and UA_DtlContactHist system tables. The audience level can be any audience level, with any number of audience key fields of any data type or name. For details on audience levels, see the Campaign documentation.

The response types are stored in the UA_UsrResponseType system table in the Campaign database. To map a metric to a response type, you must know the name of the response type.

The mappings are stored in an XML file.

Mapping IBM Campaign contact and response counts to Marketing Operations metrics

If you want users to be able to import contact and response counts into Marketing Operations, you must map contact count and the response types to Marketing Operations metrics.

About this task

Note: Campaign passes data to Marketing Operations for one audience level only, the audience level that is mapped to the UA_ContactHistory, UA_ResponseHistory, and UA_DtlContactHist system tables. The audience level can be any audience level, with any number of audience key fields of any data type or name. For details on audience levels, see the Campaign documentation.

The response types are stored in the UA_UsrResponseType system table in the Campaign database. To map a metric to a response type, you must know the name of the response type.

The mappings are stored in an XML file.

Procedure

1. In Campaign, modify the list of response types in the UA_UsrResponseType table if necessary to include the response types you want to track.
2. Edit the Marketing Operations metrics file being used by your system to include metrics that correspond to contact count and the response types.
3. Create a map file that associates the Marketing Operations metrics with contact count and the response types.
4. Add the map file to Marketing Operations.
5. Create a campaign template and select the map file from the **Metric Data Mapping** drop-down list.

Results

The contact and response data is mapped to metrics for all projects that are created from that template.

Metrics data mapping file

You define the metrics to map your data.

The metrics data mapping file must use the container elements `<metric-data-mapping>` and `</metric-data-mapping>`.

The next line in the mapping file must be as follows:

```
<datasource type="webservice">
  <service-url>CampaignServices</service-url>
</datasource>
```

The actual mappings must be contained by the elements `<metric-data-map>` and `</metric-data-map>`.

metric

Use the `<metric>` element to define the metric in a mapping. The `<metric>` element has no value but must contain the child element `<data-map-column>`. The `<metric>` element has the following attributes:

| Attribute | Description |
|--------------|--|
| id | The internal name of the metric |
| dimension-id | The number of the column into which the value from Campaign should be placed. Columns are numbered from left to right. The first column is column 0. |

data-map-column

Use the `<data-map-column>` element to define the data source (either contact count or a response type) in a mapping. The `<data-map-column>` element must be contained by the `<metric>` element that defines the metric to which contact count or this response type is mapped. The `<data-map-column>` element has no value but has the following attributes:

| Attribute | Description |
|-----------|---|
| id | The data source to be mapped to the metric. For contact count, use <code>contactcount</code> . For a response type, use <code>responsecount_<ResponseTypeName></code> . |
| type | This value should always be number. |

Adding data mapping files

Use a text or XML editor to create or edit a data mapping file. After you have a data mapping file, you add it to Marketing Operations.

About this task

Procedure

1. Select **Settings > Marketing Operations Settings**.
2. Click **Template Configuration > Data Mapping**.
3. Click **Add Data Mapping**.
The Upload Data Mapping dialog box opens.
4. Enter a name for the data mapping file.
5. Browse to the XML file that defines the data mapping.
6. Click **Continue**.

Editing data mapping files

If you want to update a data mapping file, you must first edit the XML file, and then reload it back into Marketing Operations.

Procedure

1. Open the data mapping XML file in a text editor and make your changes.
2. Select **Settings > Marketing Operations Settings**.
3. Click **Template Configuration > Data Mapping**.
4. Click the file name that you are updating.
The Update Data Mapping dialog opens.
5. Select **File**, and browse to the XML file.
6. Click **Continue**.
You are prompted to overwrite the existing file.
7. Click **Save** to overwrite the existing file with the newer version.

Data Mapping Definitions

The Data Mapping Definitions page maps data between campaign projects in Marketing Operations and campaigns in Campaign, . Use the **Data Mapping** link on the Template Configuration page to configure data mapping.

The Data Mapping Definitions page contains the following columns:

| Column | Description |
|---------|--|
| Name | The name of the data mapping file. |
| Type | Campaign Metrics Import: Maps Marketing Operations project metrics to Campaign contact and response counts. If you have map files from previous versions, you might see other values in the Type column. |
| Used By | A list of templates that use the data map. |

Note: You cannot create a map file within Marketing Operations. Use a text or XML editor to create and edit the necessary map files.

Campaign project templates

If IBM Marketing Operations is integrated with IBM Campaign, campaign project templates guide users in creating a campaign project. Campaign projects integrate the planning and project management features of Marketing Operations with the campaign development features of Campaign.

You indicate that a template is a campaign project template when you create the project template. In integrated systems, all new project templates include a Campaign tab on which you complete the options on the Campaign tab for the template. Then, you must specify a Target Cell Spreadsheet. If you want to import Campaign contact and response metrics, you must specify a metric map file.

Creating campaign project templates

In integrated IBM Marketing Operations and IBM Campaign, you use campaign projects to access Campaign information within Marketing Operations.

Before you begin

Before you can create a campaign project template, you must create the TCS form. If you want to include custom campaign attributes or a metric map file in the template, create them before you create the template.

Procedure

1. Select **Settings > Marketing Operations Settings**.
2. Under Other Options, click **Template Configuration > Templates**.
3. In the Project Templates section, click **Add Template**.
4. Complete the Properties tab and click **Save Changes**.
5. Click the **Campaign** tab and select the **Campaign Project Template** check box.
6. Complete the remaining fields on the Campaign tab and click **Save Changes**.
If you want to require TCS approval, select the **Approval Required** check box. See “TCS approval” on page 45.
7. Complete the remaining tabs, saving each one. For more information about these tabs and template creation, read about building or editing a template in the *IBM Marketing Operations Administrator’s Guide*.
The template displays in the list of project templates on the Templates page.
8. Click **Enabled** in the row for the template to make it available to users when they create projects.

Project template Campaign tab for communicating with Campaign

Use this tab to configure communication from IBM Marketing Operations to IBM Campaign if integration is enabled.

Note: After a user creates a project from a template, you cannot change a non-campaign template to a campaign template or vice versa: The **Campaign Project template** option on this tab is disabled.

After a campaign template is used to create a project, the only option on this tab that can be changed is the **Metric Data Mapping** setting. To change any of the other options, you must first delete all of the projects that were created from this template.

The Campaign tab contains the following settings.

Table 7. Fields on the Campaign tab for project templates

| Field | Description |
|--|---|
| Campaign Project template | Select this check box to mark this template as a campaign project template and display the other Campaign Integration fields. |
| TCS Form | Select the form that contains the Target Cell Spreadsheet to use for projects that are created from this template. The drop-down list contains all published forms that contain a TCS. |
| Metric Data Mapping | XML file that contains the data map for sending metrics from an IBM Campaign campaign to an IBM Marketing Operations project for reporting purposes. |
| TCS Form Display Name | The name to display for the selected form on the TCS tab. |
| Partition ID | <p>Identifies the partition of the IBM Campaign instance in which to create the campaigns that correspond to the campaign projects created from this template.</p> <p>The default value is partition1, which is correct if Campaign is installed to a single partition. If Campaign is installed on multiple partitions, you can specify the partition to use for creating campaigns.</p> <p>You can specify any Marketing Operations partition. Make sure that you specify a partition to which you have access and for which integration is enabled.</p> <p>For more information about setting up Campaign partitions, the <i>IBM Campaign Installation Guide</i>.</p> |
| Show TCS tab in request | Select the check box to display the TCS when the template is used to request a project. If the check box is clear, the TCS displays only in campaign projects and not in requests. |
| Approval Required | <p>Select the check box to require approval for all the target cells that are created in the template. If cleared, the TCS grid does not show the approval column or approve all and deny all.</p> <p>Note: As part of the upgrade to version 8.2, Approval Required is cleared for all upgraded campaign templates.</p> <p>For more information, see “TCS approval” on page 45.</p> |
| Copy project attributes to campaign attributes | Select the check box to automatically copy project information to campaign when users click Finish to create campaign projects. If this check box is not selected, users can click the Copy project attributes to campaign attributes link to copy the data when they create a campaign project instance. By default, the check box is not selected. |

Copying information automatically from Marketing Operations to Campaign

You can configure campaign project templates that automatically copy project information from projects to campaigns. You can automatically copy the description, Start date, and End date so you do not need to enter this information twice.

About this task

When you create a campaign project template, select the **Copy project attributes to campaign attributes** option to automatically copy project attributes to campaign.

If the **Copy project attributes to campaign attributes** option is not selected, you can still copy the information with one click in the object instance. When you create instances from templates without selecting the option, the **Copy project attributes to campaign attributes** link copies project attributes to campaign.

Procedure

1. Create an instance of the campaign project.
2. Complete the project information: the description, Start and End Dates, and the Security policy.
3. If not already selected, click **Copy project attributes to campaign attributes**.
4. Click **Finish** or **Next**.

Results

The campaign attributes are automatically filled with the corresponding project attribute values.

Marketing Operations and Campaign Integration reports package

The Marketing Operations and Campaign Integration Reports Package contains several IBM Cognos® reports that query and display information from both the Campaign system tables and the Marketing Operations system tables.

This report package depends on the Campaign report package because the Campaign segments of the integrated reports rely on the reporting schemas from the Campaign Report Package.

Installation prerequisites for the Integration Report Package

Before you can install the IBM Marketing Operations and IBM Campaign Integration Report Package, the following configuration steps must be completed.

- Reporting must be set up for IBM Campaign and IBM Marketing Platform. See the IBM Reports Installation and Configuration Guide.
- Reporting must be set up for IBM Marketing Operations. See "Installing reports" in the IBM Marketing Operations Installation Guide.
- The integration of Marketing Operations and Campaign must be complete.

Additionally, for the sample reports from the Integration Report Package to work correctly, the following conditions must be met.

- The Campaign system must have the standard custom Campaign attributes loaded.
- The Marketing Operations system must have the sample templates loaded: most importantly, the sample Campaign Project template. Additionally, the Campaign Project template must use the corresponding sample Campaign Project metric file.
- The Financial Management module must be enabled on the Marketing Operations system.

When these prerequisites are met, continue with the installation procedure.

Step 1: Run the installer on the IBM Cognos system

You can run the IBM installer on your existing IBM Cognos system.

Procedure

1. On the IBM Cognos system that runs the Cognos Content Manager, download the Marketing Operations and Campaign Integration Report Package installer. Download them to the same directory to which you previously downloaded the other report package installers.
2. Run the IBM installer. (The installer starts the subinstaller for the report package.)
3. In the first **Products** window, ensure that the report package option is selected.
4. In the **Marketing Platform Database Connection** window, verify that the information about how to connect to the Marketing Platform system tables is correct.
5. When the report package installer takes over and displays its installation options, select the **IBM Cognos package for IBM [product]** option. This installation option copies the reports archive and reporting model to the Cognos system. You import this archive manually later.

Step 2: Import the reports folder in Cognos Connection

The IBM application reports are in the compressed (.zip) file that the report package installer copied to the Cognos system. Use the guidelines in this procedure to import the archive file for reports into Cognos Connection.

About this task

Procedure

1. Go to the IBM\ReportsPackCampaignMarketingOperations\Cognos<version-number> directory.
2. Copy the reports archive compressed file (IBM Reports for Marketing Operations and Campaign.zip) to the directory where your Cognos deployment archives are saved. In a distributed IBM Cognos environment, this location is on the Content Manager system.
The default location is the deployment directory under your IBM Cognos installation, and it is specified in the Cognos Configuration tool that is installed with the Cognos Content Manager. For example: cognos\deployment.
3. Locate the IBM\ReportsPackCampaignMarketingOperations\Cognos<version-number>\CampaignMarketingOperationsModel subdirectory.
4. Copy the entire subdirectory to any place on the system that is running Cognos Framework Manager that Framework Manager has access to.
5. Open Cognos Connection.
6. From the **Welcome** page, click **Administer Cognos Content**.
If your **Welcome** page is turned off, turn it back on in the Cognos Connection user preferences.
7. Click the **Configuration** tab.
8. Select **Content Administration**.
9. Click the **New Import** button on the toolbar .
10. Follow these guidelines as you step through the **New Import Wizard**:
 - a. Select the reports archive that you copied in the previous procedure.

- b. In the Public folders content list, select **all** the options, including the package itself (the blue folder).
- c. If you do not want users to access the package and its entries yet, select **Disable after import**. Do this step if you want to test the reports before you make them available to the IBM application users.

Step 3: Enable internal links in the reports

The IBM EMM application reports have standard links. To enable the links to work properly, you must configure the IBM Cognos Application Firewall. You must also configure the redirect URL in the Cognos data model for the IBM EMM application reports.

About this task

Note: This step is not necessary for eMessage reports.

Procedure

Complete the following tasks to configure the redirect URL in the Cognos data model for the IBM EMM application reports:

1. From Cognos Framework Manager, browse to the *<productName>Model* subdirectory you copied into the Framework Manager directory structure and select the .cpf file. For example, CampaignModel.cpf.
2. Select **Parameter Maps > Environment**.
3. Right click **Environment** and select **Edit Definition**.
4. In the **Redirect URL** section, select the **Value** field. Edit the server name and port number so they are correct for the IBM EMM system, leaving the rest of the URL intact. By convention, the host name includes the domain name.

For example, for Campaign:

```
http://serverX.ABCompany.com:7001/Campaign/  
redirectToSummary.do?external=true&
```

For example, for Marketing Operations:

```
http://serverX.ABCompany.com:7001/plan/callback.jsp?
```

5. Save the model and publish the package:
 - a. From the navigation tree, expand the **Packages** node of the model.
 - b. Right-click the package instance and select **Publish Package**.

Step 4: Verify the data source names and publish

When you publish the model from Framework Manager to the Cognos content store, the name that is specified as the data source for the reports in the model must match the name of the data source that you created in Cognos Connection. You must verify that the data source names match.

About this task

If you used the default data source names, the data source names match. If you did not use default data source names, you must change the data source names in the model.

Procedure

Complete the following tasks to change the data source names in the model:

1. In Cognos Connection, determine the names of the data sources you created.
2. In Framework Manager, select the **Open a Project** option.
3. Browse to the `<productName>Model` subdirectory you copied into the Framework Manager directory structure and select the .cpf file. For example, `CampaignModel.cpf`.
4. Expand the **Data Sources** entry and examine the names of the data sources. Verify that they match what you named them in Cognos Connection.
 - a. If they match, you are finished with this procedure.
 - b. If they do not match, select the data source instance and edit the name in the **Properties** section. Save your changes.
5. Publish the package to the Cognos content store

Step 5: Configure the IBM Cognos application's firewall

IBM Cognos Application Firewall analyzes and validates requests before the requests are processed by IBM Cognos servers. To configure the IBM Cognos Application Firewall for IBM EMM, you must specify the IBM EMM system as a valid domain or host.

Procedure

Complete the following tasks to configure IBM Cognos Application Firewall for IBM EMM

1. In the Cognos Configuration window, select **Security > IBM Cognos Application Firewall**.
2. In the Valid domains or hosts property window, enter the fully qualified computer host name that includes the domain and the port for the computer where, Marketing Platform is running. For example:
`serverXYZ.mycompany.com:7001`

Important: If you have a distributed IBM EMM environment, you must complete the preceding step for every computer on which an IBM EMM product that provides Cognos reports is installed. For example, Marketing Platform, Campaign, and Marketing Operations provide reports.

3. Save the configuration.
4. Restart the IBM Cognos service.

Step 6: Create the IBM Cognos data sources for the application databases

The IBM Cognos applications need their own data sources that identify the source of the data for IBM EMM application reports.

About this task

The IBM Cognos data models that are provided in the IBM EMM reports packages are configured to use the data source names that are given in the following table:

Table 8. Cognos data sources

| IBM EMM application | Cognos data source names |
|-----------------------|--|
| Campaign | CampaignDS |
| eMessage | eMessageTrackDS |
| Interact | InteractDTDS for the design time database InteractRTDS for the runtime database InteractLearningDS for the learning database InteractETLDS for the ETL database |
| Marketing Operations | MarketingOperationsDS |
| Leads | LeadsDS for the data mart tables |
| Distributed Marketing | CollaborateDS for the Distributed Marketing database CustomerDS for the customer database CampaignDS for the Campaign database |

Use the following guidelines to create Cognos data sources for the IBM application databases:

- Use the Administration section of Cognos Connection.
- Use the default data source names that are shown in the Cognos data sources table. Do so, you avoid having to alter the data model.
- The database type that you select must match that of the IBM application database. Use the Cognos documentation and help topics to determine how to fill database-specific fields.
For Campaign and eMessage, the appropriate database is Campaign.
- Be sure that you identify the IBM EMM application database and not the Cognos content store.
- When you configure the **Signon** section, select the **Password** and **Create a Signon that the Everyone group can use** options.
- In the **Signon** section, specify the user credentials for the IBM EMM application database user.
- Consult the Cognos data sources table and ensure that you create all the data sources that are required by the data model for the reports you are configuring. For example, the reporting data for Interact is in three databases so you must create separate Cognos data sources for each one.
- If the Campaign system has more than one partition, create separate data sources for each partition. For example, if Campaign and eMessage are configured for multiple partitions, create a separate Campaign and eMessage data source for each partition.
- Verify that you configured each data source correctly by using the **Test Connection** feature.

For more information about configuring Cognos data sources, see *IBM Cognos Administration and Security Guide* and the Cognos online help.

Chapter 3. Creating a campaign in an integrated environment

The workflow for creating a campaign when Marketing Operations and Campaign are integrated consists of the following tasks.

About this task

In many organizations, the tasks that are required to create a marketing campaign are shared by multiple people.

Procedure

1. Using the appropriate template, create a campaign project.
Depending on your permissions, you can create the project directly or request a project and wait for it to be accepted.
2. Complete any information that is missing on the project tabs.
3. Create the linked campaign for the project.

After this step is completed, the **Implementation/Planning** button () appears, so you can go back and forth between campaign project and its linked campaign.

4. Complete the TCS to define the control and target cells for the campaign and the assigned offers for target cells.
5. Publish the TCS to Campaign.
6. Create the flowcharts for the campaign, linking cells that are created in the flowchart with the appropriate target and control cells that are defined in the TCS.
7. Optional: If TCS approval is required, test the flowchart to generate cell counts.
8. Optional: If TCS approval is required, update the cell status from within the TCS for review.
9. Optional: If TCS approval is required and when all information for a cell (for example, the count) is appropriate, approve that cell (row) in the TCS.
10. Optional: If TCS approval is required, repeat the process of publishing the TCS and updating cell status until all cells in use by the flowchart is approved.
11. When all necessary TCS rows for the flowchart to run are prepared, publish the TCS a final time.
12. Start the production flowchart run for the campaign.

Campaign projects in an integrated system

If your IBM Marketing Operations system is integrated with IBM Campaign, you can create campaign projects.

A campaign project collects the information that is related to developing a marketing campaign and running it through Campaign.

A campaign project can contain any features available to projects, including subprojects. Campaign projects also contain a TCS tab with a Target Cell Spreadsheet and an additional Campaign Summary section of the Summary tab.

In a campaign project, you synchronize the campaign, offer, contact history, and response history data for the project with Campaign.

Project codes and campaign codes

When you create a campaign project, you must specify a project name and code. The same name and code are used as the campaign name and code when you click the **Create Linked Campaign** icon to create the campaign in IBM Campaign.

The code must be unique in both IBM Marketing Operations and IBM Campaign. If you change the code, the system checks the uniqueness of the code before it creates or saves the project.

Creating projects

You can create a single project from a project template. Your administrator sets up and maintains project templates. You can also create projects by copying a project, making up to 99 clones of a project, or responding to a project request.

Before you begin

When you create a project, note the following behavior.

- To create a project, you must have the appropriate security permission.
- When you create a project, you are the owner of the project.
- You can add other team members to the project, some of whom can also be project owners.

Procedure

1. Select **Operations > Projects**.

2. Click **Add Project** (.

3. Select a template for your project.

An IBM Marketing Operations administrator sets up the templates for your organization. To access any of the IBM Marketing Operations and IBM Campaign integration features, you must select a template that is configured as a campaign project template.

4. Click **Continue**.

5. Use the Add Project wizard to supply values for the project fields.

6. When you save the project, the system verifies that all required fields have a value. It also completes optional fields by supplying default values from the template when available. To save your project, use one of the following options.

- Click **Finish**. The Summary tab displays for the new project.
- Click **Save and Duplicate**. The system saves the initial project and then uses the same information to create another project. The Summary tab displays for the duplicate project. You can edit the default name for the duplicate project and for other fields as needed, then save that project as well.
- Click **Save and Return to List** on any page. The All Projects and Requests page displays.

Results

Newly created projects are given a status of Not Started. To use the project to collect and share information, you change its status. See “Starting projects.”

The tabs in a project differ depending on the template you used. A typical project contains the following tabs:

- Summary
- People
- Strategy
- Workflow (schedule of tasks, milestones, and approvals)
- Tracking (expenses and resources)
- Health Status (project monitoring)
- Attachments

When IBM Campaign is integrated with Marketing Operations, a campaign project also contains a Target Cell Spreadsheet tab.

Some selections in the Add Project wizard also affect the tab content in the project. If your administrator configured workflow template branching, your field options might include a specific template for the Workflow tab. For example, the template might use a different workflow for a project that is based on whether you selected direct mail or email as the channel.

Starting projects

You start a project by changing the status. Select the transition Start Project.

About this task

You can start any project that you own:

- The projects that you create
- The projects that you create when you accept a project request
- The projects that include you as an owner

You can also start several projects at the same time. For more information, see “Changing the status of multiple projects or requests” on page 35.

Procedure

1. Go to the Summary tab of the project you want to start. Select **Operations > Projects**. Click the **Actions** icon and select a view, such as **My Projects**, that includes projects with a "Not Started" status.
2. Click **Change Status** and select **Start Project** or **Start Project with comments** from the menu.
3. Optional: If you chose **Start Project with comments**, type your comments and click **Continue**.

Results

The project status changes to "In Progress". After you start a project, all project participants can work with their assigned tasks.

Campaign Summary section

The Campaign Summary section of the project Summary tab defines basic information about the campaign for this project.

| Field | Description |
|--------------------------|--|
| Campaign Description | Enter a description of the campaign. |
| Campaign Start Date | Date on which the campaign starts You can manually enter the date or click the drop-down arrow to display a calendar from which you can select a date. If the field contains a date, you can click the forward or back arrows to change the date. You cannot create the linked campaign if this field is empty. |
| Campaign End Date | Date on which the campaign ends You can manually enter the date or click the drop-down arrow to display a calendar from which you can select a date. If the field contains a date, you can click the forward or back arrows to change the date. You cannot create the linked campaign if this field is empty. |
| Campaign Objective | Enter the objectives of the campaign. |
| Campaign Initiative | Enter the initiative under which the campaign falls. |
| Campaign Security Policy | Select a security policy from the drop-down list of all the security policies that are defined for Campaign. You can select any policy, even policies in which you do not have a role. If you put a campaign into the wrong policy, it is not visible to the applicable users. You cannot create the linked campaign if there is no security policy specified. |

Creating requests

If you do not have permission to create a project, you create a project request.

Before you begin

When you create a project request, note the following behavior:

- You must create the request and then submit it.
- You must have the appropriate security permission.
- After the recipient accepts the request, the recipient owns the project. (You are the requester.)

About this task

When you create a request, the pages in the wizard that you complete differ depending on the type of project you want to create. A typical request contains the following sections:

- Summary information about the request

- Tracking information
- Attachments that are part of the request

Procedure

1. Select **Operations > Projects**.
2. Click **Add Request** (). The Add Request dialog opens.
3. Select a template for your request.

Your administrator sets up project templates that correspond to the types of projects that your organization undertakes. To request a project that uses IBM Marketing Operations-IBM Campaign integration features, you must select a campaign project template.
4. Click **Continue**.
5. Use the Add Project wizard to supply values for the project fields. Each request identifies recipients to review and redraft or approve the request. If the template you selected allows these modifications, you can also:
 - Add recipients.
 - Change recipient roles.
 - Change the duration periods for responses.
 - Change the sequence numbers that order request receipt and approval.
 - Specify whether a response is required.
6. When you save the request, the system verifies that all required fields have a value. It also completes optional fields by supplying default values from the template when available. To save your request, use one of the following options:
 - Click **Finish**.
 - Click **Save and Duplicate**. The system saves the initial request and then uses the same information to create another request. The Summary tab displays for the duplicate request: edit the default name that is supplied for the duplicate and other fields as needed, then save that request as well.
 - Click **Save and Return to List** on any page.
7. Submit the request to the first reviewer.
 - If you created a single request, on the Summary tab, click **Change Status** and select **Submit Request**.
 - If you created multiple requests, submit them as described in “Changing the status of multiple projects or requests.”

Results

When the last required recipient approves the request, IBM Marketing Operations creates the project.

Changing the status of multiple projects or requests

You can change the status of one or more projects or requests simultaneously to improve efficiency.

About this task

Your change must meet the following prerequisites; if it does not, a warning message describes the possible problems.

- The new status that you select must be valid for every item that you select.
- To make status changes, you must have appropriate permissions.
- To accept or reject requests, you must be an approver for every item you select.

Your administrator can set up IBM Marketing Operations to send an alert to owners and members of a process when its status changes.

Procedure

1. Select **Operations > Projects**.
2. Click **Actions** () and select **All Projects and Requests**.
3. Select one or more items.

Note: You can select items on more than one page. However, the system applies the status change only to the page you are viewing when you select the new status.

4. Click **Change Status** and select a status from the menu to apply to all of the selected items. You can make most status changes with or without comments.
 - If you chose a new status without comments, Marketing Operations changes the status immediately when you click the new status.
 - If you chose a new status with comments, type your comments and click **Continue** to apply the new status.

Special characters in IBM Campaign object names

Some special characters are not supported in any IBM Campaign object names. In addition, some objects have specific naming restrictions.

Note: If you pass object names to your database (for example, if you use a user variable that contains a flowchart name), you must ensure that the object name contains only characters supported by your particular database. Otherwise, you will receive a database error.

Creating a linked campaign

You must specify the campaign start date, campaign end date, and campaign security policy in a campaign project before you can create the linked campaign for the project.

Before you begin

You must have the Create Campaign permission in Campaign to create the linked campaign.

About this task

Note: All campaigns that are linked to Marketing Operations projects are created in the root folder.

The user who clicks the **Create Linked Campaign** icon automatically becomes the owner of the campaign in Campaign. You cannot change campaign ownership. Ownership might grant specific permissions, depending on the security configuration setup in Campaign.

To create a linked campaign, complete the following steps.

Procedure

1. Select **Operations > Projects**.
2. Click the project for which you want to create the campaign. The project Summary tab displays.

3. Click the **Create Linked Campaign** icon () in the left toolbar.

Results

The campaign is created in Campaign and any shared information (except information in the TCS) is automatically published to Campaign.

The **Create Linked Campaign** icon changes to the **Update Campaign** icon (



) after the campaign is created. The **Implementation/Planning** button (



) appears to the right of the project tabs. Click it to navigate to the campaign and click it again to return to the project.

Updating a linked campaign

You must update a linked campaign any time you change the value for a field outside of the TCS.

Before you begin

You must have the Edit Campaign permission in Campaign to update the campaign.

About this task

When you change the value for a field, outside of the TCS, whose data gets passed to Campaign, you must update the linked campaign. By default, these fields are in the Campaign Summary section of the project Summary tab. Your template creator might have created other fields on other tabs whose data also is passed to Campaign. When in doubt, consult your template creator.

Note: Data in the TCS gets sent to Campaign when you publish the TCS.

To update a linked campaign, complete the following steps.

Procedure

1. Open the campaign project for the linked campaign.

2. On the Summary tab, click the **Update Campaign** icon ().

The Target Cell Spreadsheet

You define all of the target and control cells for your campaign and assign offers in the Target Cell Spreadsheet. Your TCS must contain all cell definitions for your entire campaign.

Multiple flowcharts in a campaign can link to cells in the TCS, but each TCS row can only be linked to only one flowchart cell. For example, you might have cells that are defined for wave one of a campaign that is delivered through email and different cells that are defined for wave two delivered through the call center. Wave one and wave two might be implemented in different flowcharts but the cells can share attribute values (for example, cell code) if they represent the same group of audience IDs in both flowcharts.

Each row must have values in the **Cell Name** and **Is Control Cell** columns or the row are not saved. If you do not provide a cell code, one is automatically generated when you publish the TCS. If you provide a code, it must meet the cell code format requirements that are configured in Campaign. If the **allowDuplicateCellCodes** configuration parameter is set to FALSE, cell codes must be unique within a flowchart. If you delete the cell code for a row in the TCS and republish the TCS, Campaign creates a cell code for the row. Any existing link between that cell and a flowchart persists.

The TCS is an editable grid, so you enter data in it just as you would in any other editable grid. You can copy and paste TCS rows.

Additions or changes you make to the TCS are not visible in Campaign until you click **Publish** on the TCS.

If you delete a row that is linked to a flowchart cell and republish the TCS, any flowchart cell that is linked to that TCS row becomes unlinked, although no data is lost. If that cell is input to a contact process (a Call List, Mail List, or Optimize process box), you must link the flowchart cell to another TCS row before you can run the flowchart in production mode.

Related tasks:

“Creating a Target Cell Spreadsheet” on page 19

“Assigning offers and offer lists to cells when offer integration is enabled” on page 56

“Creating offers in an integrated system” on page 52

“Managing offers when offer integration is enabled” on page 54

“Managing offer templates and attributes when offer integration is enabled” on page 53

“Publishing the TCS” on page 41

Grid edit mode

When you work with grids in edit mode, you can add rows, delete rows, and edit existing data. In a single editing session, you can do all of these tasks if you have the appropriate permissions.

Permissions

You must have the following permissions to work with grids. Ask your administrator if you need help.

- To add a row, you must have the View Tab, Edit Tab, Edit Grid, and Add Grid Row permissions for the tab with the grid.
- To edit a row, you must have the View Tab, Edit Tab, and Edit Grid permissions for the tab with the grid.
- To copy and paste a row, you must have the View Tab, Edit Tab, and Edit Grid permissions for the tab with the grid.
- To delete a row, you must have the View Tab, Edit Tab, Edit Grid Row, and Delete Grid row permissions for the tab with the grid.

Locked data

The system prevents you from editing a row that is being edited by another user. For a Target Cell Spreadsheet in a campaign project, the entire grid is locked for editing instead of individual grid rows.

Revision history

Marketing Operations maintains an audit log for grids. The audit log contains the user details and the time it was saved. This information is available on the Analysis tab.

Adding grid rows

You can add one or more rows of grid data during an editing session.

Before you begin

To add a row, you must have the **View Tab**, **Edit Tab**, and **Add grid row** permissions for the tab with the grid.

Ensure that all required columns are visible in your current grid view. Otherwise, you receive an error when you try to save new rows.

About this task

Note the following behavior:

- After you add a row, Marketing Operations warns you if you leave the page without saving your work.
- All the cells of newly added rows are either blank or filled with default data as specified during the form definition.
- If you select multiple rows before you add a row, the new row is added after the selected block.
- If you add multiple rows before saving, all new rows must pass validation, or none of the new rows are saved.
- If you hide a required column while you are adding data, you receive an error when you attempt to save. You must make all required columns visible, and then retry to add your data.
- When you save the new data, the position of newly added rows might change; the order of rows depends on the sort column for the grid.

To add a row to the grid, complete the following steps.

Procedure

1. Navigate to the grid you want to update.
2. Click **Edit**.
3. Select the row above the location for your new row and click **Add Row**.
Marketing Operations adds a row below the selected row.

Note: If you do not select a row, the new row is appended to end of the current page.

4. Click an empty field in the new row and enter or select values.
5. Click **Save**.

Editing grid rows

You can edit one or more rows of grid data during an editing session.

Before you begin

To edit a row, you must have the **View Tab**, **Edit Tab**, and **Edit grid row** permissions for the tab with the grid.

About this task

Note: You cannot edit any rows that are in use by another user.

To edit a grid row, complete the following steps.

Procedure

1. Navigate to the grid you want to update.
2. Click **Edit** to change from view mode to edit mode.
3. Navigate to the page that contains the data to edit, then double-click in any field to change its value.

An editor appears for the specific data type of the selected field. For example, if you select a date field, the date picker displays.

4. Click **Save** to save your work and return to view mode.

Deleting grid rows

You can delete one or more rows of grid data during an editing session.

Before you begin

To delete a row, you must have the **View Tab**, **Edit Tab**, and **Delete grid row** permissions for the tab with the grid.

About this task

Before you can delete a row permanently, the system prompts you to confirm your selections.

Note: You cannot delete any rows that are in use by another user.

To delete a grid row, complete the following steps.

Procedure

1. Navigate to the grid that contains the data that you want to delete.
2. Select one or more rows to delete and click the delete icon.
A message that describes the rows that are marked for deletion appears.
3. Repeat step 2 until all rows you want to delete are marked.
4. Click **Save** to remove the rows you marked for deletion. Any selected rows that are not in use are deleted.

Publishing the TCS

To make the cell definitions and offer assignments in the TCS available to Campaign, you must publish the TCS. Anytime you make updates to data in the TCS, you must publish the TCS again to make those changes visible to Campaign.

Before you begin

To publish the TCS, you must have the **Manage Campaign Target Cells** permission in Campaign.

Every row must have a value for the Cell Name and Is Control Cell? columns before you publish the TCS. If the TCS contains unpublished data, the **Publish** button label is red.

About this task

A flowchart cannot link any cells to the TCS rows until the TCS is published. Although publishing the TCS makes the data available to the flowchart in Campaign, you cannot start a production run of a flowchart until all linked rows in the TCS are approved. You can start a test run of a flowchart at any time.

If the data in the TCS changes, you must publish the TCS again to update the data available to Campaign.

If the TCS contains data that has not been published, the **Publish** button label is red.

To publish the TCS, complete the following steps.

Procedure

1. Open the project that contains the TCS.
2. Click the **Target Cell Spreadsheet** tab.
3. Click **Publish**.

Related concepts:

“The Target Cell Spreadsheet” on page 38

Accessing a campaign in IBM Campaign

You can access a linked campaign from Marketing Operations.

Before you begin

The **Implementation** button displays only if the linked campaign for the project exists.

About this task

To access a campaign in Campaign, complete the following steps.

Procedure

1. Open the corresponding campaign project in Marketing Operations.
2. Click the **Implementation** button () to the right of the Analysis tab.

Updating cell status data in the TCS

Updating the cell status imports the run results for the cells in the TCS from Campaign into Marketing Operations. When you update the cell status, Marketing Operations imports the latest run results. The results of previous runs are irretrievably lost.

Before you begin

You can update cell status only if one or more cells are linked to a flowchart.

You must have the **Manage Campaign target cells** permission in Campaign to update the cell status.

About this task

When you update the cell status, Marketing Operations places the imported information in the following read-only fields of the TCS:

Table 9. Updates made on cell status change

| Field | Description |
|--------------|---|
| Flowchart | Name of the flowchart in which the cell is used. |
| Last Run | Date and time of the last run for the flowchart that contains this cell. |
| Actual Count | Number of unique audience IDs in the cell during the last run. |
| Run Type | Run type for the last run of the flowchart that contains this cell (production or test; flowchart, branch, or process box). |

To update the cell status data in the TCS, complete the following steps.

Procedure

1. Open the project whose cell count data you want to update.
2. Click the **Target Cell Spreadsheet** tab.
3. Click **Get cell status**.

Flowchart management

IBM Campaign uses flowcharts to define campaign logic. Each flowchart in a campaign performs a sequence of actions on data that is stored in your customer databases or flat files.

Each marketing campaign consists of at least one flowchart. Each flowchart consists of at least one process. You configure and then connect processes to perform data manipulation, create contact lists, and record contact and response tracking for your campaign.

By connecting a series of processes in a flowchart, then running that flowchart, you define and implement your campaign.

For example, a flowchart might include a Select process, which is connected to a Segment process, which is connected to a Call List process. The Select process can be configured to select all customers from your database who live in the northeast. The Segment process can segment those customers into value tiers, such as Gold, Silver, Bronze. The Call List process assigns offers, generates a contact list for a telemarketing campaign, and records the results in the contact history.

Note: To work with flowcharts, you must have the appropriate permissions assigned by an administrator.

More information

There are restrictions in the use of special characters in flowchart names. For details, see Appendix A of the *IBM Campaign User's Guide*.

For details on creating processes, see the chapters "Working with Processes" and "Campaign Processes" in the *IBM Campaign User's Guide*.

Creating flowcharts

You can add a flowchart to your campaign either by creating a new one, or copying an existing one.

Copying an existing flowchart may save time because you can start with a completed flowchart and modify it to meet your needs.

To facilitate constructing flowcharts, you can use pre-configured flowchart templates to quickly create common campaign logic or process box sequences. You can also save and reuse other objects such as queries, table catalogs, triggers, custom macros, user variables, and definitions of derived fields.

Creating flowcharts

Follow these instructions to add a flowchart to a marketing campaign. A flowchart determines the campaign logic.

About this task

Note: If you are creating an interactive flowchart, see the IBM Interact documentation for information.

Procedure

1. In the campaign or session to which you want to add a flowchart, click the **Add a Flowchart** icon.

The Flowchart Properties page opens.

2. Enter a name and description for the flowchart.

Note: Under **Flowchart Type**, **Standard Batch Flowchart** is the only option unless you are a licensed user of Interact. If you installed a licensed version of Interact, you can also select **Interactive Flowchart**.

3. Click **Save and Edit Flowchart**.

The flowchart window opens, which includes the process palette on the left, a toolbar at the top, and a blank flowchart workspace.

4. Add a process to your flowchart by dragging a process box from the palette to the workspace.

A flowchart typically begins with one or more Select or Audience processes to define the customers or other marketable entities with which to work.

5. Double-click a process in the workspace to configure it.

Important: Click **Save Changes and Continue to Edit** frequently while you add and configure processes.

6. Connect the configured processes to determine the workflow of your campaign.
7. Click **Save and Exit** to close the flowchart window.

Test runs for flowcharts

You can conduct a test run on a flowchart or branch if you do not want to output data or update any tables or files.

When you conduct a test run on a flowchart or a branch, be aware of the following.

- Triggers run on completion of both test and production runs.
- Global suppression is applied when testing processes, branches, or flowcharts.
- The option **Advanced Settings > Test Run Settings > Enable Output** determines whether output is generated during test runs.

Conduct test runs on processes and branches as you are building flowcharts, so that you can troubleshoot errors as they occur. Remember to save each flowchart before you run or test it.

Testing a flowchart

When you test a flowchart, data is not written to any tables. You can then view a report of any errors in the flowchart.

Before you begin

Always save an edited flowchart before you test it.

Procedure

1. Open a flowchart in **Edit** mode.
2. Open the **Run** menu  and select **Test Run Flowchart**.

The flowchart runs in test mode, so data is not written to any tables.

Each process displays a check mark if it runs successfully. If there are errors, the process displays a red "X".

3. Use one of the **Save** options in the toolbar.

If you click **Save and Exit** before the flowchart finishes the test run, the flowchart continues to run and is saved when it finishes. If anyone reopens the flowchart while it is still running, any changes made to the flowchart are lost. For this reason, always save a flowchart before you run it.

To pause the run, right-click the process box and select **Run > Pause This**.

To stop the run, right-click the process box and select **Run > Stop This**.

4. To determine if there were any errors in the flowchart run, click the **Analysis** tab and view the **Campaign Flowchart Status Summary** report.

TCS approval

In integrated IBM Marketing Operations and IBM Campaign systems, campaign project templates can require (target cell spreadsheet) TCS approval before flowcharts run in production mode. If **Approval Required** is selected on the template, then all rows of the TCS must be approved before the flowchart can run in production mode. If you run the flowchart in production mode and one or more rows on the TCS associated with this flowchart are not approved, Campaign generates an error.

If the project was created from a template on which the **Approval Required** check box is not selected, then approval is not required for top-down cells in the TCS. In this case, the TCS grid does not show the **approval** column or **approve all** and **deny all**. Leaving the approval required check box cleared saves time if campaigns do not require TCS approval.

Note: By default, **Approval Required** is cleared. However, after you upgrade to Marketing Operations 8.5, all upgraded campaign templates have **Approval Required** checked.

Import and export

If **Approval Required** is selected, the **is approved** column is included when you export the project.

If **Approval Required** is cleared, the **is approved** column does not export, and only CSV files that match are imported.

Approving an individual TCS row

You can approve each row of the TCS individually. You can approve rows as soon as they are complete and correct, even if other rows on the TCS are not yet ready to be approved.

About this task

To approve an individual row of the TCS, complete the following steps.

Procedure

1. Open the project that contains the TCS.
2. Click the **Target Cell Spreadsheet** tab.
3. Click the **Edit** icon.

4. Double-click the **Is Approved** column for the row you want to approve.
The **No/Yes** drop-down list displays.
5. Click **Yes**.
6. When you are through editing the TCS, click the **Save and Exit** icon.

Approving all rows of the TCS

If the template is set to **Approval Required**, then you must approve all rows of the TCS before you run the flowchart in production mode.

About this task

To approve all rows of the TCS, complete the following steps.

Procedure

1. Open the project that contains the TCS.
2. Click the **Target Cell Spreadsheet** tab.
3. Click **Approve All**.

Denying approval to all TCS rows

You can deny approval to all rows of the TCS.

About this task

To deny all rows of the TCS, complete the following steps.

Procedure

1. Open the project that contains the TCS.
2. Click the **Target Cell Spreadsheet** tab.
3. Click **Deny All**.

Running flowcharts

You can run an entire flowchart, a branch, or an individual process in the flowchart. For best results, conduct test runs as you build the flowcharts, so that you can troubleshoot errors as they occur. Be sure to save each flowchart before you test or run it.

Important: For flowcharts containing contact processes, each production run of a flowchart can generate contact history only once. To generate multiple contacts from the same list of IDs, snapshot out the list of IDs and read from the list for each flowchart run.

Note: Users with Administrative privileges can access the Monitoring page, which displays all running flowcharts and their status. The Monitoring page also provides controls to suspend, resume, or stop flowchart runs.

Running a flowchart

When you run an entire flowchart, the data that it generates is saved in system tables. After you run and save the flowchart, you can view the results of the run in reports.

Procedure

1. If you are viewing a flowchart, open the **Run** menu  and select **Run This**.
If you are editing a flowchart, open the **Run** menu  and select **Save and Run Flowchart**.
2. If the flowchart has already run, click **OK** on the confirmation window.
Data from the run is saved to the appropriate system tables. Each process displays a check mark after it runs successfully. If there are errors, the process displays a red "X".
3. Click **Save and Exit** (or click **Save** to continue editing).
You must save the flowchart after it runs to view the results of the run in any reports. After you save the flowchart, results of repeated runs are immediately available.

Note: If you click **Save and Exit** before the flowchart finishes running, the flowchart continues to run and is saved when it finishes.
4. Click the **Analysis** tab and view the **Campaign Flowchart Status Summary** report to determine whether there were any errors in the flowchart run.

Importing metrics from a campaign

If your campaign project has a **Tracking** tab, the template creator mapped contact and response metrics in Campaign with metrics in Marketing Operations. You can import the metric data into the campaign project.

Before you begin

You must have the **Analyze campaign** permission in Campaign to import metrics.

About this task

To import metrics from a campaign, complete the following steps.

Procedure

1. Navigate to the **Tracking** tab of the campaign project whose metrics you want to import.
2. Click **Import Values**.
The IBM Campaign metrics are displayed on the **Import Values** page. The information that is imported depends on the metrics the template creator defined. IBM Marketing Operations captures and displays the last date of import, which is shown as **External Sources Last Refreshed Date Time** at the bottom of the table.
3. Click **Save and Finish** to update the metrics on the **Tracking** tab and close the **Import Values** page.

What to do next

If necessary, manually update the metrics that you imported.

Integration reports

When the Marketing Operations and Campaign integration report pack is installed, the following reports are available.

Table 10. Integration report pack reports

| Report | Description |
|--|---|
| Campaign Cell Financial Comparison | A Cognos report that displays budget, revenue, and ROI information for each campaign and each cell within the campaign. This report requires the Marketing Operations Financial Management module. |
| Campaign Offer by Channel Financial Comparison | A Cognos report that displays budget, revenue, and ROI information for each campaign, each channel within the campaign, and each offer within the channel. This report requires the Marketing Operations Financial Management module. |
| Campaign Offer Financial Comparison | A Cognos report that displays budget, revenue, and ROI information for each campaign and each offer within the campaign. This report requires the Marketing Operations Financial Management module. |

Chapter 4. Offers and offer templates in an integrated system

If offer integration is enabled, you create offers in Marketing Operations, then publish them for use in Campaign. You can set up offers before they are assigned to cells in Campaign. Offers are based on templates, which are also created in Marketing Operations.

When offer integration is enabled:

- You can import any offers previously established in Campaign into Marketing Operations.
- Users create and manage offers, offer lists, and offer folders by selecting **Operations > Offers** instead of **Campaign > Offers**.
- You create and manage offer attributes and offer templates by selecting **Settings > Marketing Operations Settings > Template Configuration** instead of **Settings > Campaign Settings > Templates and Customization** options.
- You use Marketing Operations to assign offers and offer lists to output cells in the Target Cell Spreadsheet (TCS) form of a campaign project.

Offer workflow features

For systems that enable offer integration, several features are available when you work with offers in Marketing Operations.

Offer approvals

When you create or edit an offer, Marketing Operations provides a check box to indicate offer approval. Only approved offers can be published to Campaign.

Offer states

Offers and offer folders can have the following states.

| Offer state | Definition |
|-------------|--|
| Draft | When you create an offer, the state of the new offer is Draft. |
| Published | The state "Published" pushes the offer instance to Campaign. The first time an offer is published in Marketing Operations, the system creates the offer in Campaign; subsequent publishing updates the offer instance in Campaign. |
| Redraft | After an offer is Published, it cannot be edited. To edit a published offer, the user can redraft the offer, which changes it to the Draft state. User can then edit the offer and publish changes. |
| Retire | Only Published offers can be Retired. After the offer is Retired, it is not available for future use and cannot be edited or changed to any other state. |

Offer codes automatically generated

In Marketing Operations, the offer code that is assigned to each offer can be generated by the Default code generator. Users cannot modify the offer code generator. In the wizard mode of offer creation, the **Auto-generate on save** check

box creates the offer code automatically. If the check box is selected, the offer code is generated from Campaign. If the check box is not selected, validation is made for the valid offer code.

Offer templates and integration with IBM Digital Recommendations (optional)

If your installation also uses Digital Recommendations, you can configure offer templates in Marketing Operations to dynamically receive category ID and name values for specified clients.

With this configuration, to include a category in an offer, users select from a list that is populated directly from Digital Recommendations rather than entering ID numbers manually. For more information, see “Including IBM Digital Recommendations categories” on page 14.

Enabling offer integration in Marketing Operations

When offer integration is enabled, you manage offers and offer templates in Marketing Operations rather than Campaign. You can enable offer integration either when you integrate Marketing Operations with Campaign or after you use Campaign to manage offers.

About this task

Offer integration is a separate option from campaign integration. When campaign integration is enabled, you can also enable offer integration.

To enable offer integration in Marketing Operations, complete the following steps.

Procedure

1. Confirm that integration is enabled in Marketing Operations and in each of the appropriate Campaign partitions, as explained in “Configuring property settings for integrated deployment” on page 6.
2. On the **Settings > Configuration** page, under **IBM EMM**, click **Platform**.
3. Click **Edit Settings** and set **Marketing Operations - Offer integration** to **True**. This setting enables the offer lifecycle management features in Marketing Operations.

The system checks for compatibility issues. For example, if an attribute with the "creativeurl" internal name exists in Marketing Operations, offer integration fails so that values for that existing attribute are not overwritten. Before you can proceed with offer integration, you must resolve all reported issues.

4. If your Campaign installation has multiple partitions, set the following property for each partition where you want to enable offer integration.
 - a. Expand **EMM > Campaign > partitions > partition[n] > server** and click **internal**.
 - b. Set **Marketing Operations - Offer integration** to **Yes**.
5. Repeat step 4 for other partitions as needed.
6. If you managed offers in Campaign before you enabled offer integration, import the metadata and data for those offers into Marketing Operations for each partition.

What to do next

After you enable offer integration, you use Marketing Operations to create, edit, and manage offers, including any offers that you created in Campaign before you enabled offer integration.

Note: Avoid disabling offer integration after you enable it.

Importing offers from Campaign

When you enable offer integration, you can import offer metadata and data from Campaign to Marketing Operations.

Before you begin

Before you import offers, verify that every user who is referenced as an owner, modifier, or user in a Campaign offer or offer list has Marketing Operations privileges.

To import offer data and metadata from Campaign successfully, you must have administrative privileges to both Marketing Operations and Campaign.

About this task

Note: Complete this procedure immediately after you enable offer integration, and before you create any offer-related items with Marketing Operations.

Typically, you import offers from Campaign only one time. If the import procedure fails, review and resolve the errors and then start the import process again. Successfully imported offers and offer lists are flagged in Campaign to prevent duplicate imports. After integration, users enter all offer metadata and data with Marketing Operations, so you do not need to repeat this procedure.

Note: Verify that the offer import procedure completes successfully.

Procedure

1. Select **Settings > Marketing Operations Settings**.

2. In the Other Options section, click **Import Campaign Offers**.

The Import Campaign Offers page enumerates the offer templates, offer folders, offers, and offer lists available for import.

3. Click **Continue**. The import process starts and the status displays. You can navigate to other pages and return to the Import Campaign Offers page to check the status and see results.

Note: Verify that the offer import procedure completes successfully before Marketing Operations users start to work with offers.

4. In a multi-partitioned Campaign environment, you repeat these steps for each partition. Log in to Marketing Operations with a user ID associated with each of the other partitions and repeat this procedure.

Results

The import process brings the offer data and metadata that exists in Campaign into Marketing Operations. The import process sets the status of each imported item to "Published".

Note: Retired offers and offer lists are not imported. Retired offer templates are imported with a status of "Disabled".

To review any error or warning conditions, navigate to the Import Campaign Offers page and click **Error(s) from current / last completed import job**.

Table 11. Offer-related items imported from Campaign

| Items imported (in sequence) | Possible errors and resolutions |
|------------------------------|---|
| 1. Offer templates | <ul style="list-style-type: none"> • A referenced standard attribute does not exist: Add the attribute to Marketing Operations and re-import. • Unexpected error: Review details for possible causes, such as a network or database problem, and re-import. |
| 2. Offer folders | <ul style="list-style-type: none"> • An offer folder with the same name exists: Rename the existing offer folder in either Campaign or Marketing Operations and re-import. • The parent offer folder does not exist: Resolve the error for the parent offer folder and re-import. • Unexpected error: Review details for possible causes, such as a network or database problem and re-import. |
| 3. Offers | <ul style="list-style-type: none"> • A referenced offer template does not exist: Resolve the error for the offer template and re-import. • A referenced offer folder does not exist: Resolve the error for the offer folder and re-import. • A referenced user does not exist: Provision the user with privileges for Marketing Operations and re-import. • An offer with the same offer code exists (warning): The offer is imported. Follow up by changing the code to a unique value in Marketing Operations. • Unexpected error: Review details for possible causes, such as a network or database problem, and re-import. <p>Note: When offer data and metadata are imported from Campaign, the user who initiates the import becomes the owner of the offers in Marketing Operations.</p> |
| 4. Offer lists | <ul style="list-style-type: none"> • One or more of the offers was not imported: Resolve the error for each offer and re-import. • A referenced offer folder does not exist: Resolve the error for the offer folder and re-import. • A referenced user does not exist: Provision the user with privileges for Marketing Operations and re-import. • Unexpected error: Review details for possible causes, such as a network or database problem, and re-import. <p>Note: When offer list data and metadata are imported from Campaign, the user who initiates the import becomes the owner of the offer lists in Marketing Operations.</p> |

Creating offers in an integrated system

When offer integration is enabled, you create offer templates and offers in Marketing Operations and publish the offers for use in Campaign.

About this task

The following steps provide a high-level overview of the workflow for offer creation when offer integration is enabled. Complete these steps in Marketing Operations.

Procedure

1. Review the offer attributes and templates that are imported from Campaign (if any), and design new offer templates as needed.
2. To add new offer attributes, select **Settings > Marketing Operations Settings > Template Configuration > Shared Attributes**.
3. To create a form for the attributes you need, select **Settings > Marketing Operations Settings > Template Configuration > Forms**.
4. To create or edit an offer template, select **Settings > Marketing Operations Settings > Template Configuration > Templates**.
5. Click the **Tabs** tab and select the form.
6. Publish the offer template to Campaign.
7. To create an offer based on the offer template, select **Operations > Offers**, click the **Add Offer** icon, select an offer template, and use the wizard to create the offer. You can also create offer lists or folders.
8. Approve the offer and publish it to Campaign. You also publish offer lists and offer folders to Campaign.
9. Add the offer to output cells in the Target Cell Spreadsheet form in a campaign project.

When Campaign is integrated with Marketing Operations, a campaign project includes a Target Cell Spreadsheet tab. Double-click the **Assigned Offers** column in the TCS to search or browse for offers.

10. Publish the TCS.

Results

The offer is now available in Campaign. The attribute information is automatically passed to Campaign when a user links a flowchart cell to the TCS row.

Related concepts:

"The Target Cell Spreadsheet" on page 38

Managing offer templates and attributes when offer integration is enabled

In an integrated system, you access offer templates from **Marketing Operations Settings** instead of **Campaign Settings**.

About this task

For more information about designing offer templates and attributes, see the *IBM Campaign Administrator's Guide*.

Follow these guidelines to manage offer templates and attributes in an integrated environment.

Procedure

- To work with offer templates, select **Settings > Marketing Operations Settings > Template Configuration > Templates**. Use the options in the Offer Templates section to add, enable, edit, and perform other template operations.
See “Designing offer templates” on page 14.
- To work with offer attributes, select **Settings > Marketing Operations Settings > Template Configuration > Shared Attributes**. Use the options in the Offer Attribute section to create or edit your custom offer attributes.
See “Offer attributes” on page 16.

What to do next

You can then add offer attributes to forms for use on offer templates. When you add an offer attribute to a form, you specify its behavior as parameterized, hidden, or hidden static. Forms for your offer templates can also include local or shared form and grid attributes, but those attributes and the data they collect are used only within Marketing Operations. Only the data that is collected by offer attributes is published to Campaign.

Related concepts:

“The Target Cell Spreadsheet” on page 38

Managing offers when offer integration is enabled

In an integrated system, you access offers from the **Operations** menu instead of the **Campaign** menu. You can then complete tasks as you would in an unintegrated Campaign system.

About this task

You also use Marketing Operations to organize offers into offer folders and lists.

Note: When you delete an offer folder, all of the subfolders, offers, and offer lists that it contains are also deleted.

Note: In clustered environments, changes to offer folders are made on a single node. For information about configuring caching so that changes to offer folders are replicated to other nodes automatically rather than requiring a system restart, see the *IBM Marketing Operations Installation Guide*.

For more information about offers, see the *IBM Campaign User's Guide*.

Follow these guidelines to manage offers, offer folders, and lists in an integrated environment.

Procedure

- To create an offer, complete the following steps:
 1. Select **Operations > Offers**.
 2. Click the **Add Offer** icon and select an offer template.
 3. Use the wizard to create the offer.

You can select the **Is Approved** option to approve the offer when you create it, or you can approve it later. An offer is always in one of four states: Draft, Published, Redraft, or Retire. When an offer is created, its state is Draft.

4. To make the offer available in Campaign, you must approve and then publish the offer.
- To approve an offer, complete the following steps:
 1. Select **Operations > Offers**.
 2. Click the linked offer name and select the **Is Approved** option.
 3. You can publish the offer to Campaign.
 - To publish an offer, complete the following steps:

Note: Only approved offers can be published.

1. Select **Operations > Offers**.
 2. Select the box next to the offer.
 3. Click the **Status** icon and select **Publish Selected**. This action pushes the offer instance to Campaign. Published offers can be selected for use in a Target Cell Spreadsheet.
- To edit an offer, complete the following steps:

Note: A published offer cannot be edited until you change it to the "Draft" state.

1. Select **Operations > Offers**.
 2. Select the check box next to the published offer.
 3. Click the **Status** icon and select **Re-draft Selected**.
 4. You can then edit the offer and publish your changes.
- To retire an offer, complete the following steps:

Note: Only published offers can be retired. A retired offer is not available for future use and cannot be edited or changed to any other state.

1. Select **Operations > Offers**.
 2. Select the check box next to the published offer.
 3. Click the **Status** icon and select **Retire Selected**.
- To create an offer folder, complete the following steps:
 1. Select **Operations > Offers**.
 2. Click the **Add Folder** icon.
 3. To add a subfolder, click the linked folder name, and click the **Add Folder** icon.
 4. After you add a folder, you can add offers and offer lists to it. You must publish the folder to make it available in Campaign.
 - To move items into a folder, complete the following steps:
 1. Select **Operations > Offers**.
 2. Locate the offer, offer list, or folder that you want to move.
 3. Select the check box next to the item, and click the **Move Selected Items** icon.
 - To publish an offer folder, complete the following steps:
 1. Select **Operations > Offers**.
 2. Check the box next to the folder and click the **Status** icon.

3. Select **Publish Selected**. This action pushes the offer folder to Campaign. However, this procedure does not publish any of the offers or subfolders that are in the "Draft" state. These items must be published individually.

- To create an offer list, complete the following steps:

Note: In Marketing Operations, the query builder for smart offer lists displays in edit mode only. In Campaign, the query builder displays in both edit mode and view mode.

1. Select **Operations > Offers**.
2. Click the **Add Offer List** icon.

Note: You must publish an offer list to make it available in Campaign.

Related concepts:

"The Target Cell Spreadsheet" on page 38

Assigning offers and offer lists to cells when offer integration is enabled

In an integrated environment, use Marketing Operations to assign offers and offer lists to output cells in a Target Cell Spreadsheet (TCS). The TCS is a part of each campaign project in Marketing Operations.

About this task

Note: To search or browse for offers, double-click the Assigned Offers column for a row when the TCS is in edit mode.

When you publish the TCS, the offers are automatically assigned to cells when you select them in a contact process box in the flowchart. In this way, the TCS cells are linked to flowchart cells. This method is known as "top-down" management.

To allow bottom-up target cells, complete the following steps.

Procedure

1. Navigate to **Settings > Configuration > EMM > Campaign > partitions > partition[n] > server > internal**.
2. Set `MO_UC_BottomUpTargetCells` to **Yes**.

Results

Note: Additions and changes to the TCS are not visible in Campaign until you click **Publish** on the TCS.

Related concepts:

"The Target Cell Spreadsheet" on page 38

Before you contact IBM technical support

If you encounter a problem that you cannot resolve by consulting the documentation, your company's designated support contact can log a call with IBM technical support. Use these guidelines to ensure that your problem is resolved efficiently and successfully.

If you are not a designated support contact at your company, contact your IBM administrator for information.

Note: Technical Support does not write or create API scripts. For assistance in implementing our API offerings, contact IBM Professional Services.

Information to gather

Before you contact IBM technical support, gather the following information:

- A brief description of the nature of your issue.
- 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

When you call IBM technical support, you might be asked to provide information about your environment.

If your problem does not prevent you from logging in, much of this information is available on the About page, which provides information about your installed IBM applications.

You can access the About page by selecting **Help > About**. If the About page is not accessible, check for a `version.txt` file that is located under the installation directory for your application.

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).

Note: To enter a support request, you must log in with an IBM account. This account must be linked to your IBM customer number. To learn more about associating your account with your IBM customer number, see **Support Resources > Entitled Software Support** on the Support Portal.

Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan, Ltd.
19-21, Nihonbashi-Hakozakicho, Chuo-ku
Tokyo 103-8510, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
B1WA LKG1
550 King Street
Littleton, MA 01460-1250
U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

All IBM prices shown are IBM's suggested retail prices, are current and are subject to change without notice. Dealer prices may vary.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating

platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

Trademarks

IBM, the IBM logo, and [ibm.com](http://www.ibm.com) are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at www.ibm.com/legal/copytrade.shtml.

Privacy Policy and Terms of Use Considerations

IBM Software products, including software as a service solutions, ("Software Offerings") may use cookies or other technologies to collect product usage information, to help improve the end user experience, to tailor interactions with the end user or for other purposes. A cookie is a piece of data that a web site can send to your browser, which may then be stored on your computer as a tag that identifies your computer. In many cases, no personal information is collected by these cookies. If a Software Offering you are using enables you to collect personal information through cookies and similar technologies, we inform you about the specifics below.

Depending upon the configurations deployed, this Software Offering may use session and persistent cookies that collect each user's user name, and other personal information for purposes of session management, enhanced user usability, or other usage tracking or functional purposes. These cookies can be disabled, but disabling them will also eliminate the functionality they enable.

Various jurisdictions regulate the collection of personal information through cookies and similar technologies. If the configurations deployed for this Software Offering provide you as customer the ability to collect personal information from end users via cookies and other technologies, you should seek your own legal advice about any laws applicable to such data collection, including any requirements for providing notice and consent where appropriate.

IBM requires that Clients (1) provide a clear and conspicuous link to Customer's website terms of use (e.g. privacy policy) which includes a link to IBM's and Client's data collection and use practices, (2) notify that cookies and clear gifs/web beacons are being placed on the visitor's computer by IBM on the Client's behalf along with an explanation of the purpose of such technology, and (3) to the extent required by law, obtain consent from website visitors prior to the placement of cookies and clear gifs/web beacons placed by Client or IBM on Client's behalf on website visitor's devices

For more information about the use of various technologies, including cookies, for these purposes, See IBM's Online Privacy Statement at: <http://www.ibm.com/privacy/details/us/en> section entitled "Cookies, Web Beacons and Other Technologies."



Printed in USA