

IBM Campaign
Version 9 Release 1.1
November 26, 2014

Upgrade Guide



Note

Before using this information and the product it supports, read the information in “Notices” on page 97.

This edition applies to version 9, release 1, modification 0 of IBM Campaign and to all subsequent releases and modifications until otherwise indicated in new editions.

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Chapter 1. Upgrade overview

An upgrade of Campaign is complete when you upgrade, configure, and deploy Campaign. The Campaign Upgrade Guide provides detailed information about upgrading, configuring, and deploying Campaign.

Use the Upgrade Roadmap section to obtain a broad understanding about using the Campaign Upgrade Guide.

Upgrade roadmap

Use the upgrade roadmap to quickly find the information that you need for upgrading Campaign.

You can use the following table to scan the tasks that must be completed for upgrading Campaign:

Table 1. Campaign upgrade roadmap

Topic	Information
Appendix A, "Web application clustering," on page 83	If you are using web application clustering, review this appendix before starting your installation.
Appendix B, "Upgrading to a clustered listener environment," on page 89	If you are using Campaign listener clustering, review this appendix before starting your installation.
Chapter 1, "Upgrade overview"	This topic provides the following information: <ul style="list-style-type: none">• "How the installers work" on page 3• "Modes of installation" on page 4• "Integration of Campaign with eMessage" on page 5• "Integration of Campaign with IBM EMM products" on page 6• "IBM Campaign documentation roadmap" on page 7
Chapter 2, "Planning the Campaign upgrade," on page 9	This topic provides the following information: <ul style="list-style-type: none">• "Prerequisites" on page 9• "Backing up Campaign" on page 10• "Exporting configuration settings" on page 11• "Pre-upgrade check utility" on page 11• "Upgrade log" on page 12• "Upgrade prerequisites for all IBM EMM products" on page 12• "Campaign upgrade worksheet" on page 13• Chapter 3, "Upgrading Campaign," on page 15

Table 1. Campaign upgrade roadmap (continued)

Topic	Information
Chapter 3, “Upgrading Campaign,” on page 15	<p>This topic provides the following information:</p> <ul style="list-style-type: none"> • “Undeploying and upgrading Campaign” on page 15 • “SQL upgrade scripts” on page 17 • “acUpgradeTool” on page 18
Chapter 4, “Upgrade considerations for eMessage,” on page 23	<p>This topic provides the following information:</p> <ul style="list-style-type: none"> • “Prerequisites for upgrading eMessage” on page 23 • “Upgrading eMessage” on page 24
Chapter 5, “Configuring Campaign before deployment,” on page 27	<p>This topic provides the following information:</p> <ul style="list-style-type: none"> • “Creating and populating Campaign system tables manually” on page 27 • “Registering Campaign manually” on page 29 • “Setting data source variables in the Campaign startup script (UNIX only)” on page 30
Chapter 6, “Deploying the Campaign web application,” on page 35	<p>This topic provides the following information:</p> <ul style="list-style-type: none"> • “Setting the web application session timeout” on page 35 • “Deploying Campaign on WebSphere Application Server” on page 35 • “Deploying IBM Campaign on WebLogic” on page 38 • “Starting the Campaign server” on page 39
Chapter 7, “Configuring Campaign after deployment,” on page 41	<p>This topic provides the following information:</p> <ul style="list-style-type: none"> • “Verifying that the Campaign listener is running” on page 41. • “Setting up the Campaign system user” on page 41 • “Adding data source properties on the Configuration page” on page 42 • “Campaign configuration properties” on page 44 • “Mapping user tables in Campaign” on page 45 • “Verifying the Campaign installation” on page 45 • “Setting properties for integration with IBM EMM products” on page 45

Table 1. Campaign upgrade roadmap (continued)

Topic	Information
Chapter 8, “Configuring multiple partitions in Campaign,” on page 47	<p>This topic provides the following information:</p> <ul style="list-style-type: none"> • “Partition superuser” on page 47 • “Setting up multiple partitions” on page 48 • “Assigning roles, permissions, and groups for partitions” on page 51
Chapter 9, “Configuring multiple partitions in eMessage,” on page 53.	<p>This topic provides the following information:</p> <ul style="list-style-type: none"> • “Partitions for eMessage: Overview” on page 53 • “Roadmap for configuring multiple partitions in eMessage” on page 54 • “Creating a new partition for eMessage” on page 54 • “Preparing eMessage system tables for the partition” on page 56 • “System user requirement to access IBM EMM Hosted Services” on page 58 • “Enabling eMessage in Campaign for the new partition” on page 59 • “Specifying the Recipient List Uploader location for eMessage” on page 59 • “Restarting system components after configuring eMessage” on page 60 • “Testing eMessage partition configuration and connections” on page 60
Chapter 10, “IBM Marketing Platform utilities and SQL scripts,” on page 63	<p>This topic provides the following information:</p> <ul style="list-style-type: none"> • “Marketing Platform utilities” on page 64 • “eMessage Response and Contact Tracker (RCT) script” on page 77 • “eMessage MKService_rct script” on page 78
Chapter 11, “Uninstalling Campaign,” on page 81	<p>This topic provides information about how to uninstall Campaign.</p>

How the installers work

Use the IBM® EMM installer with the Campaign installer when you install Campaign.

The IBM EMM suite installer starts the individual product installers during the installation process.

Use the following guidelines to install Campaign:

- Make sure that the IBM EMM installer and the Campaign installer are in the same directory on the server where you want to install Campaign. When multiple versions of the Campaign installer are present in the directory with the

IBM EMM installer, the IBM EMM installer shows the latest version of Campaign on the IBM EMM Products screen in the installation wizard.

- If you are planning to install a patch immediately after you install Campaign, make sure that the patch installer is in the same directory as that of the IBM EMM and the Campaign installer.

IBM EMM is installed in one of the following directories by default:

- /IBM/EMM (for UNIX)
- C:\IBM\EMM (for Windows)

IBM EMM products are installed by default in a subdirectory of the *IBMEMM_Home* directory. For example, Marketing Platform is installed in the *IBMEMM_Home/Platform* directory.

However, you can change the directories during installation.

Modes of installation

The IBM EMM suite installer can run in one of the following modes: GUI mode, console mode, or silent mode (also called the unattended mode). Select a mode that suits your requirements when you install Campaign.

GUI mode

Use the GUI mode for Windows or the X Window System mode for UNIX to install Campaign by using the graphical user interface.

Console mode

Use the console mode to install Campaign by using the command-line window.

Note: To display the Installer screens correctly in console mode, configure your terminal software to support UTF-8 character encoding. Other character encoding, such as ANSI, will not render the text correctly, and some information will not be readable.

Silent mode

Use the silent or unattended mode to install Campaign multiple times. The silent mode uses response files for installation, and does not require user input during the installation process.

Sample response files

You must create response files to set up a silent installation of Campaign. You can use sample response files to create your response files. The sample response files are included with the installers in the *ResponseFiles* compressed archive.

The following table provides information about sample response files:

Table 2. Description of sample response files

Sample response file	Description
installer.properties	The sample response file for the IBM EMM master installer.

Table 2. Description of sample response files (continued)

Sample response file	Description
<code>installer_product initials and product version number.properties</code>	<p>The sample response file for the Campaign installer.</p> <p>For example, <code>installer_ucn.n.n.n.properties</code> is the response file of the Campaign installer, where <code>n.n.n.n</code> is the version number.</p>
<code>installer_report pack initials, product initials, and version number.properties</code>	<p>The sample response file for the reports pack installer.</p> <p>For example, <code>installer_urpc.properties</code> is the response file of the Campaign reports pack installer.</p>

Integration of Campaign with eMessage

When IBM Campaign is integrated with IBM eMessage, you can use eMessage to conduct highly personalized email marketing campaigns. eMessage provides access to the resources that are hosted by IBM. With eMessage you can design, send, and individually monitor customized messages that are based on the information that is stored in your customer data mart.

In Campaign, use flowcharts to create lists of email recipients and select personalization data for each recipient.

In eMessage, use email design, transmission, and delivery resources that are hosted by IBM to conduct email marketing campaigns.

When you install IBM Campaign, the installer automatically includes the files that are required to support IBM eMessage. The following actions are completed for eMessage:

- eMessage is created as a sub-directory in the Campaign directory structure.
- eMessage configuration properties are listed in the IBM Marketing Platform, but the properties are not active.
- eMessage-specific database tables are created in the Campaign schema. However, the database tables contain only initial data.
- Menus and other features that are specific to eMessage do not appear until you enable and configure eMessage.

Before you can send personalized marketing email, you must request a hosted email account from IBM.

When you request an email account, IBM begins a consultation process to familiarize you with eMessage, connect you to hosted email resources, and establish your reputation as a legitimate email marketer among leading Internet Service Providers (ISPs). Establishing a favorable reputation is critical to successfully delivering your marketing message to your customers and prospects.

For more information about how to enable and configure eMessage and prepare your hosted email account, see the *IBM eMessage Startup and Administrator's Guide*.

eMessage components

eMessage requires specialized components called the Recipient List Uploader (RLU) and the Response and Contact Tracker (RCT).

The RLU is a eMessage plugin component that operates with Campaign to upload addresses, personalization data, and metadata that is associated with a list of email recipients to IBM EMM Hosted Services.

The eMessage RCT retrieves link tracking and email delivery notification data from IBM EMM Hosted Services, and stores the data in the eMessage system tables that reside in the Campaign schema.

The eMessage components operate when you enable and configure IBM eMessage. For more information about enabling eMessage and working with the RLU and RCT, see the *IBM eMessage Startup and Administrator's Guide*.

Default component installation locations

The IBM installer places the RLU on the computer where you installed the Campaign J2EE application. The RLU location is recorded in the **Campaign > partitions > partition1 > eMessage > eMessagePluginJarFile** configuration property.

The installer places the RCT on the computer where you installed the Campaign server.

If the J2EE and server components are on separate computers, run the installer on each machine to install the RLU with the J2EE application and the RCT with the Campaign server.

eMessage components in multiple partitions

One RLU exists for the entire eMessage installation. The installer populates the eMessagePluginJarFile configuration property only for the default partition. If you are using multiple partitions in your eMessage installation, you must manually configure the location of the RLU for all other partitions. The location specified in the eMessagePluginJarFile property is the same for all partitions. For more information, see “Specifying the Recipient List Uploader location for eMessage” on page 59.

Only one RCT exists for the entire eMessage installation. eMessage does not need to specify the location of the RCT in a configuration property. Responses that are received by the RCT automatically specify the appropriate local partition for correct response attribution.

Integration of Campaign with IBM EMM products

You can integrate Campaign with multiple IBM EMM products to customize your campaigns.

Campaign integrates with the following IBM EMM products:

- IBM Marketing Operations
- IBM Digital Analytics
- IBM SPSS® Modeler Marketing Edition

See the documentation for each product for more information. Also, see the *IBM Campaign Installation Guide* for more information about the integration of Campaign with other IBM EMM products.

Important: Integration of Campaign and PredictiveInsight is no longer supported. PredictiveInsight is replaced by IBM SPSS Modeler Advantage Marketing Edition. If your Campaign installation uses PredictiveInsight, installing Campaign version 9.1 prevents further use of the Model and Score processes in your existing flowcharts. You must install IBM SPSS Modeler Advantage Marketing Edition and redefine the processes that you need if you want to continue predictive modeling in Campaign. See *IBM Campaign and IBM SPSS Modeler Advantage Marketing Edition Integration Guide* for more information.

IBM Campaign documentation roadmap

IBM Campaign provides documentation and help for users, administrators, and developers.

Table 3. Get up and running

Task	Documentation
Find out about new features, known issues, and limitations	<i>IBM Campaign Release Notes</i>
Learn about the structure of the Campaign system tables	<i>IBM Campaign System Tables and Data Dictionary</i>
Install or upgrade Campaign	One of the following guides: <ul style="list-style-type: none">• <i>IBM Campaign Installation Guide</i>• <i>IBM Campaign Upgrade Guide</i>
Implement eMessage, if you purchased eMessage	<ul style="list-style-type: none">• The <i>IBM Campaign Installation and Upgrade guides</i> explain how to install and prepare eMessage components in the local environment.• The <i>IBM eMessage Startup and Administrator's Guide</i> explains how to connect to the hosted messaging resources.
Implement the IBM Cognos® reports provided with Campaign	<i>IBM EMM Reports Installation and Configuration Guide</i>

Table 4. Configure and use Campaign

Task	Documentation
<ul style="list-style-type: none">• Adjust configuration and security settings• Prepare Campaign for users• Run utilities and perform maintenance• Learn about integrations	<i>IBM Campaign Administrator's Guide</i>
<ul style="list-style-type: none">• Create and deploy marketing campaigns• Analyze campaign results	<i>IBM Campaign User's Guide</i>
Improve flowchart performance	<i>IBM Campaign Tuning Guide</i>
Use Campaign functions	<i>IBM Macros for IBM EMM User's Guide</i>

Table 5. Integrate Campaign with other products

Task	Documentation
Configure eMessage offer integration	<i>IBM Campaign Administrator's Guide</i>

Table 5. Integrate Campaign with other products (continued)

Task	Documentation
Integrate Campaign with Digital Analytics	<i>IBM Campaign Administrator's Guide</i>
Integrate Campaign with IBM SPSS Modeler Advantage Marketing Edition	<i>IBM Campaign and IBM SPSS Modeler Advantage Marketing Edition Integration Guide</i>
Integrate Campaign with Marketing Operations	<i>IBM Marketing Operations and IBM Campaign Integration Guide</i>
Use Campaign with Opportunity Detect	<i>IBM Opportunity Detect User's Guide</i>

Table 6. Develop for Campaign

Task	Documentation
Develop custom procedures with the API	<ul style="list-style-type: none"> • <i>IBM Campaign Services API Specification</i> • JavaDocs in devkits\CampaignServicesAPI
Develop Java™ plug-ins or command-line executables to add validation to Campaign	<ul style="list-style-type: none"> • <i>IBM Campaign Validation PDK Guide</i> • JavaDocs in devkits\validation

Table 7. Get help

Task	Instructions
Open online help	<ol style="list-style-type: none"> 1. Choose Help > Help for this page to open a context-sensitive help topic. 2. Click the Show Navigation icon in the help window to display the full help.
Obtain PDFs	<p>Use any of the following methods:</p> <ul style="list-style-type: none"> • Choose Help > Product Documentation to access Campaign PDFs. • Choose Help > All IBM EMM Suite Documentation to access all available documentation. • Access all documentation during the installation process from the IBM EMM installer.
Get support	Go to http://www.ibm.com/ and click Support & downloads to access the IBM Support Portal.

Chapter 2. Planning the Campaign upgrade

You can upgrade your current version of Campaign to bring it up-to-date with the latest features.

Prerequisites

Before you install or upgrade any IBM EMM product, you must ensure that your computer complies with all the prerequisite software and hardware.

System requirements

For information about system requirements, see the *Recommended Software Environments and Minimum System Requirements* guide.

Network domain requirements

The IBM EMM products that are installed as a suite must be installed on the same network domain to comply with the browser restrictions that are designed to limit the security risks that can occur with cross-site scripting.

JVM requirements

IBM EMM applications within a suite must be deployed on a dedicated Java^{TMTM} virtual machine (JVM). IBM EMM products customize the JVM that is used by the web application server. If you encounter errors that are related to the JVM, you must create an Oracle WebLogic or WebSphere[®] domain that is dedicated to the IBM EMM products.

Knowledge requirements

To install IBM EMM products, you must have a thorough knowledge of the environment in which the products are installed. This knowledge includes knowledge about operating systems, databases, and web application servers.

Access permissions

Verify that you have the following network permissions to complete the installation tasks:

- Administration access for all necessary databases.
- Read and write access to the relevant directory and subdirectories for the operating system account that you use to run the web application server and IBM EMM components
- Write permission for all files that you must edit
- Write permission for all directories where you must save a file, such as the installation directory and backup directory if you are upgrading
- Appropriate read/write/execute permissions to run the installer

Verify that you have the administrative password for your web application server.

The following additional permissions are necessary for UNIX:

- The user account that installs Campaign and Marketing Platform must be a member of the same group as the Campaign users. This user account must have a valid home directory, and have write permissions for that directory.
- All installer files for IBM products must have full permissions, for example, `rwxt-xr-x`.

JAVA_HOME environment variable

If a **JAVA_HOME** environment variable is defined on the computer where you install an IBM EMM product, verify that the variable points to a supported version of JRE. For information about system requirements, see the *Recommended Software Environments and Minimum System Requirements* guide.

Make sure that the **JAVA_HOME** environment variable points to JRE 1.7. If the **JAVA_HOME** environment variable points to an incorrect JRE, you must clear the **JAVA_HOME** variable before you run the IBM EMM installers.

You can clear the **JAVA_HOME** environment variable by using one of the following methods:

- Windows: In a command window, enter **set JAVA_HOME=** (leave empty) and press Enter.
- UNIX: In the terminal, enter **export JAVA_HOME=** (leave empty) and press Enter.

export JAVA_HOME= (leave empty)

After the environment variable is cleared, the IBM EMM installers use the JRE that is bundled with the installers. You can reset the environment variable after the installation is complete.

Marketing Platform requirement

You must install or upgrade Marketing Platform before you install or upgrade any IBM EMM products. For each group of products that work together, you must install or upgrade Marketing Platform only once. Each product installer checks whether the required products are installed. If your product or version is not registered with Marketing Platform, a message prompts you to install or upgrade Marketing Platform before you proceed with your installation. Marketing Platform must be deployed and running before you can set any properties on the **Settings > Configuration** page.

Backing up Campaign

You must back up your current installation of Campaign before upgrading Campaign. Backing up your current installation of Campaign ensures that you can restore your installation of Campaign to a known working state if any issues occur during the upgrade process. You can back up your installation of Campaign manually or automatically when you run the installers.

Procedure

Complete the following steps to back up your current installation of Campaign manually:

1. Back up your Campaign installation directory. If eMessage is installed, back up your eMessage installation directory.

The Campaign upgrade process installs all files that are required to run Campaign and eMessage. If you have installed eMessage, the Campaign upgrade process upgrades your installation of eMessage when Campaign is upgraded.

2. Back up the system table databases that are used by your existing installation of Campaign and eMessage if eMessage is installed.

See your database documentation for instructions on making backups of your data.

Exporting configuration settings

You can use the configuration settings of your current installation of Campaign for the upgraded version of Campaign. Use the IBM **configTool** utility to export your Campaign configuration parameters before upgrading. Specify and make a note of the unique file name and location of the exported.xml file that the **configTool** utility creates, so you can locate the file after the upgrade process is complete.

Pre-upgrade check utility

Before you upgrade from IBM Campaign v9.1 to v9.1.1, use the **preUpgradeTool** utility to identify any issues or inconsistencies in the file system and database. Running the utility is optional but recommended.

As part of the upgrade, executable scripts are installed in \$CAMPAIGN_HOME/utilities/upgrade/9.1To9.1.1. For Windows, the utility is named **preUpgradeTool.bat**. For other operating systems, the utility is named **preUpgradeTool.sh**.

The utility performs the following checks:

- File existence check: Verifies the IBM Campaign home directory location. This directory must exist in the file system and be accessible to the utility. This check verifies that all files required for the upgrade, such as the database upgrade script and the configuration file, are available in this directory. If any of the files are not accessible, this check fails.
- Configuration check: Verifies accessibility to **campaign_configuration.xml**, which is needed to upgrade the configuration. This task also checks if **campaign_configuration.xml** is a valid xml file. If it is corrupted, the task fails.
- Platform Configuration accessibility check: Verifies whether the IBM Marketing Platform configuration is accessible.
- Database upgrade check: Verifies whether the database details that you provided are valid. The utility accesses the database with your user credentials and verifies that the database includes the IBM Campaign system tables. This check also verifies whether you have Create, Drop, and Alter permissions in the database.
- Campaign and session ses file check: Each campaign, session, and flowchart has files of type ses associated with them. The .ses file stores system data that is related to the campaign, session, or flowchart. If a file is missing, the related object is not usable.

Process overview

Before you run the **preUpgradeTool**, enter your environment details in the file **setenv.bat** (Microsoft Windows) or **setenv.sh** (other operating systems). You can then run the **preUpgradeTool** utility.

1. The utility interactively requests information that is required for the upgrade, such as the location of `CAMPAIGN_HOME` and database details.
2. After all of the details are collected, they are verified.
3. The status of each validation step is displayed. All results are also logged.
4. If all checks pass, a success message is displayed with an option to continue with the upgrade.
5. All of the data that you provided is automatically passed to the upgrade script.

Upgrade log

acUpgradeTool writes processing details, warnings, or errors to a log file. You can adjust the location and verbosity level for the log file by editing the `setenv` script file before you run the upgrade tool. The `setenv` file is stored in the same folder as the upgrade tool.

`ac_upgrade.log` is the default log file. The `ac_upgrade.log` log file is stored in the `logs` folder in the Campaign installation directory.

Check the upgrade log for warnings and errors, and rectify the errors before you complete the upgrade.

Note: A `CHRH.log` file is also generated in the same location. The `CHRH.log` file is 0 KB in size and can be ignored.

Upgrade prerequisites for all IBM EMM products

Meet all requirements for permissions, operating system, and knowledge correctly before you upgrade Campaign to ensure a seamless upgrade experience.

Removing response files generated by previous installations

If you are upgrading from a version before 8.6.0, you must delete the response files that are generated by previous Campaign installations. Old response files are not compatible with the 8.6.0 and later installers.

Failure to remove old response files can result in having incorrect data pre-filled in installer fields when the installer is run, or in the installer failing to install some files or skipping configuration steps.

The IBM response file is named `installer.properties`.

The response files for each product are named `installer_productversion.properties`.

The installer creates response files in the directory that you specify during installation. The default location is the home directory of the user.

User account requirement for UNIX

On UNIX, the user account that installed the product must complete the upgrade, otherwise the installer fails to detect a previous installation.

32-bit to 64-bit version upgrades

If you are moving from a 32-bit to a 64-bit version of Campaign, ensure that you complete the following tasks:

- Ensure that the database client libraries for your product data sources are 64-bit.
- Ensure that all relevant library paths, for example startup or environment scripts, correctly reference the 64-bit versions of your database drivers.

Auto commit requirement for Oracle or DB2

If your Marketing Platform system tables are in Oracle or DB2®, you must enable the auto-commit mode for the environment open.

See the Oracle or DB2 documentation for instructions.

Change in names of user-defined groups and roles

You must upgrade Marketing Platform before you upgrade Campaign. To avoid problems when you upgrade the Marketing Platform, the names of the groups and roles that are created by the user must be different from the names of the groups or roles that are defined by Marketing Platform.

If the names are same, you must change the group or role names that you created before the upgrade. For example, if you have created a group or role called Admin, you must change the name, because Admin is a name that is used in Campaign.

Campaign upgrade worksheet

Before running acUpgradeTool, you must gather information about your Campaign installation.

Gather the following information about your Campaign installation :

- Fully qualified path of your Marketing Platform installation directory (UNICA_PLATFORM_HOME in the setenv file). If Marketing Platform is installed on a separate machine from Campaign, specify the CAMPAIGN_HOME path instead of the UNICA_PLATFORM_HOME path.
- Fully qualified path of your Campaign installation directory (CAMPAIGN_HOME in the setenv file)
- For a multi-partition upgrade, the names of the partitions to be upgraded
- Connection information for the target Campaign system (URL and port)
- Connection type (WebLogic or JDBC) and location of the JAR files
- Java class name for the JDBC driver
- JDBC URL
- Additional properties required by the JDBC driver, if any
- User name and password for the target system tables database
- Catalog (or database) for the target system tables
- Schema for the target system tables
- Version of Campaign you are upgrading from
- Full or relative path of the Campaign configuration file (campaign_configuration.xml). This file is located in the conf directory under your Campaign installation.

Chapter 3. Upgrading Campaign

You can upgrade IBM Campaign to version 9.1.1 from version 9.1.

About this task

Upgrading from Campaign 9.1 is considered an in-place upgrade. You must install the new version into the same directory as your current installation of Campaign, so Campaign can detect the upgrade.

Note: If you plan to upgrade to a clustered Campaign listener configuration, be sure to read Appendix B, “Upgrading to a clustered listener environment,” on page 89.

The following steps provide an overview of the tasks that you must complete to upgrade Campaign:

1. Undeploy Campaign.
2. Run the IBM EMM installer and the Campaign installer in the Campaign installation directory. The installer automatically runs in upgrade mode. Follow the instructions in the *IBM Campaign Installation Guide v9.1.1* while running the installers.
3. Run the pre-upgrade utility (`preUpgradeTool.bat` or `preUpgradeTool.sh`) in `$CAMPAIGN_HOME/utilities/upgrade/9.1To9.1.1`.
4. Run the upgrade tool in `Campaign_Home/tools/upgrade/9.1To9.1.1/acUpgradeTool`.
5. You must clear the browser cache after you complete the upgrade. You must also clear the browser cache after you apply any Campaign fix pack or Campaign interim fix that updates the Campaign application.
6. Upgrade your reports as explained in the *IBM EMM Reports Installation and Configuration Guide*.

Important notes for eMessage users

eMessage is installed or upgraded as part of Campaign. If you currently use or plan to use eMessage, see Chapter 4, “Upgrade considerations for eMessage,” on page 23.

Note: When upgrading eMessage, there is no need to select **Automatic DB Setup**. This option is intended only for new installations, when the eMessage system tables do not already exist.

Important notes for Contact Optimization users

You must upgrade Campaign and Contact Optimization together. If you do not want to upgrade Campaign and Contact Optimization together, you must stop the Contact Optimization listener manually.

Undeploying and upgrading Campaign

Before upgrading Campaign, you must undeploy your current installation of Campaign.

Procedure

Complete the following steps to undeploy the current installation of Campaign:

1. Stop the Campaign listener by using one of the following methods:
 - On UNIX, run the following command as root: **./rc.unica_ac stop**
 - On Windows, go to the Campaign bin directory and run the following command: **svrstop -p <port>**, where <port> is the port on which the listener is running. By default, <port> is 4664.
If you are prompted for the CAMPAIGN_HOME environment variable, use the following command to set the CAMPAIGN_HOME environment variable: **set CAMPAIGN_HOME=C:\installation_pathCampaign**.
After you set the CAMPAIGN_HOME environment variable, run the setup as shown here, then run the **svrstop** command again.
2. Also, stop the Campaign utilities (**unica_***) that might be running. For instructions, see the *Campaign Administrator's Guide*.
If you skip this step, the installer detects if any processes are running and requests that you stop them.
3. Follow the instructions in your web application server to undeploy the Campaign.war file, and save or activate all changes.
4. Shut down and restart the web application server to release the lock on the Campaign.war file.

What to do next

After you undeploy your current installation of Campaign, you can run the EMM installer in upgrade mode. Use the following guidelines to run the installer in upgrade mode:

- To ensure that the EMM installer runs in the upgrade mode, select the same directory as your current installation when you run the installer. The installer detects your existing version of Campaign and prompts you to confirm the upgrade.
- When upgrading to version 9.x, do not select the installer option for **Automatic DB Setup**. This option is intended for new installations, not upgrades.
- If you are rerunning the installer on a system where other IBM products are installed, select only Campaign in the installer during the upgrade process.
- If a response file was previously created and you run in unattended mode, the installer uses the installation directory that was previously set. If you want to upgrade by using the unattended mode when no response file exists, create a response file by running the installer manually for your first installation, and be sure to select your current installation directory in the installation wizard.
- If you have a distributed system where the Campaign listener is installed on one server, and J2EE is installed on a different server, complete the following tasks to upgrade Campaign:
 1. Run the Campaign installer on the server where the Campaign listener is installed. Make sure that you select the **Campaign Server** option in the Campaign Components window of the installer.
 2. Run the Campaign installer on the server where J2EE is installed. Make sure that you clear the Campaign Server option in the Campaign Components window of the installer.

You can create an EAR file after the upgrade process. To see more information about creating an EAR file, see *IBM Campaign Installation Guide*

After you run the EMM installer in the upgrade mode, run **acUpgradeTool** to continue the upgrade process.

SQL upgrade scripts

Use SQL upgrade scripts to upgrade your installation of Campaign according to your database type.

The SQL upgrade scripts are in *Campaign_Home/tools/upgrade/9.1To9.1.1*. Use one of the scripts from the following table according to your database type:

Table 8. SQL upgrade scripts according to database type

SQL upgrade script	Database type
ac_upgrade_db2.sql	DB2 upgrade script (non-Unicode)
ac_upgrade_db2_unicode.sql	DB2 upgrade script (Unicode)
ac_upgrade_oracle.sql	Oracle upgrade script (non-Unicode)
ac_upgrade_oracle_unicode.sql	Oracle upgrade script (Unicode)
ac_upgrade_sqlsvr.sql	MS SQL Server upgrade script (non-Unicode)
ac_upgrade_sqlsvr_unicode.sql	MS SQL Server upgrade script (Unicode)

Changes to SQL upgrade scripts

You must modify the SQL upgrade scripts to reflect the changes that are made to the Campaign database table. Use the following table to understand the changes that must be done for some SQL upgrade scripts:

Table 9. Changes to SQL upgrade scripts

Changed Campaign database table name	Required change in SQL upgrade scripts
UA_ContactHistory table	<p>In your existing Campaign environment, the CustomerID field in the UA_ContactHistory table has been changed to ID.</p> <p>To accommodate the field name change, change all occurrences of CustomerID to ID in the upgrade scripts.</p>

Table 9. Changes to SQL upgrade scripts (continued)

Changed Campaign database table name	Required change in SQL upgrade scripts
HH_ContactHistory HH_ResponseHistory HH_DtlContactHist	<p>Your existing Campaign environment contains an additional audience level called Household. To support the audience level, your database contains the HH_ContactHistory, HH_ResponseHistory, and HH_DtlContactHist tables. The primary key is HouseholdID.</p> <p>Complete the following tasks to support the Household audience level in your new Campaign installation:</p> <ol style="list-style-type: none"> 1. Locate the code in the SQL upgrade script that updates response history and treatment sizes for the Customer audience level. 2. Replicate the code for your Household audience level. 3. Change the table names in the statements to the appropriate names for your Household audience level, and change the references of CustomerID to HouseholdID. <p>The following example SQL statements show the required additions that must be made to the ac_upgrade_sqlsvr.sql script for an SQL Server database that contains the Household audience level. The text that has been changed to support the Household audience level is in bold:</p> <pre>-- ResponseHistory update "template" ALTER TABLE HH_ResponseHistory ADD DirectResponse int NULL go -- Update the treatment sizes update ua_treatment set treatmentsize=(select count(DISTINCT HouseholdID) from HH_ContactHistory where HH_ContactHistory.CellID = ua_treatment.CellID AND HH_ContactHistory.PackageID = ua_treatment.PackageID and ua_treatment.CntrlTreatmtFlag = 1 and ua_treatment.HasDetailHistory = 0) where exists (select * from hh_contacthistory where hh_contacthistory.CellID = ua_treatment.CellID AND hh_contacthistory.PackageID = ua_treatment.PackageID and ua_treatment.CntrlTreatmtFlag = 1 and ua_treatment.HasDetailHistory = 0) go update ua_treatment set treatmentsize=(select count(DISTINCT HouseholdID) from HH_DtlContactHist where HH_DtlContactHist.TreatmentInstID = ua_treatment.TreatmentInstID and ua_treatment.CntrlTreatmtFlag = 1 and ua_treatment.HasDetailHistory = 1) where exists (select * from hh_dtlcontacthist where hh_dtlcontacthist.TreatmentInstID = ua_treatment.TreatmentInstID and ua_treatment.CntrlTreatmtFlag = 1 and ua_treatment.HasDetailHistory = 1) go</pre>

For more information on managing database tables and audience levels, see the *IBM Campaign Administrator's Guide*.

acUpgradeTool

acUpgradeTool updates the Campaign system tables and modifies your user data to work with the new version of Campaign. You can run **acUpgradeTool** after you run the EMM installer in the upgrade mode.

Setting environment variables for Campaign 9.1.1

Before you run **acUpgradeTool**, edit the `setenv` file to set the environment variables that are required by the **acUpgradeTool** tool.

Procedure

Complete the following actions to set the environment variables for Campaign 9.1.1:

1. Open `setenv.bat` (Windows) or `setenv.sh` (UNIX) in a text editor. The `setenv` file is stored in the directory where you installed the upgrade tools, for example, *Campaign_Home/tools/upgrade/9.1+To9.1.1*.
2. Follow the instructions in the `setenv` file to supply the values that are relevant to your installation. The following table contains a list of the variables:

Table 10. Variables in the `setenv` file:

Variable	Description
JAVA_HOME	Required. Root directory of the JDK used by your Campaign installation. For WebLogic, you must provide the JAVA_HOME path to JDK1.7. The upgrade tool utility fails if provided with a JAVA_HOME other than JDK1.7.
JDBC_DRIVER_CLASSPATH	Required. Full path for the JDBC drivers, including the .jar file. For both WebLogic and WebSphere, the path needs to include the .jar file.
IS_WEBLOGIC_SSL BEA_HOME_PATH SSL_TRUST_KEYSTORE_FILE_PATH	Required if you are using SSL and the connection to the target system tables is via the WebLogic server. Set IS_WEBLOGIC_SSL=YES , then set BEA_HOME_PATH and SSL_TRUST_KEYSTORE_FILE_PATH . See the <code>setenv</code> file for details.
Other variables	There are many optional variables you can set. For example: <ul style="list-style-type: none">• To run Unicode script, set IS_UNICODE_SCRIPT = YES• To avoid memory errors when running the upgrade tool, specify larger Java heap memory sizes in the JAVA_OPTIONS environment variable. For instructions, see the <code>setenv</code> file.

Running acUpgradeTool

To upgrade Campaign, run **acUpgradeTool** after you run the installers in the upgrade mode.

Before you begin

To successfully run **acUpgradeTool**, verify the following information:

- The `setenv` file is customized with the information that the upgrade tool requires.
- The upgrade tools are installed on the computer where you run them. If your setup is distributed, the tools must be installed on the computer where the Campaign web application is installed. If you did not install the upgrade tools during the Campaign installation, run the installer again and select only the **Upgrade Tools** option.
- The appropriate database client executable file (`db2`, `osql`, or `sqlplus`) for the Campaign system tables data source is accessible in the `PATH` of the user who runs the upgrade tool.

Complete the following steps before you run the upgrade tool:

1. Run the Campaign installer in upgrade mode.
2. Redeploy Campaign.
3. Restart RCT if you are using eMessage.
4. Modify the SQL script if required, and gather information to enter when you run the tool.

About this task

Note: If you have multiple partitions, you must configure and run the upgrade tool once for each partition.

Procedure

Complete the following actions to run **acUpgradeTool** and complete the upgrade process:

1. Start the web application server on the target system and the IBM EMM web application.
2. Make sure that the Campaign listener is stopped.
Stop the Campaign utilities (`unica_*`) that might be running. For instructions, see the *IBM Campaign Administrator's Guide*.
3. Run the upgrade tool in the path where you installed Campaign, `Campaign_Home/tools/upgrade/9.1+To9.1.1/acUpgradeTool`
4. Enter the requested information at the prompts to upgrade your system tables for the new version of Campaign.
5. Complete one of the following steps to restart the Campaign listener:
 - On Windows, run the `cmpServer.bat` file in the `bin` directory under your Campaign installation.
 - On UNIX, run the following command as root:
`./rc.unica_ac start`

What to do next

Complete the following steps after you have run **acUpgradeTool**:

1. Restart the Campaign listener, also known as the server.
2. If you are using eMessage, restart the RCT.

To restart the RCT manually, use the **rct start** command. The RCT script is in the `bin` directory under your eMessage installation.

To restart the RCT every time you restart the operating system of the machine where the RCT is installed, add the RCT as a service. For instructions, see “eMessage MKService_rct script” on page 78.

Note: When you restart the RCT as a service, you must manually restart the RCT the first time.

Chapter 4. Upgrade considerations for eMessage

To upgrade to the latest version of eMessage, you must upgrade Campaign to the same version. You can upgrade to Campaign and eMessage 9.1.1 from version 9.1.

Prerequisites for upgrading eMessage

Before you upgrade eMessage, confirm that your operating system, hardware and software, and network and database resources meet the current requirements for all installed IBM EMM applications, including the current version of eMessage.

For specific current requirements, see the *Recommended Software Environments and Minimum System Requirements* document. The eMessage requirements appear in a separate section and might differ from the requirements for the current version of Campaign.

Before you upgrade eMessage, make sure that you are upgrading to Campaign and eMessage 9.1.1 from version 9.1. The version of eMessage that you are using determines the upgrade path you must follow.

Upgrading to the latest version of Campaign and eMessage does not affect your hosted email account settings. You can resume mailing after you complete the upgrade.

When changes to the eMessage system tables are part of an upgrade, IBM provides the necessary schema upgrade scripts and procedures.

If you never used eMessage before, the upgrade installs the necessary eMessage files. However, eMessage is not enabled for use. After you run the EMM installer in the upgrade mode, you must complete the pre-deployment configuration steps for eMessage.

To use eMessage to send email, you must contact IBM to purchase a hosted email subscription. For information about how to configure eMessage after you purchase an email subscription, see the *IBM eMessage Startup and Administrator's Guide*.

Scheduling an eMessage upgrade

To upgrade eMessage you must stop system components and take interfaces offline. An upgrade also interferes with uploading and downloading data from IBM EMM Hosted Services. To avoid issues, schedule the upgrade for a time when there is minimal demand on the system. Use the following guidelines when you upgrade eMessage:

- Avoid upgrading when marketing users need to update recipient lists and recipient data.
- Avoid upgrading when marketing users need to run standard mailings or mailings that require close monitoring.
- Allow enough time to provide advance notice to all users about when you plan to begin the upgrade.
- Do not upgrade your eMessage installation when scheduled mailings are configured to run.

- Schedule the upgrade to occur immediately after you upgrade Marketing Platform.

Completing recipient list uploads

Running a Campaign flowchart that contains an eMessage process causes Campaign to automatically upload recipient list data as an Output List Table (OLT) to IBM EMM Hosted Services. However, upgrade activities can interfere with OLT uploads.

To avoid OLT upload issues, IBM recommends that you schedule the upgrade for a time when there are no requirements to upload recipient list data. Before you begin the eMessage upgrade, confirm that all Campaign flowcharts that contain an eMessage process have finished running.

To preserve in-progress recipient list configuration work, save your work and back up all local files and databases before starting the upgrade.

Note: Mailing configurations are saved in IBM EMM Hosted Services and are unaffected by the upgrade.

Upgrading eMessage

To upgrade to the latest version of eMessage, you must upgrade Campaign to the same version. You can upgrade to Campaign and eMessage 9.1.1 from version 9.1.

About this task

If you currently use eMessage, note the following information to upgrade eMessage:

- Upgrading to the latest version of Campaign and eMessage does not affect your hosted email account settings. You can resume mailing after you complete the upgrade.
- When changes to the eMessage system tables are part of an upgrade, IBM provides the necessary schema upgrade scripts and procedures.

Procedure

eMessage can be upgraded in one of the following ways:

- If you currently use eMessage, the upgrade for eMessage occurs when you run the EMM installer in upgrade mode while upgrading Campaign.
- If you never used eMessage before, the Campaign upgrade installs the necessary eMessage files but does not enable eMessage for use. After you run the upgrade installer, you must complete the pre-deployment configuration steps that are related to eMessage, as described in *Configuring IBM Campaign before deployment*. To use eMessage to send email, you must contact IBM to purchase a hosted email subscription. For information about how to configure eMessage after you purchase an email subscription, see the *IBM eMessage Startup and Administrator's Guide*.

What to do next

Restart the Response and Contact tracker (RCT) after the upgrade in one of the following ways.

Restarting the RCT manually

To restart the RCT manually, use the **rct start** command. The RCT script is stored in the bin directory under your eMessage installation. For more information, see “eMessage Response and Contact Tracker (RCT) script” on page 77.

Restarting the RCT as a service

To restart the RCT every time that you restart the computer where the RCT is installed, add the RCT as a service.

Note: When you restart the RCT as a service, you must manually restart the RCT the first time.

Emails during eMessage upgrade

When you upgrade eMessage, the eMessage mailing interface is not available. You cannot configure or start new mailings. Mailings that you have already started will run, but you cannot monitor, pause, or stop them.

Email responses during an upgrade

When you upgrade eMessage you must temporarily stop the RCT.

During the upgrade, you might experience some delay in the availability of mailing response data. However, the data is not lost. IBM EMM Hosted Services queues response and contact data during the time that the RCT is stopped. When you restart the RCT, all the accumulated data is downloaded.

During the upgrade, individuals that received email during previous mailings encounter no changes in the availability of links in the email, the speed of response to link clicks, or web site requests. IBM supports the functions with the resources that are maintained in IBM EMM Hosted Services.

Chapter 5. Configuring Campaign before deployment

Before you deploy Campaign, create and populate the Campaign and eMessage system tables and register Campaign and eMessage manually.

Note: Information about using web application clustering in IBM Campaign is provided in Appendix A, “Web application clustering,” on page 83.

Creating and populating Campaign system tables manually

By default, the Campaign installer automatically creates and populates system tables. However, if the system tables are not created and populated automatically during the installation, you must populate the system tables manually. Use your database client to run the Campaign SQL scripts against the appropriate database to create and populate the Campaign system tables.

Note: If you plan to enable eMessage, you must also manually create and populate the eMessage system tables if the installer did not do so automatically. For details, see “Creating and populating the eMessage system tables manually” on page 28.

If you selected the **Campaign System Table DDL Files** option on the Campaign Components page during installation, the IBM installer installs a collection of SQL scripts that you can use to create and populate the Campaign system tables. The SQL scripts are installed in the `ddl` directory under your installation of the Campaign server. If your system tables are configured for Unicode, the appropriate scripts are in the `ddl/unicode` directory under your Campaign installation.

To use the SQL scripts, run your database client to apply the scripts to the database or schema that holds the Campaign system tables. See the documentation for your database software for instructions on running SQL scripts.

The following tables list the SQL scripts that are provided for you to use to create and populate the Campaign system tables manually:

Table 11. Scripts for creating Campaign system tables

Data source type	Script name
IBM DB2	<code>ac_systab_db2.sql</code>
Microsoft SQL Server	<code>ac_systab_sqlsvr.sql</code>
Oracle	<code>ac_systab_oracle.sql</code>

Table 12. Scripts for populating Campaign system tables

Data source type	Script name
IBM DB2	<code>ac_populate_tables_db2.sql</code>
Microsoft SQL Server	<code>ac_populate_tables_sqlsvr.sql</code>
Oracle	<code>ac_populate_tables_oracle.sql</code>

You can create tables in the Campaign schema if you want to integrate Distributed Marketing with Campaign.

The following tables list the SQL scripts that are provided for you to use to create the Campaign system tables manually:

Table 13. Scripts for creating Campaign system tables to integrate Distributed Marketing with Campaign

Data source type	Script name
IBM DB2	c1b_systab_db2.sql
Microsoft SQL Server	c1b_systab_sqlsvr.sql
Oracle	c1b_systab_ora.sql

To populate the rows in the system tables that are created by the **c1b_systab_DB_type.sql** script, run the **c1b_populate_tables.sql** script.

Creating and populating the eMessage system tables manually

For eMessage, you must create additional system tables in the Campaign schema and then populate the tables with initial data. The Campaign installer automatically creates and populates the eMessage system tables in the Campaign schema if you select the option to create system tables automatically. However, if you do not select the option, you must create and populate the eMessage system tables manually.

Use your database client to run the appropriate script against the Campaign database.

Note: The eMessage installation directory is a subfolder within the Campaign directory.

Scripts for creating eMessage tables

IBM provides the **ace_op_systab** scripts for creating eMessage tables in your local environment.

If your Campaign system tables are configured for Unicode, find the appropriate script in the **ddl/unicode** directory under your eMessage installation.

If your Campaign system tables are not configured for Unicode, use the non-Unicode scripts in the **ddl** directory under your eMessage installation. Use the following table to see the scripts that you must use:

Table 14. Scripts for creating eMessage tables

Data source type	Script name
IBM DB2	ace_op_systab_db2.sql The user tablespace and system temporary tablespace where the system tables reside must each have a page size of 16K or greater.
Microsoft SQL Server	ace_op_systab_sqlsvr.sql
Oracle	ace_op_systab_ora.sql

Scripts for populating eMessage tables

IBM provides the `ace_op_populate_systab` scripts for populating the eMessage tables in your local environment.

The populate scripts are stored in the `ddl` directory of your eMessage installation. IBM provides only one version of the populate scripts because you can use them for either Unicode or non-Unicode tables.

Note: The eMessage installation directory is a subfolder within the Campaign directory.

Use the following table to see the scripts that you must use:

Table 15. Scripts for populating eMessage tables

Data source type	Script name
IBM DB2	<code>ace_op_populate_systab_db2.sql</code>
Microsoft SQL Server	<code>ace_op_populate_systab_sqlsrvr.sql</code>
Oracle	<code>ace_op_populate_systab_ora.sql</code>

Registering Campaign manually

During the installation process, if the Campaign installer cannot access the Marketing Platform system tables, you must run the **configTool** utility to register it manually.

About this task

You can use the **configTool** and **populateDb** utilities to import and populate the Campaign information in the Marketing Platform system tables.

Procedure

1. Run the **populateDb** utility by using the following example command as a guideline.
populateDb.bat -n Campaign
The command imports security roles and permissions into the default partition.
2. **If you are upgrading Campaign**, unregister Campaign by using the following command:
configTool -x -p "Affinium|Campaign|about" -f exportedAbout.xml
The command exports the Campaign **About** node to the `exportedAbout.xml` file.
3. Run the **configTool** utility by using the following example commands as guidelines:
 - **configTool -r Campaign -f "full_path_to_Campaign_installation_directory\conf\campaign_configuration.xml"**
 - **configTool -v -i -p "Affinium|suite|uiNavigation|settingsMenu" -f "full_path_to_Campaign_installation_directory\conf\campaign_setup_navigation.xml"**

- `configTool -v -i -p "Affinium|suite|uiNavigation|mainMenu" -f "full_path_to_Campaign_installation_directory\conf\campaign_navigation.xml"`
- `configTool -v -i -p "Affinium|suite|uiNavigation|mainMenu|Analytics" -f "full_path_to_Campaign_installation_directory\conf\campaign_analysis_navigation.xml"`
- `configTool -v -i -p "Affinium|suite|uiNavigation|alerts" -f "full_path_to_Campaign_installation_directory\conf\campaign_alerts.xml"`

The commands import configuration properties and menu items. You must run the utility as many times as there are files.

4. Run the following command after you register Campaign:

```
configtool -i -p "Affinium|Campaign" -f exportedAbout.xml
```

The command imports the Campaign **About** node to the `exportedAbout.xml` file.

Registering eMessage manually

If the eMessage installer cannot access the Marketing Platform system tables during the installation process, you must run the **configTool** utility to register it manually.

About this task

By default, the Campaign installer automatically registers eMessage with the Marketing Platform system tables without enabling eMessage. In some situations, the Campaign installer does not connect with the Marketing Platform system tables to automatically register eMessage.

If the installer does not register eMessage automatically, you must register eMessage manually with the `configTool` utility that is provided with the IBM EMM installation.

Procedure

1. In the Marketing Platform installation, navigate to the `tools\bin` directory.
The `configTool` utility is in the `tools\bin` directory. The eMessage installation directory is a subdirectory of the Campaign installation directory.
2. Run the command, `configTool -r eMessage -f "full_path_to_eMessage_installation_directory\conf\emessage_configuration.xml"`

Setting data source variables in the Campaign startup script (UNIX only)

Data source variables are automatically set by the installer during installation of Campaign. You can change these settings in `setenv.sh` file. You must restart the server every time you modify `setenv.sh` file.

About this task

During Campaign installation, the IBM Installer collects database information from you and uses that information to automatically configure the database and

environment variables that are required to create and use the Campaign system tables. Those settings are stored in the `setenv.sh` file in the `bin` directory under your Campaign server installation.

For access to data sources (such as Campaign customer tables) that do not use the same type of database as the system tables, you must manually configure the `setenv.sh` file to add the database and library environment variables that are described in “Database and library environment variables.”

Note that if you modify this file when the Campaign server is already running, you must restart the server before changes to the `setenv` file are recognized. See “Starting the Campaign server” on page 39 for more details.

See Distributed Marketing database information worksheet for the required information to add to the `setenv` file.

Database and library environment variables

Set database and library environment variables that are required for your databases (customer tables and system tables, if you chose Manual Database Setup during installation) and operating system. You can set the database and library variables in the `setenv.sh` file.

Following table describes database names with their syntax and descriptions.

Table 16. Database environment variables

Database	Syntax and Description
DB2	<code>DB2DIR=full_dir_path</code> <code>export DB2DIR</code> DB2 installation directory (for example, <code>/usr/lpp/db2_06_01</code>) <code>. full_path_to_db2profile</code> Sources the database configuration for DB2 users (e.g. <code>/home/db2inst1/sqllib/db2profile</code>). Note the ". " (period and then a space).
Netezza®	<code>NZ_ODBC_INI_PATH=full_dir_path</code> <code>export NZ_ODBC_INI_PATH</code> Directory location of the <code>odbc.ini</code> file (e.g. <code>/opt/odbc64v51</code>) <code>ODBCINI=full_path_and_file_name</code> <code>export ODBCINI</code> Full path to the <code>odbc.ini</code> file

Table 16. Database environment variables (continued)

Database	Syntax and Description
Oracle	<p>ORACLE_BASE=<i>full_dir_path</i></p> <p>export ORACLE_BASE</p> <p>Oracle installation directory</p> <p>ORACLE_HOME=<i>full_dir_path</i></p> <p>export ORACLE_HOME</p> <p>Oracle's home directory (e.g. /home/oracle/OraHome1).</p>
Teradata	<p>ODBCINI=<i>full_path_and_file_name</i></p> <p>export ODBCINI</p> <p>Full path to the odbc.ini file</p>

Define the library environment variable as mentioned in the following table, depending on your UNIX operating system.

Table 17. Library environment variable

Operating System	Value
SunOS and Linux	<p>LD_LIBRARY_PATH</p> <p>For example:</p> <p>LD_LIBRARY_PATH=<Campaign_Home>/bin:<path to DB lib directory>:\$LD_LIBRARY_PATH</p> <p>export LD_LIBRARY_PATH</p> <p>Note: If LD_LIBRARY_PATH_64 (for 64-bit linking) is set, remove it. The LD_LIBRARY_PATH variable will be ignored if LD_LIBRARY_PATH_64 is set.</p>
AIX®	<p>LIBPATH</p> <p>For example: LIBPATH=<Campaign_Home>/bin:<path to DB lib directory>:/usr/lib:\$ORACLE_HOME/lib32:\$ORACLE_HOME/lib</p>
HP-UX	<p>SHLIB_PATH</p> <p>For example: SHLIB_PATH=<Campaign_Home>/bin:<path to DB lib directory>:/usr/lib:\$ORACLE_HOME/lib32:\$ORACLE_HOME/lib</p>

Library directories for Oracle databases

Different versions of Oracle have different naming conventions for their lib directories. Older versions used lib for 32-bit and lib64 for 64-bit. Newer versions use lib32 for 32-bit and lib for 64-bit.

If you install 32-bit Campaign, you must include either \$ORACLE_HOME/lib32 or \$ORACLE_HOME/lib , whichever one contains the 32-bit Oracle libraries.

If you install 64-bit Campaign, you must include either \$ORACLE_HOME/lib or \$ORACLE_HOME/lib64, whichever one contains the 64-bit Oracle libraries.

Note: Do not include paths to both the 32- and 64-bit libraries; include only the path to the library you are using for your version of Campaign.

Chapter 6. Deploying the Campaign web application

You can deploy the Campaign web application by using an EAR file or you can deploy the individual WAR files.

To deploy Campaign, follow the guidelines in this section and then start the Campaign server.

When you ran the IBM installer, you may have included Campaign in an EAR file, or you may choose to deploy the Campaign WAR file. If you included the Marketing Platform or other products in an EAR file, you must follow all the deployment guidelines detailed in the individual install guides for the products included in the EAR file.

You must know how to work with your web application server. Consult your web application server documentation for details such as navigation in the Administration console.

Note: Information about using web application clustering in IBM Campaign is provided in Appendix A, “Web application clustering,” on page 83.

Setting the web application session timeout

Session timeout determines how long an inactive HTTP session can remain open before the session expires. If required, you can set the web application session timeout for Campaign by using the WebSphere console or the WebLogic console to adjust the value of session timeout in seconds or minutes.

About this task

Procedure

Set the session timeout on your web application server:

- WebSphere: Use the IBM WebSphere Application Server Administrative Console to set the Session timeout in minutes. You can adjust this setting at the server and Enterprise Application levels. See your WebSphere documentation for details.
- WebLogic: Use the WebLogic console to set the Session Timeout in seconds, or adjust the **TimeoutSecs** parameter value for the **session-descriptor** element in the weblogic.xml file.

Deploying Campaign on WebSphere Application Server

You can deploy Campaign runtime environment on supported versions of WebSphere Application Server (WAS) from a WAR file or EAR file.

About this task

Note: Make sure that multiple language encoding is enabled in WAS.

Deploying Campaign on WAS from a WAR file

You can deploy the Campaign application from a WAR file on WAS.

Before you begin

Complete the following tasks before you deploy Campaign:

- Confirm that your version of WebSphere meets the requirements in the *Recommended Software Environments and Minimum System Requirements* document, including any necessary fix packs or upgrades.
- Confirm that you created the data sources and database provider in WebSphere.

Procedure

1. Go to the WebSphere Integrated Solutions Console.
2. Complete the following steps if your system tables are in DB2:
 - a. Click the data source that you created. Go to the Custom Properties for the data source.
 - b. Select the Custom properties link.
 - c. Set the value for the **resultSetHoldability** property to 1.
If you do not see the **resultSetHoldability** property, create the **resultSetHoldability** property and set its value to 1.
3. Go to **Applications > Application Types > WebSphere enterprise applications** and click **Install**.
4. In the Preparing for the application installation window, select the **Detailed - Show all options and parameters** check box and click **Next**.
5. Click **Continue** to see the Install New Application wizard.
6. Accept the default settings on the windows of the Install New Application wizard except the following windows:
 - In step 1 of the Install New Application wizard, select the **Precompile JavaServer Pages files** check box.
 - In step 3 of the installation wizard, set the **JDK Source Level** to 16.
 - In step 8 of the installation wizard, set the **Context Root** to /Campaign.
7. In the left navigation panel of WebSphere Integrated Solutions Console, navigate to **Applications > Application Types > WebSphere enterprise applications**.
8. In the Enterprise Applications window, click the Campaign.war file.
9. In the **Web Module Properties** section, click **Session Management** and select the following check boxes:
 - **Override session management**
 - **Enable Cookies**
10. Click **Enable Cookies**, and in the **Cookie name** field, enter a unique cookie name.
11. If you are using version 8 of WebSphere Application Server, select **Servers > WebSphere application server > server 1 > Session management > Enable Cookies** and clear the check box for **Set session cookies to HTTPOnly to help prevent cross-site scripting attacks**.
12. In the **Applications > Enterprise Applications** section of the server, select the WAR file that you deployed.
13. In the **Detail Properties** section, select **Class loading and update detection**.
14. In the **Class loader order** section, select the **Classes loaded with local class loader first (parent last)** option.
15. For **WAR class loader policy**, select **Class Loader for each WAR file in application**.

16. Start your deployment.

Deploying Campaign on WAS from an EAR file

You can deploy Campaign by using an EAR file if you included Campaign in an EAR file when you ran the IBM EMM installer.

Before you begin

- Confirm that your version of WebSphere meets the requirements in the *Recommended Software Environments and Minimum System Requirements* document, including any necessary fix packs or upgrades.
- Confirm that you created the data sources and database provider in WebSphere.

Procedure

1. Go to the WebSphere Integrated Solutions Console.
2. If your system tables are in DB2, click the data source that you created. go to the Custom Properties for the data source. .
3. Select the Custom properties link.
4. Set the value for the **resultSetHoldability** property to 1.
If you do not see the **resultSetHoldability** property, create the **resultSetHoldability** property and set its value to 1.
5. Go to **Applications > Application Types > WebSphere enterprise applications** and click **Install**.
6. In the Preparing for the application installation window, select the **Detailed - Show all options and parameters** check box and click **Next**.
7. Click **Continue** to see the Install New Application wizard.
8. Accept the default settings on the windows of the Install New Application wizard except the following windows:
 - In step 1 of the Install New Application wizard, select the **Precompile JavaServer Pages files** check box.
 - In step 3 of the installation wizard, set the **JDK Source Level** to 16.
 - In step 8 of the installation wizard, set the **Context Root** to /Campaign.
9. In the left navigation panel of WebSphere Integrated Solutions Console, navigate to **Applications > Application Types > WebSphere enterprise applications**.
10. In the Enterprise Applications window, select the EAR file that you want to deploy.
11. In the **Web Module Properties** section, click **Session Management** and select the following check boxes:
 - **Override session management**
 - **Enable Cookies**
12. Click **Enable Cookies**, and in the **Cookie name** field, enter a unique cookie name.
13. If you are using version 8 of WebSphere Application Server, select **Servers > WebSphere application server > server 1 > Session management > Enable Cookies** and clear the check box for **Set session cookies to HTTPOnly to help prevent cross-site scripting attacks**.
14. In the **Detail Properties** section, select **Class loading and update detection**.
15. In the **Class loader order** section, select the **Classes loaded with local class loader first (parent last)** option.

16. For **WAR class loader policy**, select **Single class loader for application**.
17. Start your deployment.

For more information about WebSphere Application Server version 8, see Welcome to the WebSphere Application Server information center.

Deploying IBM Campaign on WebLogic

You can deploy IBM EMM products on WebLogic.

About this task

Use the following guidelines when you deploy Campaign on WebLogic:

- IBM EMM products customize the JVM used by WebLogic. You might need to create a WebLogic instance dedicated to IBM EMM products if you encounter JVM-related errors.
- Verify that the SDK selected for the WebLogic domain you are using is the Sun SDK by looking in the startup script (`startWebLogic.cmd`) for the `JAVA_VENDOR` variable. It should be set to: `JAVA_VENDOR=Sun`. If it is set to `JAVA_VENDOR=BEA`, JRockit has been selected. JRockit is not supported. To change the selected SDK, refer to the WebLogic documentation.
- Deploy the IBM EMM products as web application modules.
- On UNIX systems, you must start WebLogic from the console to allow correct rendering of graphical charts. The console is usually the machine on which the server is running. In some cases, however, the web application server is set up differently.

If a console is not accessible or does not exist, you can emulate a console using Exceed. You must configure Exceed so that your local Xserver process connects to the UNIX machine in root window or single window mode. If you start the web application server using Exceed, you must keep Exceed running in the background to allow the web application server to continue running. Please contact IBM Technical Support for detailed instructions if you encounter problems with chart rendering.

Connecting to the UNIX machine via telnet or SSH always causes problems rendering charts.

- If you are configuring WebLogic to use the IIS plug-in, review the WebLogic documentation.
- If deploying in a production environment, set the JVM memory heap size parameters to 1024 by adding the following line to the `setDomainEnv` script: `Set MEM_ARGS=-Xms1024m -Xmx1024m -XX:MaxPermSize=256m`

Configuring WebLogic to display reports (UNIX)

If you install Campaign with Contact Optimization on a UNIX system, you must enable the `java.awt.headless` JVM property so that the WebLogic web application server can display the graphs in Contact Optimization reports.

About this task

To enable graph display in Optimize reports in the WebLogic JVM:

Procedure

1. Shut down the WebLogic server if it is already running.

2. Locate and open the startup script for your WebLogic server (`startWebLogic.sh`) in any text editor.
3. Modify the `JAVA_OPTIONS` parameter to add the following value:
`-Djava.awt.headless=true`
4. Save the startup script, then restart the WebLogic server.

Starting the Campaign server

Make sure that Marketing Platform and Campaign web application are deployed and running when you start the Campaign server.

About this task

You can start the Campaign server directly, or install it as a service.

Starting the Campaign listener manually

Start the Campaign listener by running the `cmpServer.bat` file for Windows, or the `rc.unica_ac` command for UNIX.

About this task

Follow the instructions appropriate for your operating system.

Windows

Start the Campaign listener by running the `cmpServer.bat` file in the `bin` directory under your Campaign installation. When the `unica_aclsnr.exe` process appears on the Windows Task Manager Processes tab, the server has started successfully.

UNIX

Start the Campaign listener by executing the `rc.unica_ac` program with a `start` argument. You must run this command as root. For example:

```
./rc.unica_ac start
```

To determine whether the `unica_aclsnr` process has started successfully, enter this command:

```
ps -ef | grep unica_aclsnr
```

To determine the process ID for the server you started, view the `unica_aclsnr.pid` file located in the `conf` directory under your Campaign installation.

Installing the Campaign listener as a Windows service

You can install the Campaign listener as a Windows service so that it starts automatically whenever you start Windows.

Procedure

1. Add the `bin` directory under the Campaign installation directory to the user `PATH` environment variable. If the `PATH` environment variable does not exist for the user, create it.

Make sure that you add this path to the user `PATH` variable, not the system `PATH` variable.

If the Campaign bin directory exists in the system PATH environment variable, remove it. You do not need it in the system PATH environment variable to install the Campaign listener as a service.

2. If you are upgrading from a previous version of Campaign that had the server installed as a service, stop the service.
3. Open a command window and change directories to the bin directory under your Campaign installation.
4. Run the following command to install the Campaign listener as a Windows service:

```
unica_aclsnr -a
```

Note: The -a option includes auto-restart functionality. If you do not want the service to attempt to restart automatically, use `unica_aclsnr -i`.

The listener is now installed as a service.

Note: Make sure `CAMPAIGN_HOME` has been created as a system environment variable before starting the Campaign listener service.

5. Open the Unica Campaign Listener Service properties dialog box. Click the **Log On** tab.
6. Select **This account**.
7. Enter the user name (system user) and password, and start the services.

Chapter 7. Configuring Campaign after deployment

After you deploy Campaign, you must verify that the Campaign listener is running, set up the Campaign system user, set Campaign configuration properties, and verify the Campaign installation.

If you are using the IBM EMM reporting feature, you must complete the tasks that are described in the *IBM EMM Reports Installation and Configuration Guide*.

Note: If you plan to enable IBM eMessage for hosted email, you must use the IBM EMM reporting feature to view standard eMessage performance reports.

Verifying that the Campaign listener is running

The Campaign listener must be running before users can work with any Campaign features. The listener automatically creates a separate `unica_acsvr` process for each login and each active flowchart. For example, if one user logs in and then opens a flowchart, the listener creates two instances of `unica_acsvr.exe`.

Before you begin

About this task

Use the following procedure to verify that the Campaign listener is running.

Procedure

1. Use the appropriate procedure for your operating system:
In Windows, look for `unica_aclnr.exe` on the **Processes** tab of the Windows Task Manager.
In UNIX, use the `ps` command to look for the Campaign server, as in the following example: `ps -ef | grep unica_aclnr`.
2. If the listener is not running, restart it:
In Windows, run the `cmpServer.bat` script that is in the `bin` directory under your Campaign installation.
In UNIX, enter the following command at the system prompt: **`rc.unica_ac start`**
For important details about running the listener, including how to start it automatically, see the *IBM Campaign Administrator's Guide*.

Setting up the Campaign system user

Set up the Campaign system user to directly access databases. For multiple partitions in Campaign, create a system user for each partition.

A system user is a IBM EMM user account that is configured for use by IBM applications.

To avoid presenting users with repeated prompts for login credentials you can associate a system user with one or more data sources. Each data source specifies a user name and password. This allows you to provide a user name and password to access a database or other protected resource by referencing the data source. By

adding multiple data sources to the configuration of the system user account, you can allow the system user to access multiple databases.

In Campaign, the system user holds login credentials for accessing system tables and other data sources.

Use an existing or new IBM EMM user account to save credentials for the data sources described here.

You set up IBM EMM users and assign user data sources in the **Settings > Users** area of IBM EMM. See the online help in that section for instructions on how to do this.

Set up a user account to hold credentials for the following data sources.

- Campaign system tables (UA_SYSTEM_TABLES)
- All customer (user) tables

On UNIX, for the **Alternate Login** attribute of the system user, enter the UNIX account of a user in a group that shares privileges with the UNIX users of Campaign.

Note: If you have multiple partitions, each partition must have its own system user. The system user cannot be the same across partitions.

Adding data source properties on the Configuration page

Use the appropriate data source template to add data source properties on the Configuration page for each Campaign data source.

About this task

The Campaign installer imports the template for the database type that you specified for the Marketing Platform database when you ran the IBM installer.

If you need other data source templates for additional database types, you must import them manually using the Marketing Platform configTool utility. You can import as many templates as you need, to correspond to each different type of database you have.

For example, suppose your installation of Marketing Platform and Campaign used the following databases:

- Oracle - system tables
- DB2 - customer (user) tables
- DB2 - additional customer (user) tables

In this case, you would import the DB2Template.xml template for the two sets of customer (user) tables.

If your Marketing Platform and Campaign system tables databases are of the same database type, the installer automatically imports the template that is used for the system tables; in this example, it imports the Oracle template.

For instructions, see “Importing data source templates” on page 43.

You create a new category from the template, which creates a new set of data source configuration properties. Create as many new categories as needed, one for each data source of that type. In the example above, you would use the Oracle template to create one new category and the DB2 template to create two new categories. See “Duplicating a data source template.”

After you add the data source properties, set the data source configuration properties in the categories you created from the templates.

For instructions, see “Data source properties” on page 44.

Importing data source templates

The Campaign system tables data source (UA_SYSTEM_TABLES) is supported only on Oracle, DB2, and SQLServer. Import the data source templates for the user tables by using the **configTool** utility to support the database types that are not supported for the Campaign system tables.

About this task

The Campaign data source templates are located in the conf directory under your Campaign installation.

To import and export templates, you use the Marketing Platform configTool utility, located in the tools/bin directory under your Marketing Platform installation. If you are not familiar with configTool, see “configTool” on page 65 for details on performing this task.

Here is an example of the command you would use to import the Oracle template into the default partition (Windows environment).

```
configTool -i -p "Campaign|partitions|partition1|dataSources" -f  
full_path_to_directory_containing_your_Oracle_template\OracleTemplate.xml
```

Duplicating a data source template

Duplicate the data source templates to create a new set of configuration properties in the data source category.

Procedure

1. On the Configuration page, navigate to the data source template you want to duplicate.

Unlike other categories, template category labels are in italics and enclosed in parentheses.

2. Click the data source template.

The Create category from Template page displays.

3. Enter a name in the **New category name** field (required).

Note: The data source category name for the Campaign system tables **MUST** be UA_SYSTEM_TABLES.

4. If desired, edit properties within the new category. You can also do this later.
5. Click **Save and Finish**.

Results

The new category appears in the navigation tree.

Campaign configuration properties

You must specify configuration properties on the Configuration page for a basic installation of Campaign. Additionally, you can use the Configuration page to specify the properties that perform important functions that you can optionally adjust.

Data source properties

The following table provides information about the properties that you must specify for each Campaign data source:

Table 18. Properties for each Campaign data source

Property name	Description
ASMUserForDBCredentials	This property must be the same user you already created as the Campaign system user in “Setting up the Campaign system user” on page 41.
DSN	For SQL server, set this property to the DSN (data source name) you created. For Oracle and DB2, set this property to the database name or the SID (service) name.
JndiName	Set this property to the JNDI you created in your application server to connect to this specific data source.
SystemTableSchema	Not required for SQL server. For other data sources, set this property to the user of the database to which you are trying to connect.
OwnerForTableDisplay	Not required for SQL server. For other data sources, set this property to the user of the database to which you are trying to connect.

The data sources are the Campaign system table database and any customer (user) databases you plan to use with Campaign.

Note: The data source category name for the Campaign system tables **must** be `UA_SYSTEM_TABLES`.

For details on setting the values, see the context help for these properties or the *IBM Marketing Platform Administrator's Guide*.

In addition to creating and setting data source properties, you must set the following properties on the Configuration page for a basic installation of Campaign.

- Campaign > unicaACListener > serverHost
- Campaign > unicaACListener > serverPort
- For the default partition, set values as desired in the categories under Campaign > partitions > partition1.

When you change a property, you must restart the Campaign listener for the changes to take effect.

Mapping user tables in Campaign

Mapping user tables is the process of making external data sources accessible in Campaign. A typical user table contains information about your company's customers, prospects, or products. The data source can be a database table or ASCII flat file. You must map any data sources that you configured to make that data accessible to processes in flowcharts.

About this task

For instructions on how to map user tables, see the *Campaign Administrator's Guide*.

Note: User tables are different from system tables. Most Campaign system tables are mapped automatically during initial installation and configuration if you use the system table data source name UA_SYSTEM_TABLES. If a connection issue forces you to map system tables manually, you must log out of Campaign and log in again after you map the tables.

Verifying the Campaign installation

If you performed all of the steps to install and configure Campaign, deploy the Campaign web application, and configure Campaign after deployment, you are ready to verify your installation.

Before you begin

If you have not already done so, log in to IBM EMM as a user that exists in the Campaign Administrators role (such as asm_admin). In **Settings > Users**, assign at least one security role (for example, Global Policy/Admin) to the new user. After the new user is assigned the role, you can log in to Campaign as that new user.

About this task

Use the following procedure to verify the installation.

Procedure

1. Log in to IBM EMM.
2. Verify that all system tables exist in the **Settings > Campaign Settings > Manage Table Mappings** window.
3. Create a campaign and create a flowchart in that campaign.

Setting properties for integration with IBM EMM products

Campaign integrates with various IBM applications. If required, you can specify configuration properties to set up an integration between Campaign and other IBM products.

See “IBM Campaign documentation roadmap” on page 7 to view the list of documents that provide information about the integration of Campaign with other IBM products.

Chapter 8. Configuring multiple partitions in Campaign

For the IBM EMM applications that operate with Campaign, you can configure the application within the partitions where you have configured an instance of Campaign. Application users within each partition can access the Campaign functions, data, and customer tables that are configured for Campaign in the same partition.

Partition benefits

Multiple partitions are useful for setting up strong security between groups of users, because each partition has its own set of Campaign system tables. Multiple partitions cannot be used when groups of users must share data.

Each partition has its own set of configuration settings, and Campaign can be customized for each group of users. However, all partitions share the same installation binaries. With the same binaries for all partitions, you can minimize the installation and upgrade efforts for multiple partitions.

Partition user assignment

Access to partitions is managed through membership in Marketing Platform groups.

With the exception of the partition superuser (`platform_admin`), each IBM user can belong to one partition. A user who requires access to multiple partitions must have a separate IBM user account for each partition.

If there is only one Campaign partition, users do not have to be explicitly assigned to that partition to have access to Campaign.

Partition data access

In a multi-partition configuration, partitions have the following security characteristics:

- A user cannot access a partition if the user is not a member of a group that is assigned to a partition.
- A user of one partition cannot view or change data in another partition.
- Users cannot navigate the Campaign file system above the root directory of their partition from the browse dialog boxes in Campaign. For example, if two partitions, named `partition1` and `partition2` exist, and you belong to the group that is associated with `partition1`, you cannot navigate the directory structure for `partition2` from a dialog box.

Partition superuser

To administer security across all users of Marketing Platform, a user account must exist that has access to all security settings and user accounts in the system.

By default, this user account is `platform_admin`. This user account does not belong to any one partition; instead, it has access to all user accounts in all partitions.

The IBM administrator can create additional users with the same level of access. To be a partition superuser, an account must have Admin access to the Marketing Platform and have full access to the Users, User Groups, and User Permissions pages. The partition superuser does not require access to product-specific security pages, such as Campaign security pages.

Setting up multiple partitions

Configure multiple partitions in Campaign to isolate and secure data for different groups of Campaign users. As each partition has its own set of configuration properties, you can customize Campaign for each group of users.

Before you begin

Before you configure additional partitions in Campaign, complete the following tasks for each partition that you are configuring:

1. Create database or schema for the Campaign system tables
2. Create ODBC or native connections
3. Create JDBC connections in the web application server

Procedure

Complete the following tasks to set up multiple partitions for Campaign:

1. Create the system tables database and any other data sources required for your partitions. Then configure the JDBC and ODBC or native connections required to access your data sources.
2. For each partition, create a different schema in your database to hold the system tables. Use the database-specific scripts packaged with Campaign to create and populate the system tables.
3. Complete the following tasks to create a directory structure for each additional partition:

Note: Save a clean copy of the original partition1 directory to serve as a backup.

- a. In the partitions directory under your Campaign installation, create a duplicate of the default partition1 directory for each partition that you are adding, ensuring that you include all subdirectories.
 - b. Name each partition directory with a unique name. Use these exact same names for the partitions when you later create their configuration trees on the Configurations page. If you want to create a second partition and created the directory named Campaign/partitions/partition2, when you create the configuration tree on the Configurations page, you must use the name "partition2" to identify this partition.
 - c. Delete any files that exist in the duplicate partition subdirectories.
4. Complete the following tasks to use the **partitionTool** utility with the **-s** option to clone the default partition:

Note: If you decide not to use this option, you must stop the web application server where Marketing Platform is deployed before performing this procedure.

- a. Set the JAVA_HOME environment variable, either in the setenv script located in the tools/bin directory of your Marketing Platform installation, or in the command line window in which you run the partitionTool utility.

- b. Open a command line window and run the utility from the `tools/bin` directory under your Marketing Platform installation. Use the appropriate command and options (as described in the *Marketing Platform Administrator's Guide*) to achieve your desired results. **partitionTool -c -s partition1 -n partition2**
- c. Repeat this procedure for each new partition you need to create.
- d. When you are finished, stop and restart the application server where Marketing Platform is deployed to see the groups that were created.

Note: For complete information on using this utility, see “partitionTool” on page 71.

5. Complete the following tasks to create the partition structure on the Configuration page by using the New partitionTemplate for each new partition:
 - a. On the Configuration page, navigate to **Campaign > partitions** and click (*partitionTemplate*).
 If you do not see the (*partitionTemplate*) property in the list, use the `configTool` utility to import the partition template, using a command similar to the following:

```
configTool -i -p "Affinium|Campaign|partitions"
          -f <CAMPAIGN_HOME>/conf/partitionTemplate.xml
```

 Replace `CAMPAIGN_HOME` with the actual path to your Campaign installation.
 The `configTool` utility is found in the `tools` directory under your IBM Marketing Platform installation. See the *IBM Marketing Platform Administrator's Guide* for information on using this utility. In the right pane, you see the partitionTemplate pane with an empty **New category name** field.
 - b. Enter the name for the new partition, using the same name that you used when creating the partition's directory structure in the file system in “Setting up multiple partitions” on page 48.
 - c. Click **Save Changes**. You see the new partition structure, with the same categories and properties as in the partition template.

Configuring data source properties for partitions

You must configure data source properties for each partition that you create. Use the appropriate data source template to create data source properties.

About this task

The Campaign installer imports the template for the database type that you specified for the Marketing Platform database when you ran the IBM installer.

If you need other data source templates for additional database types, you must import them manually using the Marketing Platform **configTool** utility. You can import as many templates as you need to correspond to each different type of database you have.

For example, suppose your installation of Marketing Platform and Campaign used the following databases:

- Oracle - system tables
- DB2 - customer (user) tables
- DB2 - additional customer (user) tables

In this case, you would import the DB2Template.xml template for the two sets of customer (user) tables.

If your Marketing Platform and Campaign system tables databases are of the same database type, the installer automatically imports the template used for the system tables; in this example, it imports the Oracle template.

Note: When you create a new partition, you must use the **configTool** utility to import the data source templates for the system tables and user tables.

For instructions, see “Importing data source templates” on page 43.

You create a new category from the template, which creates a new set of data source configuration properties. Create as many new categories as needed, one for each data source of that type. In the example above, you would use the Oracle template to create one new category and the DB2 template to create two new categories. See “Duplicating a data source template” on page 43.

After you add the data source properties, set the data source configuration properties in the categories you created from the templates.

For instructions, see “Campaign configuration properties” on page 44.

Procedure

Complete the following tasks to configure data source properties for each partition:

1. Add data source configuration properties to the Configuration page for each Campaign data source by using the appropriate data source template. The Campaign installer imports the template for the database type that you specified for the Marketing Platform database when you ran the IBM installer. If you need other data source templates for additional database types, you must import them manually using the Marketing Platform configTool utility. You can import as many templates as you need, to correspond to each different type of database you have. For example, suppose your installation of Marketing Platform and Campaign used the following databases:
 - Oracle - system tables
 - DB2 - customer (user) tables
 - DB2 - additional customer (user) tables

In this case, you would import the DB2Template.xml template for the two sets of customer (user) tables. If your Marketing Platform and Campaign system tables databases are of the same database type, the installer automatically imports the template used for the system tables; in this example, it imports the Oracle template. For instructions, see “Importing data source templates” on page 43.

2. Create a new category from the template, which creates a new set of data source configuration properties. Create as many new categories as needed, one for each data source of that type. In the example above, you would use the Oracle template to create one new category and the DB2 template to create two new categories. See “Duplicating a data source template” on page 43.
3. Set the data source configuration properties for each Campaign data source. See “Campaign configuration properties” on page 44 for more information.

Setting up system users for Campaign

You can associate a system user with one or more Marketing Platform data sources to avoid presenting users with repeated prompts for login credentials. Each data source specifies a user name and password. You can provide a user name and password to access a database or other protected resources by referencing the data source. By adding multiple data sources to the configuration of the system user account, you can allow the system user to access multiple databases.

About this task

IBM EMM applications might require a system user account configured with the following attributes:

- Login credentials for accessing system tables or other data sources.
- Specific permissions to create, modify, and delete objects within the system.

For more information about setting up a new user and assigning a data source to a user, see the *IBM Marketing Platform Administrator's Guide*.

Procedure

Complete the following actions to set up system users for Campaign:

1. Use an existing or a new user account to save credentials for the following data sources:
 - Campaign system tables
 - All customer (user) tables
2. On UNIX, for the **Alternate Login** attribute of the system user, enter the UNIX name for a user in a group that shares privileges with the UNIX users of Campaign.

Note: If you have multiple partitions, you must create a system user for each partition.

Using IBM Cognos Reports for multiple partitions

If you want to use IBM Cognos Reports for multiple partitions in Campaign, eMessage, or Interact, you must configure IBM Cognos reports packages for each partition.

For instructions, see the *IBM EMM Reports Installation and Configuration Guide*.

Assigning roles, permissions, and groups for partitions

Before you can use the partitions that you have configured for Campaign, you must assign roles to the user with administrator role in each partition. You must also assign a group to each partition.

Use the **partitionTool** utility to create a default admin user for each partition that you create.

Assign roles to each partition Admin user - The **partitionTool** utility creates a default Admin user for each partition you create. On the Users page, assign at least one security role (for example, Global Policy/Admin) to your new user. Once the new user has been assigned the role, you can log into the Campaign partition as that new user.

If you plan to enable IBM eMessage in multiple Campaign partitions, you must configure a corresponding eMessage partition for each Campaign partition. For more information about creating additional partitions for eMessage, see Chapter 9, “Configuring multiple partitions in eMessage,” on page 53.

Chapter 9. Configuring multiple partitions in eMessage

Configure multiple partitions in eMessage to isolate and secure data for different groups of eMessage users. As each partition has its own set of configuration properties, you can customize eMessage for each group of users.

Installing eMessage creates a default partition for eMessage in the Marketing Platform. You can configure more partitions for eMessage. Each partition that you create for eMessage operates in conjunction with a partition created for Campaign.

Note: To configure multiple partitions in eMessage you must configure corresponding partitions in Campaign. Adding new partitions for eMessage requires making changes in the Marketing Platform configurations for eMessage and Campaign.

Important: After you change the eMessage and Campaign configurations, you must restart the web application server that hosts Campaign and restart the Response and Contact Tracker (RCT). You might also need to restart the Campaign listener.

Be sure to back up your existing configurations before you make changes.

Partitions for eMessage: Overview

Creating partitions for eMessage allows you to isolate and secure data for different groups of users. Each partition appears to users as a separate instance of eMessage, with no indication that other partitions exist on the same system. Because each partition has its own set of configuration properties, you can customize eMessage for each group of users.

Users within each partition can access only those functions, data, and customer tables configured for the partition. For example, if you create partitions named `partition1` and `partition2`, eMessage users working in `partition1` can select email recipients from customer tables configured in `partition1`, but not in `partition2`. IBM does not recommend creating multiple partitions if users need to share data.

When you work with multiple partitions, you should understand characteristics that are unique to partitions for eMessage and how partitions for eMessage relate to partitions for Campaign. You should also be familiar with the workflow for creating and configuring multiple partitions for eMessage.

Characteristics of partitions for eMessage

Note the following when you create and configure new partitions for eMessage.

- You create partitions for eMessage differently than you do for Campaign. You create new partitions for eMessage using a partition template available in the eMessage configuration properties in Marketing Platform.
- The name of each eMessage partition must exactly match the name of its corresponding Campaign partition.
- Each partition that you create for eMessage must be able to connect to IBM EMM Hosted Services.

You must request a separate IBM EMM Hosted Services account for each partition. IBM will provide a user name and password connected to the account. You must configure a Marketing Platform data source that can provide these access credentials automatically when eMessage connects to IBM EMM Hosted Services.

For more information about how to request an account, see the *IBM eMessage Startup and Administrator's Guide*.

Relationship to partitions in Campaign

Each partition in eMessage operates in conjunction with a specific partition created in the Marketing Platform for Campaign. The Campaign partition provides the following.

- Campaign schema that contains the eMessage system tables
- File structure for Campaign in the partition, including directories used by eMessage to create and process recipient lists
- Configuration properties associated with creating recipient lists and enabling eMessage within the partition

Because eMessage operates with Campaign within a specific partition, the eMessage and Campaign partition structures must specify the same name. The partition names must match exactly.

Roadmap for configuring multiple partitions in eMessage

To create a partition in eMessage, use the exact same name as the partition in Campaign that exists in the Marketing Platform configurations.

Before you create a new partition for eMessage, confirm that you have satisfied all the eMessage prerequisites for the partition in Campaign and eMessage.

Complete the following steps to create a new partition for eMessage.

1. "Creating a new partition for eMessage"
2. "Preparing eMessage system tables for the partition" on page 56
3. "System user requirement to access IBM EMM Hosted Services" on page 58
4. "Enabling eMessage in Campaign for the new partition" on page 59
5. "Specifying the Recipient List Uploader location for eMessage" on page 59
6. "Restarting system components after configuring eMessage" on page 60
7. "Testing eMessage partition configuration and connections" on page 60

Creating a new partition for eMessage

Installing eMessage creates a default partition for eMessage in Marketing Platform. You can create multiple partitions for eMessage to isolate and secure data for different groups of users.

Before you begin

Before you create and configure partitions for eMessage, you must meet the following requirements for eMessage and Campaign:

- Before you create multiple partitions in eMessage, complete the following tasks for eMessage:

- Contact IBM Support to request an account and credentials for each partition. Each partition requires a separate IBM EMM Hosted Services account and access credentials. For more information, see the *IBM Startup and Administrator's Guide*.
- Create a system user that can access the eMessage system tables that you will create in the Campaign schema for the partition.
You can update the system user that you created for the Campaign partition so that it can also access the eMessage system tables.
- Before you create multiple partitions in eMessage, complete the following tasks in Campaign:
 - Create a partition in Campaign to operate with the partition that you are creating for eMessage. Note the name of the partition.
 - Create Campaign system tables in the Campaign partition.
 - Configure a system user to access the system tables in the partition.
 If you have multiple partitions, each partition must have its own system user. The system user cannot be the same across partitions.

About this task

The IBM installer registers the eMessage configuration properties and a default partition during initial installation. The default partition includes a template that you can copy to create additional partitions.

Procedure

Complete the following actions to create a new partition for eMessage:

1. Navigate to eMessage > partitions > (*partition*) and duplicate the partition template.
2. Name the new partition.

Note: eMessage does not support deleting a partition after you have created it.

Identifying the partition template

The Configuration page displays the eMessage partition template in the navigation tree for the default partition. You can identify the partition template in the tree because its label is in italics and enclosed in parentheses.

What to do next

Naming the new partition

The following restrictions apply when you name a new partition.

- The name must be unique among categories that are siblings in the tree (that is, among categories that share the same parent category).
- The partition name may not start with a period. Also, the following characters are not allowed in partition names.

!	^
"	<
,	>
#	=
\$?
%	@
&	[
(]
)	{
*	}
+	\
:	/
;	
,	`
	~

Note: Because eMessage operates with Campaign within a specific partition, the partitions for eMessage and Campaign must specify the same partition name.

Preparing eMessage system tables for the partition

For each partition that you create for eMessage, you must create, populate and configure the eMessage system tables that are used by the partition in the Campaign schema.

Procedure

Complete the following actions to prepare the eMessage system tables for a partition:

1. Create the eMessage system tables. In your database client, run the SQL scripts for *creating* system tables against the Campaign database.
2. Populate the tables that you created. Use the database client to run the scripts for *populating* tables against the Campaign database. For more information about the SQL scripts, see the reference table for script names and locations at “Creating and populating the eMessage system tables manually” on page 28.
3. Set the following configuration properties in the eMessage configuration for the partition, specifying the user name and platform data source that you configured for the partition's Campaign system user:
 - eMessage > partitions > partition [n] < dataSources > systemTables > asmUserForDBCredentials
 - eMessage > partitions > partition [n] < dataSources > systemTables > amDataSourceForDBCredentials

eMessage accesses the partition's system tables through a system user configured in Marketing Platform. A Marketing Platform data source added to

the system user provides the required access credentials. Because the eMessage system tables exist in the Campaign schema for the partition, you can use the system user that you created to access the Campaign schema to access the partition's eMessage system tables.

4. Update the following properties in the partition's configuration properties:
 - eMessage > partitions > partition [n] < dataSources > systemTables > type
 - eMessage > partitions > partition [n] < dataSources > systemTables > schemaName
 - eMessage > partitions > partition [n] < dataSources > systemTables > jdbcBatchSize
 - eMessage > partitions > partition [n] < dataSources > systemTables > jdbcClassName
 - eMessage > partitions > partition [n] < dataSources > systemTables > jdbcURI

See the Marketing Platform online help for each property to learn more about setting the configuration properties. For additional information about these configuration properties and configuring eMessage, see the *IBM eMessage Startup and Administrator's Guide*.

Creating and populating the eMessage system tables manually

For eMessage, you must create additional system tables in the Campaign schema and then populate the tables with initial data. The Campaign installer automatically creates and populates the eMessage system tables in the Campaign schema if you select the option to create system tables automatically. However, if you do not select the option, you must create and populate the eMessage system tables manually.

Use your database client to run the appropriate script against the Campaign database.

Note: The eMessage installation directory is a subfolder within the Campaign directory.

Scripts for creating eMessage tables

IBM provides the ace_op_systab scripts for creating eMessage tables in your local environment.

If your Campaign system tables are configured for Unicode, find the appropriate script in the ddl/unicode directory under your eMessage installation.

If your Campaign system tables are not configured for Unicode, use the non-Unicode scripts in the ddl directory under your eMessage installation. Use the following table to see the scripts that you must use:

Table 19. Scripts for creating eMessage tables

Data source type	Script name
IBM DB2	ace_op_systab_db2.sql The user tablespace and system temporary tablespace where the system tables reside must each have a page size of 16K or greater.

Table 19. Scripts for creating eMessage tables (continued)

Data source type	Script name
Microsoft SQL Server	<code>ace_op_systab_sqlsvr.sql</code>
Oracle	<code>ace_op_systab_ora.sql</code>

Scripts for populating eMessage tables

IBM provides the `ace_op_populate_systab` scripts for populating the eMessage tables in your local environment.

The populate scripts are stored in the `ddl` directory of your eMessage installation. IBM provides only one version of the populate scripts because you can use them for either Unicode or non-Unicode tables.

Note: The eMessage installation directory is a subfolder within the Campaign directory.

Use the following table to see the scripts that you must use:

Table 20. Scripts for populating eMessage tables

Data source type	Script name
IBM DB2	<code>ace_op_populate_systab_db2.sql</code>
Microsoft SQL Server	<code>ace_op_populate_systab_sqlsvr.sql</code>
Oracle	<code>ace_op_populate_systab_ora.sql</code>

System user requirement to access IBM EMM Hosted Services

eMessage components must be able to access the IBM EMM Hosted Services without requiring manual entry of login credentials. To establish automatic login, define a system user in Marketing Platform that can provide the required access credentials.

To simplify user administration and troubleshooting, you can modify an existing system user to access hosted services and local system tables. You can configure a single system user to provide credentials for multiple systems. For example, modifying the configuration of the Campaign system user creates a single user that can automatically access IBM EMM Hosted Services and the eMessage system tables in the Campaign schema.

The credentials required to access IBM EMM Hosted Services are the user name and password that IBM provides for your hosted messaging account. The credentials that you use depend on whether you are connecting to the data center that IBM maintains in the US or to the data center in the United Kingdom. Consult with IBM to determine which data center you use.

For specific information about how to configure a system user to communicate with IBM EMM Hosted Services, see the *IBM eMessage Startup and Administrator's Guide*.

For general information about how to create system users and data sources, see the *IBM Marketing Platform Administrator's Guide*.

Requirement for partition access to IBM EMM Hosted Services

IBM eMessage components in the partition must be allowed to automatically provide valid login credentials when attempting to communicate with IBM EMM Hosted Services. To do this, you must add the IBM EMM Hosted Services login credentials to a Marketing Platform user. This user becomes the eMessage system user.

You can add the platform data source containing the IBM EMM Hosted Services credentials to the eMessage system user. This user can be the same system user that accesses the Campaign system tables in the partition.

The steps for configuring system users for a partition are the same as those followed during the initial eMessage installation, which created the first partition. For details about how to add IBM EMM Hosted Services login credentials to a system user, see the *IBM eMessage Startup and Administrator's Guide*.

The credentials required to access IBM EMM Hosted Services are the user name and password that IBM provided during the initial startup process.

Important: For each additional partition, you must request a separate user name and password from IBM.

Enabling eMessage in Campaign for the new partition

To allow users of the new eMessage partition to access the eMessage features in Campaign, enable eMessage in the Campaign partition by updating the eMessageInstalled configuration property for the corresponding Campaign partition.

About this task

For example, the eMessage mailing tab does not appear in the Campaign interface until you enable eMessage in the Campaign configuration.

You enable eMessage in the partition by updating the eMessageInstalled configuration property for the corresponding Campaign partition.

In the Marketing Platform configurations, navigate to **Campaign | partitions | partition[n] | server | internal** and set the eMessageInstalled property to **yes**.

Specifying the Recipient List Uploader location for eMessage

For each partition where you enable eMessage, specify the location of the Recipient List Uploader (RLU). The RLU uploads the output list tables data and associated metadata to the remote services hosted by IBM.

About this task

During initial installation, the IBM installer automatically adds the location of the RLU to the configuration for default partition (partition1). However, when you add new partitions to your environment, you must manually configure all new partitions to reference the correct location. Because there is only one RLU for each

eMessage installation, all partitions access the same plugin file in the local file system of the machine that hosts the Campaign web application.

Procedure

1. In the configuration for **partition1** in your Campaign installation, navigate to Campaign > partitions > partition1 > eMessage > eMessagePluginJarFile.
The value for this property is the full path to the plugin file (emessageplugin.jar) that operates as the RLU.
For example: C:\IBM\Unica\eMessage\plugin\emessageplugin.jar
2. Copy the value for the eMessagePluginJarFile property.
3. Navigate to the eMessagePluginJarFile for the new partition and enter the path you copied from **partition1**.
All partitions must use the same location for the RLU.

Restarting system components after configuring eMessage

After you change the eMessage and Campaign configurations, you must restart the Campaign web application server, the Response and Contact Tracker (RCT), and the Campaign listener.

Procedure

1. Restart the web application server for Campaign.
For instructions, see the documentation for your web application server.
To verify that the server has started, log in to your IBM EMM installation, access Campaign, and confirm that you can open an existing mailing.
2. Restart the Response and Contact Tracker (RCT).
To restart the RCT manually, run the rct script in the bin directory under your eMessage installation, as follows: `rct start`
If RCT is configured to run as a service, restart the RCT service. The first time that you restart the RCT as a service, you must manually restart the RCT afterward.
For more information, see “eMessage Response and Contact Tracker (RCT) script” on page 77.
3. Restart the Campaign listener:
 - On Windows, run the cmpServer.bat file in the bin directory under your Campaign installation.
 - On UNIX, run the following command as root: `./rc.unica_ac start`

Results

Testing eMessage partition configuration and connections

Use the scripts that are provided by eMessage to verify the partition configuration and its connection to IBM EMM Hosted Services. You must also confirm if you can access the mailing interface from the partition.

Before you begin

Important: Before you begin, if you have changed the Campaign or eMessage configurations, confirm that you have restarted the web application server that hosts Campaign and that you have restarted the Response and Contact Tracker.

About this task

For more information on how to test the partition, see the *IBM eMessage Startup and Administrator's Guide*.

Chapter 10. IBM Marketing Platform utilities and SQL scripts

This section provides an overview of the Marketing Platform utilities, including some details that apply to all of the utilities and which are not included in the individual utility descriptions.

Location of utilities

Marketing Platform utilities are located in the `tools/bin` directory under your Marketing Platform installation.

List and descriptions of utilities

The Marketing Platform provides the following utilities.

- “`alertConfigTool`” on page 64 - registers alerts and configurations for IBM EMM products
- “`configTool`” on page 65 - imports, exports, and deletes configuration settings, including product registrations
- “`datafilteringScriptTool`” on page 69 - creates data filters
- “`encryptPasswords`” on page 70 - encrypts and stores passwords
- “`partitionTool`” on page 71 - creates database entries for partitions
- “`populateDb`” on page 73 - populates the Marketing Platform database
- “`restoreAccess`” on page 74 - restores a user with the `platformAdminRole` role
- “`scheduler_console_client`” on page 76 - lists or starts IBM EMM Scheduler jobs that are configured to listen for a trigger.

Prerequisites for running Marketing Platform utilities

The following are prerequisites for running all Marketing Platform utilities.

- Run all utilities from the directory where they are located (by default, the `tools/bin` directory under your Marketing Platform installation).
- On UNIX, the best practice is to run the utilities with the same user account that runs the application server on which Marketing Platform is deployed. If you run a utility with a different user account, adjust the permissions on the `platform.log` file to allow that user account to write to it. If you do not adjust permissions, the utility is not able to write to the log file and you might see some error messages, although the tool should still function correctly.

Troubleshooting connection issues

All of the Marketing Platform utilities except `encryptPasswords` interact with the Marketing Platform system tables. To connect to the system table database, these utilities use the following connection information, which is set by the installer using information provided when the Marketing Platform was installed. This information is stored in the `jdbc.properties` file, located in the `tools/bin` directory under your Marketing Platform installation.

- JDBC driver name
- JDBC connection URL (which includes the host, port, and database name)
- Data source login

- Data source password (encrypted)

In addition, these utilities rely on the `JAVA_HOME` environment variable, set either in the `setenv` script located in the `tools/bin` directory of your Marketing Platform installation, or on the command line. The Marketing Platform installer should have set this variable automatically in the `setenv` script, but it is a good practice to verify that the `JAVA_HOME` variable is set if you have a problem running a utility. The JDK must be the Sun version (not, for example, the JRockit JDK available with WebLogic).

Special characters

Characters that are designated as reserved characters in the operating system must be escaped. Consult your operating system documentation for a list of reserved characters and how to escape them.

Standard options in Marketing Platform utilities

The following options are available in all Marketing Platform utilities.

`-l logLevel`

Set the level of log information displayed in the console. Options are `high`, `medium`, and `low`. The default is `low`.

`-L`

Set the locale for console messages. The default locale is `en_US`. The available option values are determined by the languages into which the Marketing Platform has been translated. Specify the locale using the ICU locale ID according to ISO 639-1 and ISO 3166.

`-h`

Display a brief usage message in the console.

`-m`

Display the manual page for this utility in the console.

`-v`

Display more execution details in the console.

Marketing Platform utilities

This section describes the Marketing Platform utilities, with functional details, syntax, and examples.

alertConfigTool

Notification types are specific to the various IBM EMM products. Use the `alertConfigTool` utility to register the notification types when the installer has not done this automatically during installation or upgrade.

Syntax

```
alertConfigTool -i -f importFile
```

Commands

-i -f *importFile*

Import alert and notification types from a specified XML file.

Example

- Import alert and notification types from a file named `Platform_alerts_configuration.xml` located in the `tools\bin` directory under the Marketing Platform installation.

```
alertConfigTool -i -f Platform_alerts_configuration.xml
```

configTool

The properties and values on the Configuration page are stored in the system tables. You can use the `configTool` utility to import and export configuration settings to and from the system tables.

When to use configTool

You might want to use `configTool` for the following reasons.

- To import partition and data source templates that are supplied with Campaign, which you can then modify and duplicate by using the Configuration page.
- To register (import configuration properties for) IBM EMM products, if the product installer is unable to add the properties to the database automatically.
- To export an XML version of configuration settings for backup or to import into a different installation of IBM EMM.
- To delete categories that do not have the **Delete Category** link. You do this by using `configTool` to export your configuration, then manually deleting the XML that creates the category, and by using `configTool` to import the edited XML.

Important: This utility modifies the `usm_configuration` and `usm_configuration_values` tables in the Marketing Platform system table database, which contains the configuration properties and their values. For best results, either create backup copies of these tables, or export your existing configurations by using `configTool` and back up the resulting file so you have a way to restore your configuration if you make an error when you use `configTool` to import.

Syntax

```
configTool -d -p "elementPath" [-o]
```

```
configTool -i -p "parent ElementPath" -f importFile [-o]
```

```
configTool -x -p "elementPath" -f exportFile
```

```
configTool -vp -p "elementPath" -f importFile [-d]
```

```
configTool -r productName -f registrationFile [-o] configTool -u  
productName
```

Commands

-d -p "*elementPath*" [o]

Delete configuration properties and their settings, specifying a path in the configuration property hierarchy.

The element path must use the internal names of categories and properties. You can obtain them by going to the Configuration page, selecting the wanted category or property, and looking at the path that is displayed in parentheses in the right pane. Delimit a path in the configuration property hierarchy by using the | character, and surround the path with double quotation marks.

Note the following.

- Only categories and properties within an application can be deleted by using this command, not whole applications. Use the -u command to unregister a whole application.
- To delete categories that do not have the **Delete Category** link on the Configuration page, use the -o option.

When you use -d with the -vp command, the configTool deletes any child nodes in the path you specify if those nodes are not included in the XML file you specify.

-i -p "*parentElementPath*" -f *importFile* [o]

Import configuration properties and their settings from a specified XML file.

To import, you specify a path to the parent element under which you want to import your categories. The configTool utility imports properties under the category you specify in the path.

You can add categories at any level below the top level, but you cannot add a category at same level as the top category.

The parent element path must use the internal names of categories and properties. You can obtain them by going to the Configuration page, selecting the required category or property, and looking at the path that is displayed in parentheses in the right pane. Delimit a path in the configuration property hierarchy by using the | character, and surround the path with double quotation marks.

You can specify an import file location relative to the tools/bin directory or you can specify a full directory path. If you specify a relative path or no path, configTool first looks for the file relative to the tools/bin directory.

By default, this command does not overwrite an existing category, but you can use the -o option to force an overwrite.

-x -p "*elementPath*" -f *exportFile*

Export configuration properties and their settings to an XML file with a specified name.

You can export all configuration properties or limit the export to a specific category by specifying a path in the configuration property hierarchy.

The element path must use the internal names of categories and properties, which you can obtain by going to the Configuration page, selecting the wanted category or property, and looking at the path that is displayed in parentheses in the right pane. Delimit a path in the configuration property hierarchy by using the | character, and surround the path with double quotation marks.

You can specify an export file location relative to the current directory or you can specify a full directory path. If the file specification does not contain a separator (/ on UNIX, / or \ on Windows), configTool writes the file to the tools/bin directory under your Marketing Platform installation. If you do not provide the xml extension, configTool adds it.

-vp -p "*elementPath*" -f *importFile* [-d]

This command is used mainly in manual upgrades, to import configuration properties. If you applied a fix pack that contains a new configuration property, and you then upgrade, importing a configuration file as part of a manual upgrade process can override values that were set when the fix pack was applied. The -vp command ensures that the import does not override previously set configuration values.

Important: After you use the configTool utility with the -vp option, you must restart the web application server on which Marketing Platform is deployed so the changes are applied.

When you use -d with the -vp command, the configTool deletes any child nodes in the path you specify if those nodes are not included in the XML file you specify.

-r *productName* -f *registrationFile*

Register the application. The registration file location can be relative to the tools/bin directory or can be a full path. By default, this command does not overwrite an existing configuration, but you can use the -o option to force an overwrite. The *productName* parameter must be one of those names that are listed above.

Note the following.

- When you use the -r command, the registration file must have <application> as the first tag in the XML.
Other files can be provided with your product that you can use to insert configuration properties into the Marketing Platform database. For these files, use the -i command. Only the file that has the <application> tag as the first tag can be used with the -r command.
- The registration file for the Marketing Platform is named Manager_config.xml, and the first tag is <Suite>. To register this file on a new installation, use the populateDb utility, or rerun the Marketing Platform installer as described in the *IBM Marketing Platform Installation Guide*.
- After the initial installation, to re-register products other than the Marketing Platform, use configTool with the -r command and -o to overwrite the existing properties.

The configTool utility uses product names as parameters with the commands that register and unregister products. With the 8.5.0 release of IBM EMM, many product names changed. However, the names that are recognized by configTool

did not change. The valid product names for use with configTool are listed below, along with the current names of the products.

Table 21. Product names for configTool registration and unregistration

Product name	Name used in configTool
Marketing Platform	Manager
Campaign	Campaign
Distributed Marketing	Collaborate
eMessage	emessage
Interact	interact
Contact Optimization	Optimize
Marketing Operations	Plan
CustomerInsight	Insight
Digital Analytics for On Premises	NetInsight
Opportunity Detect	Detect
Leads	Leads
IBM SPSS Modeler Advantage Enterprise Marketing Management Edition	SPSS
Digital Analytics	Coremetrics

-u *productName*

Unregister an application that is specified by *productName*. You do not have to include a path to the product category; the product name is sufficient, and it is required. The process removes all properties and configuration settings for the product.

Options

-o

When used with -i or -r, it overwrites an existing category or product registration (node).

When used with -d, you can delete a category (node) that does not have the **Delete Category** link on the Configuration page.

Examples

- Import configuration settings from a file named Product_config.xml in the conf directory under the Marketing Platform installation.

```
configTool -i -p "Affinium" -f Product_config.xml
```
- Import one of the supplied Campaign data source templates into the default Campaign partition, partition1. The example assumes that you placed the Oracle data source template, OracleTemplate.xml, in the tools/bin directory under the Marketing Platform installation.

```
configTool -i -p "Affinium|Campaign|partitions|partition1|dataSources" -f OracleTemplate.xml
```
- Export all configuration settings to a file named myConfig.xml in the D:\backups directory.


```
configTool -x -f D:\backups\myConfig.xml
```

- Export an existing Campaign partition (complete with data source entries), save it to a file named `partitionTemplate.xml`, and store it in the default `tools/bin` directory under the Marketing Platform installation.

```
configTool -x -p "Affinium|Campaign|partitions|partition1" -f  
partitionTemplate.xml
```

- Manually register an application named `productName`, by using a file named `app_config.xml` in the default `tools/bin` directory under the Marketing Platform installation, and force it to overwrite an existing registration of this application.

```
configTool -r product Name -f app_config.xml -o
```

- Unregister an application named `productName`.

```
configTool -u productName
```

datafilteringScriptTool

The `datafilteringScriptTool` utility reads an XML file to populate the data filtering tables in the Marketing Platform system table database.

Depending on how you write the XML, you can use this utility in two ways.

- Using one set of XML elements, you can auto-generate data filters based on unique combinations of field values (one data filter for each unique combination).
- Using a slightly different set of XML elements, you can specify each data filter that the utility creates.

See *IBM Marketing Platform the Administrator's Guide* for information about creating the XML.

When to use datafilteringScriptTool

You must use `datafilteringScriptTool` when you create new data filters.

Prerequisites

The Marketing Platform must be deployed and running.

Using datafilteringScriptTool with SSL

When the Marketing Platform is deployed using one-way SSL you must modify the `datafilteringScriptTool` script to add the SSL options that perform handshaking. To modify the script, you must have the following information.

- Truststore file name and path
- Truststore password

In a text editor, open the `datafilteringScriptTool` script (`.bat` or `.sh`) and find the lines that look like this (examples are Windows version).

```
:call exec
```

```
"%JAVA_HOME%\bin\java" -DUNICA_PLATFORM_HOME="%UNICA_PLATFORM_HOME%"
```

```
com.unica.management.client.datafiltering.tool.DataFilteringScriptTool %*
```

Edit these lines to look like this (new text is in **bold**). Substitute your truststore path and file name and truststore password for myTrustStore.jks and myPassword.

```
:call exec
```

```
SET SSL_OPTIONS=-Djavax.net.ssl.keyStoreType="JKS"
```

```
-Djavax.net.ssl.trustStore="C:\security\myTrustStore.jks"
```

```
-Djavax.net.ssl.trustStorePassword=myPassword
```

```
"%JAVA_HOME%\bin\java" -DUNICA_PLATFORM_HOME="%UNICA_PLATFORM_HOME%"  
%SSL_OPTIONS%
```

```
com.unica.management.client.datafiltering.tool.DataFilteringScriptTool %*
```

Syntax

```
datafilteringScriptTool -r pathfile
```

Commands

-r *path_file*

Import data filter specifications from a specified XML file. If the file is not located in the tools/bin directory under your installation, provide a path and enclose the *path_file* parameter in double quotation marks.

Example

- Use a file named collaborateDataFilters.xml, located in the C:\unica\xml directory, to populate the data filter system tables.

```
datafilteringScriptTool -r "C:\unica\xml\collaborateDataFilters.xml"
```

encryptPasswords

The encryptPasswords utility is used to encrypt and store either of two passwords that Marketing Platform uses internally.

The two passwords that the utility can encrypt are as follows.

- The password that the Marketing Platform uses to access its system tables. The utility replaces an existing encrypted password (stored in the jdbc.properties file, located in the tools\bin directory under your Marketing Platform installation) with a new one.
- The keystore password used by the Marketing Platform when it is configured to use SSL with a certificate other than the default one supplied with the Marketing Platform or the web application server. The certificate can be either a self-signed certificate or a certificate from a certificate authority.

When to use encryptPasswords

Use encryptPasswords as for the following reasons.

- When you change the password of the account used to access your Marketing Platform system table database.
- When you have created a self-signed certificate or have obtained one from a certificate authority.

Prerequisites

- Before running `encryptPasswords` to encrypt and store a new database password, make a backup copy of the `jdbc.properties` file, located in the `tools/bin` directory under your Marketing Platform installation.
- Before running `encryptPasswords` to encrypt and store the keystore password, you must have created or obtained a digital certificate and know the keystore password.

Syntax

```
encryptPasswords -d databasePassword
```

```
encryptPasswords -k keystorePassword
```

Commands

-d *databasePassword*

Encrypt the database password.

-k *keystorePassword*

Encrypt the keystore password and store it in a file named `pfile`.

Examples

- When the Marketing Platform was installed, the login for the system table database account was set to `myLogin`. Now, some time after installation, you have changed the password for this account to `newPassword`. Run `encryptPasswords` as follows to encrypt and store the database password.

```
encryptPasswords -d newPassword
```
- You are configuring an IBM EMM application to use SSL and have created or obtained a digital certificate. Run `encryptPasswords` as follows to encrypt and store the keystore password.

```
encryptPasswords -k myPassword
```

partitionTool

Partitions are associated with Campaign policies and roles. These policies and roles and their partition associations are stored in the Marketing Platform system tables. The `partitionTool` utility seeds the Marketing Platform system tables with basic policy and role information for partitions.

When to use partitionTool

For each partition you create, you must use `partitionTool` to seed the Marketing Platform system tables with basic policy and role information.

See the installation guide appropriate for your version of Campaign for detailed instructions on setting up multiple partitions in Campaign.

Special characters and spaces

Any partition description or user, group, or partition name that contains spaces must be enclosed in double quotation marks.

Syntax

```
partitionTool -c -s sourcePartition -n newPartitionName [-u  
admin_user_name] [-d partitionDescription] [-g groupName]
```

Commands

The following commands are available in the `partitionTool` utility.

-c

Replicates (clones) the policies and roles for an existing partition specified using the `-s` option, and uses the name specified using the `-n` option. Both of these options are required with `c`. This command does the following.

- Creates a new IBM EMM user with the Admin role in both the Administrative Roles policy and the global policy in Campaign. The partition name you specify is automatically set as this user's password.
- Creates a new Marketing Platform group and makes the new Admin user a member of that group.
- Creates a new partition object.
- Replicates all the policies associated with the source partition and associates them with the new partition.
- For each replicated policy, replicates all roles associated with the policy.
- For each replicated role, maps all functions in the same way that they were mapped in the source role.
- Assigns the new Marketing Platform group to the last system-defined Admin role created during role replication. If you are cloning the default partition, `partition1`, this role is the default Administrative Role (Admin).

Options

-d *partitionDescription*

Optional, used with `-c` only. Specifies a description that appears in the output from the `-list` command. Must be 256 characters or less. Enclose in double quotation marks if the description contains spaces.

-g *groupName*

Optional, used with `-c` only. Specifies the name of the Marketing Platform Admin group that the utility creates. The name must be unique within this instance of Marketing Platform

If not defined, the name defaults to `partition_nameAdminGroup`.

-n *partitionName*

Optional with `-list`, required with `-c`. Must be 32 characters or less.

When used with `-list`, specifies the partition whose information is listed.

When used with `-c`, specifies the name of the new partition, and the partition name you specify is used as the password for the Admin user. The partition name

must match the name you gave the partition in when you configured it (using the partition template on the Configuration page).

-s *sourcePartition*

Required, used with -c only. The name of the source partition to be replicated.

-u *adminUserName*

Optional, used with -c only. Specifies the user name of the Admin user for the replicated partition. The name must be unique within this instance of Marketing Platform.

If not defined, the name defaults to *partitionNameAdminUser*.

The partition name is automatically set as this user's password.

Examples

- Create a partition with the following characteristics.

- Cloned from partition1
- Partition name is myPartition
- Uses the default user name (myPartitionAdminUser) and password (myPartition)
- Uses the default group name (myPartitionAdminGroup)
- Description is "ClonedFromPartition1"

```
partitionTool -c -s partition1 -n myPartition -d "ClonedFromPartition1"
```

- Create a partition with the following characteristics.

- Cloned from partition1
- Partition name is partition2
- Specifies user name of customerA with the automatically assigned password of partition2
- Specifies group name of customerAGroup
- Description is "PartitionForCustomerAGroup"

```
partitionTool -c -s partition1 -n partition2 -u customerA -g customerAGroup -d "PartitionForCustomerAGroup"
```

populateDb

The populateDb utility inserts default (seed) data in the Marketing Platform system tables.

The IBM EMM installer can populate the Marketing Platform system tables with default data for Marketing Platform and for Campaign. However, if your company policy does not permit the installer to change the database, or if the installer is unable to connect with the Marketing Platform system tables, you must insert default data in the Marketing Platform system tables using this utility.

For Campaign, this data includes security roles and permissions for the default partition. For Marketing Platform, this data includes default users and groups, and security roles and permissions for the default partition.

Syntax

`populateDb -n productName`

Commands

`-n productName`

Insert default data into the Marketing Platform system tables. Valid product names are Manager (for Marketing Platform) and Campaign (for Campaign).

Examples

- Insert Marketing Platform default data manually.
`populateDb -n Manager`
- Insert Campaign default data manually.
`populateDb -n Campaign`

restoreAccess

The `restoreAccess` utility allows you to restore access to Marketing Platform if all users with PlatformAdminRole privileges have been inadvertently locked out or if all ability to log in to the Marketing Platform has been lost.

When to use restoreAccess

You might want to use `restoreAccess` under the two circumstances described in this section.

PlatformAdminRole users disabled

It is possible that all users with PlatformAdminRole privileges in Marketing Platform might become disabled in the system. Here is an example of how the `platform_admin` user account might become disabled. Suppose you have only one user with PlatformAdminRole privileges (the `platform_admin` user). Assume the Maximum failed login attempts allowed property in the **General | Password settings** category on the Configuration page is set to 3. Then suppose someone who is attempting to log in as `platform_admin` enters an incorrect password three times in a row. These failed login attempts cause the `platform_admin` account to become disabled in the system.

In that case, you can use `restoreAccess` to add a user with PlatformAdminRole privileges to the Marketing Platform system tables without accessing the web interface.

When you run `restoreAccess` in this way, the utility creates a user with the login name and password you specify, and with PlatformAdminRole privileges.

If the user login name you specify exists in Marketing Platform as an internal user, that user's password is changed.

Only a user with the login name of PlatformAdmin and with PlatformAdminRole privileges can universally administer all dashboards. So if the `platform_admin` user is disabled and you create a user with `restoreAccess`, you should create a user with a login of `platform_admin`.

Improper configuration of Active Directory integration

If you implement Windows Active Directory integration with improper configuration and can no longer log in, use `restoreAccess` to restore the ability to log in.

When you run `restoreAccess` in this way, the utility changes the value of the Platform | Security | Login method property from Windows integrated login to Marketing Platform. This change allows you to log in with any user account that existed before you were locked out. You can optionally specify a new login name and password as well. You must restart the web application server on which Marketing Platform is deployed if you use the `restoreAccess` utility in this way.

Password considerations

Note the following about passwords when you use `restoreAccess`.

- The `restoreAccess` utility does not support blank passwords, and does not enforce password rules.
- If you specify a user name that is in use, the utility resets the password for that user.

Syntax

```
restoreAccess -u loginName -p password
```

```
restoreAccess -r
```

Commands

-r

When used without the `-u loginName` option, reset the value of the Platform | Security | Login method property to Marketing Platform. Requires restart of the web application server to take effect.

When used with the `-u loginName` option, create a PlatformAdminRole user.

Options

-u loginName

Create a user with PlatformAdminRole privileges with the specified login name. Must be used with the `-p` option.

-p password

Specify the password for the user being created. Required with `-u`.

Examples

- Create a user with PlatformAdminRole privileges. The login name is `tempUser` and the password is `tempPassword`.

```
restoreAccess -u tempUser -p tempPassword
```
- Change the value of the login method to IBM Marketing Platform and create a user with PlatformAdminRole privileges. The login name is `tempUser` and the password is `tempPassword`.

```
restoreAccess -r -u tempUser -p tempPassword
```

scheduler_console_client

Jobs configured in the IBM EMM Scheduler can be listed and kicked off by this utility, if they are set up to listen for a trigger.

What to do if SSL is enabled

When the Marketing Platform web application is configured to use SSL, the JVM used by the `scheduler_console_client` utility must use the same SSL certificate that is used by the web application server on which the Marketing Platform is deployed.

Take the following steps to import the SSL certificate

- Determine the location of the JRE used by the `scheduler_console_client`.
 - If `JAVA_HOME` is set as a system environment variable, the JRE it points to is the one used by the `scheduler_console_client` utility.
 - If `JAVA_HOME` is not set as a system environment variable, the `scheduler_console_client` utility uses the JRE set either in the `setenv` script located in the `tools/bin` directory of your Marketing Platform installation, or on the command line.
- Import the SSL certificate used by the web application server on which the Marketing Platform is deployed to the JRE used by `scheduler_console_client`. The Sun JDK includes a program called `keytool` that you can use to import the certificate. Consult the Java documentation for complete details on using this program, or access the help by entering `-help` when you run the program.
- Open the `tools/bin/schedulerconsoleclient` file in a text editor and add the following properties. These differ depending on the web application server on which Marketing Platform is deployed.
 - For WebSphere, add these properties to the file.
 - Djavax.net.ssl.keyStoreType=JKS
 - Djavax.net.ssl.keyStore="Path to your key store JKS file"
 - Djavax.net.ssl.keyStorePassword="Your key store password"
 - Djavax.net.ssl.trustStore="Path to your trust store JKS file"
 - Djavax.net.ssl.trustStorePassword="Your trust store password"
 - DisUseIBMSSLSocketFactory=false
 - For WebLogic, add these properties to the file.
 - Djavax.net.ssl.keyStoreType="JKS"
 - Djavax.net.ssl.trustStore="Path to your trust store JKS file"
 - Djavax.net.ssl.trustStorePassword="Your trust store password"

If the certificates do not match, the Marketing Platform log file contains an error such as the following.

```
Caused by: sun.security.provider.certpath.SunCertPathBuilderException:  
unable to find valid certification path to requested target
```

Prerequisites

The Marketing Platform must be installed, deployed, and running.

Syntax

```
scheduler_console_client -v -t trigger_name user_name
```

```
scheduler_console_client -s -t trigger_name user_name
```

Commands

-v

List the scheduler jobs configured to listen for the specified trigger.

Must be used with the -t option.

-s

Send the specified trigger.

Must be used with the -t option.

Options

-t *trigger_name*

The name of the trigger, as configured in the scheduler.

Example

- List jobs configured to listen for a trigger named trigger1.

```
scheduler_console_client -v -t trigger1
```
- Execute jobs configured to listen for a trigger named trigger1.

```
scheduler_console_client -s -t trigger1
```

eMessage Response and Contact Tracker (RCT) script

Use this script to run and check the status of the Response and Contact Tracker (RCT).

This script is located in the bin directory under your eMessage installation. The eMessage directory is a sub-directory in the Campaign directory.

In UNIX or Linux environments run the script as `rct.sh`.

In Windows, run the script from the command line as `rct.bat`.

Syntax

```
rct [ start | stop | check ]
```

Commands

start

Start the RCT

stop

Stop the RCT

Options

check

Check the status of the connection between the RCT and IBM EMM Hosted Services.

Examples

- To start the RCT on Windows.

```
rct.bat start
```

- To stop the RCT on Windows.

```
rct.bat stop
```

- In a Linux environment, to determine if the RCT is connected to IBM EMM Hosted Services.

```
rct.sh check
```

Depending on the status of your system, the output of this command might look like this:

```
C:\<EMM_HOME>\Campaign\eMessage\bin>rct check
Testing config and connectivity for partition partition1
Succeeded | Partition: partition1 - Hosted Services Account ID:
asm_admin
```

eMessage MKService_rct script

The MKService_rct script adds or removes the Response and Contact Tracker (RCT) as a service. Adding the RCT as a service restarts the RCT every time you restart the computer where you have installed the RCT. Removing the RCT as a service prevents the RCT from restarting automatically.

This script is located in the bin directory under your eMessage installation.

In UNIX or Linux environments run MKService_rct.sh. with a user that has root permissions or permissions to create daemon processes.

In Windows, run the script from the command line as MKService_rct.bat.

Syntax

```
MKService_rct -install
```

```
MKService_rct -remove
```

Commands

-install

Add the RCT as a service

-remove

Remove the RCT service

Examples

- To add the RCT as a Windows service.
`MKService_rct.bat -install`
- To remove the RCT service on UNIX or Linux.
`MKService_rct.sh -remove`

Chapter 11. Uninstalling Campaign

Run the Campaign uninstaller to uninstall Campaign. When you run the Campaign uninstaller, the files that were created during the installation process are removed. For example, files such as configuration files, installer registry information, and user data are removed from the computer.

About this task

When you install IBM EMM products, an uninstaller is included in the `Uninstall_Product` directory, where *Product* is the name of your IBM product. On Windows, an entry is also added to the **Add or Remove Programs** list in the Control Panel.

If you manually remove the files in your installation directory instead of running the uninstaller, the result might be an incomplete installation if you later reinstall an IBM product in the same location. After uninstalling a product, its database is not removed. The uninstaller only removes default files that are created during installation. Any file that is created or generated after installation is not removed.

Note: On UNIX, the same user account that installed Campaign must run the uninstaller.

Procedure

1. If you have deployed the Campaign web application, undeploy the web application from WebSphere or WebLogic.
2. Stop the Campaign listener.
3. Shut down WebSphere or WebLogic.
4. Stop the processes that are related to Campaign.
5. If the `ddl` directory exists in the product installation directory, run the scripts that are provided in the `ddl` directory to drop tables from the system table database.
6. Complete one of the following steps to uninstall Campaign:
 - Double-click the Campaign uninstaller that exists in the `Uninstall_Product` directory. The uninstaller runs in the mode in which you installed Campaign.
 - In a command-line window, navigate to the directory where the uninstaller exists, and run the following command to uninstall Campaign by using the console mode:
`Uninstall_Product -i console`
 - In a command-line window, navigate to the directory where the uninstaller exists, and run the following command to uninstall Campaign by using the silent mode:
`Uninstall_Product -i silent`
When you uninstall Campaign by using the silent mode, the uninstallation process does not present any dialogs for user interaction.

Note: If you do not specify an option for uninstalling Campaign, the Campaign uninstaller runs in the mode in which Campaign is installed.

Appendix A. Web application clustering

You can configure the IBM Campaign web application in a cluster by completing additional tasks during the IBM Campaign installation.

Important: If you integrate IBM Campaign with eMessage or Interact, do not configure a clustered web application environment.

To install IBM Campaign in a clustered web application environment, follow the instructions from chapters 2 through 8 and supplement those instructions with information from this chapter.

Note: If you have problems after deploying IBM Campaign in a cluster, copy the file `commons-lang.jar` to the directory `/data/webservers/IBM/WAS85ND/lib/ext`.

When you install IBM Campaign in a cluster, there are many ways to configure the installation. The following steps describe the basic process:

1. Run the installers on one system, typically, the administration server or whatever the equivalent is for your application server type.
2. Create and share a file directory to hold the upload files for all of the IBM Campaign installations.
3. Create the EAR or WAR file and deploy it on each server in the cluster.
4. Configure each system to share the IBM Marketing Platform system tables and the IBM Campaign system tables.
5. Configure each system to use the shared file directory.
6. Determine which server in the cluster will send notifications. Then, suppress the notification process on all of the other servers.
7. Configure `campaign_ehcache.xml` for distributed caching of templates and offer folders.

WebSphere clustering guidelines

If you are installing IBM Campaign on a cluster in WebSphere, complete these extra steps in addition to the steps for installing IBM Campaign on WebSphere.

Preparing the data sources

In addition to any other instructions provided in this guide, complete the following tasks for your data sources:

- The IBM Campaign database must be on a server that is accessible to all servers in the cluster, but it does not need to be on a server in the cluster.
- When you configure the JDBC provider, specify the cluster as the scope.

Installing the products

When you run the installer, be sure that you install Marketing Platform and IBM Campaign only once, on a server that is designated as the administration server for the cluster. The administration server is accessible to all servers in the IBM Campaign cluster.

You do not need to install the software on each cluster member. Instead, you install it on the administration server, create the EAR or WAR file, and then deploy the EAR or WAR file on each cluster member.

Pre-deployment steps

Before you deploy IBM Campaign, complete the following task in addition to the tasks specified in the pre-deployment configuration chapter (Chapter 5, “Configuring Campaign before deployment,” on page 27):

- Share the top-level directory in which IBM Campaign is installed. For example, if you installed Campaign in C:\CampaignCluster\IBM_EMM\Campaign, you would share the entire CampaignCluster directory.

Deployment steps

In addition to the instructions in the deployment chapter (Chapter 6, “Deploying the Campaign web application,” on page 35), complete the following tasks:

1. Map modules to servers. When you set the options in the **Select Installation Options** wizard for WebSphere, select the cluster and the web server when mapping modules to servers.
2. Extra instructions for the Generic JVM property: Configure the Generic JVM property on each server in the cluster.

The path that you specify in the <CAMPAIGN_HOME> and other properties must point to the shared installation directory.

Set the following extra parameters for clusters:

- When IBM Campaign is deployed in cluster mode, enable cache replication by setting the following parameter to true for each cluster node.

-Dcampaign.ehcache.enable=true

- Set the following parameter to ensure that eMessage ETL is not triggered by all clustered nodes:

-Dcampaign.emsgetl.disabled=true

For the one node that should trigger ETL eMessage data for all other nodes, set the parameter to **false**.

- Set the following parameter to ensure that Interact ETL is not triggered by all clustered nodes:

-Dcampaign.interactetl.disabled=true

For the one node that should trigger ETL Interact data for all other nodes, set the parameter to **false**.

- Set the following parameter to the location where campaign_ehcache.xml is located:

-Dcampaign.ehcache.path=<CAMPAIGN_HOME>\conf

Where <CAMPAIGN_HOME> is the path to the IBM Campaign installed location.

Post-deployment steps

If you are using a plug-in for load balancing, complete the following configuration steps:

- For IBM Campaign to work effectively in a clustered environment, users must remain on a single node for their entire session. This option for session

management and load balancing is known as session affinity. The documentation for your application server provides details about configuring your installation to use session affinity.

Note: When a node fails on a system that uses this configuration option, every user session on that node also fails. The load balancer must not switch users to another available node because user authentication applies only to a single node in IBM Campaign. Users are prompted to log in again. In some cases, an unexpected error and corresponding data loss can occur.

- Log in to IBM Campaign. Select **Settings > Configuration**, and configure the following URL parameters so that all references to the IBM Campaign server use the proxy host and port:

Campaign | navigation | serverURL

WebLogic clustering guidelines

If you are installing IBM Campaign on a cluster in WebLogic, complete these extra steps in addition to the steps for installing IBM Campaign on WebLogic.

Preparing to install

Before you begin the installation, you must create a WebLogic domain for the cluster. For help with this step, see the WebLogic documentation.

Preparing the data sources

In addition to any other instructions provided in this guide, complete the following tasks for your data sources:

- Configure the web application servers to use the correct JDBC driver on all servers in the cluster.
- Create the data source for the IBM Campaign system tables (UnicaPlatformDS) on both the administration server and the cluster members.
- When you create the data source for the IBM Campaign system tables (CampaignPartition1DS), deploy it to the cluster and not to the administration server. Select **All servers in the cluster**.

Installing the products

When you run the installer, be sure that you install Marketing Platform and IBM Campaign only once on the server that is designated as the administration server for the cluster. The administration server is accessible to all servers in the IBM Campaign cluster.

You do not need to install the software on each cluster member. Instead, you install it on the administration server, create the EAR or WAR file, and then deploy the EAR or WAR file on each cluster member.

Pre-deployment steps

Before you deploy IBM Campaign, complete the following tasks in addition to the tasks specified in the pre-deployment configuration chapter (Chapter 5, “Configuring Campaign before deployment,” on page 27):

- Share the top-level directory in which IBM Campaign is installed. For example, if you installed IBM Campaign in C:\CampaignCluster\IBM_EMM\Campaign. In this case, you would share the entire CampaignCluster directory.

Deployment steps

In addition to the instructions in the deployment chapter (Chapter 6, “Deploying the Campaign web application,” on page 35), complete the following tasks:

1. Set the source accessibility option. When you deploy the EAR or WAR on the administration server, set the **Source accessibility** option to **Use the defaults defined by the deployment's targets**.
2. Extra instructions for the Generic JVM property: Configure the Generic JVM property on each server in the cluster.

The path that you specify in the <CAMPAIGN_HOME> and other properties must point to the shared installation directory.

Set the following extra parameters for clusters:

- When IBM Campaign is deployed in cluster mode, enable cache replication by setting the following parameter to true for each cluster node.

-Dcampaign.ehcache.enable=true

- Set the following parameter to ensure that eMessage ETL is not triggered by all clustered nodes:

-Dcampaign.emsgetl.disabled=true

For the one node that should trigger ETL eMessage data for all other nodes, set the parameter to **false**.

- Set the following parameter to ensure that Interact ETL is not triggered by all clustered nodes:

-Dcampaign.interactetl.disabled=true

For the one node that should trigger ETL Interact data for all other nodes, set the parameter to false.

- Set the following parameter to the location where campaign_ehcache.xml is located:

-Dcampaign.ehcache.path=<CAMPAIGN_HOME>\conf

Where <CAMPAIGN_HOME> is the path to the IBM Campaign installed location.

Post-deployment steps

If you are using a plug-in for load balancing, complete the following configuration steps:

- For IBM Campaign to work effectively in a clustered environment, users must remain on a single node for their entire session. This option for session management and load balancing is known as sticky sessions or sticky load balancing. For more information about configuring your installation to use this option, see the documentation for your application server.

Note: When a node fails on a system that uses this configuration option, every user session on that node also fails. The load balancer must not switch users to another available node because user authentication applies only to a single node in IBM Campaign. Users are prompted to log in again, and in some cases an unexpected error and corresponding data loss can occur.

- Log in to IBM Campaign. Select **Settings > Configuration** and configure the following URL parameters so that all references to the IBM Campaign server use the proxy host and port:

Campaign | navigation | serverURL

Configure ehcache

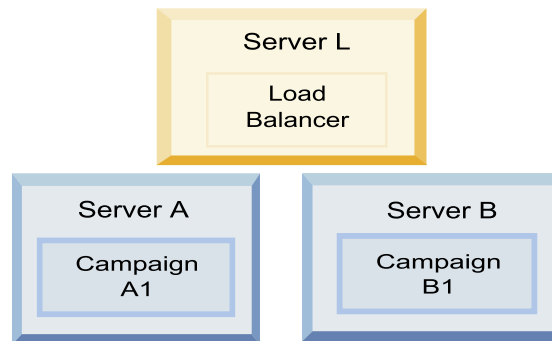
The ehcache is an open source Java distributed cache for caching, Java EE, and light-weight containers. Every node in the cluster can use the same `campaign_ehcache.xml` file or you can set a different `campaign_ehcache.xml` file for each node. For installations in a cluster, edit the `campaign_ehcache.xml` file so you do not have to restart the computer if you change any templates or offer folders.

Important: If your installation is upgraded from a previous version, some or all of the sections in the `campaign_ehcache.xml` file might not be present. In that case, add and edit the file as shown in the sections that follow.

Use one of the following procedures to configure the ehcache file.

Configuring ehcache with Remote Method Invocation (RMI)

IBM Campaign systems that have the following topography typically use RMI:



Go to the `<IBM_EMM_HOME>\<CAMPAIGN_HOME>\conf` directory and open the `campaign_ehcache.xml` file in a text editor. Then, make the following edits:

- Uncomment the following section of the file.

You must customize the settings for machineA and machineB to reflect your environment. Provide a pipe-separated list of all servers in the cluster and use fully qualified host names.

```

<!--<cacheManagerPeerProviderFactory
class="net.sf.ehcache.distribution.RMICacheManagerPeerProviderFactory"
properties="peerDiscovery=manual, rmiUrls=//
<machineA>:40000/campaignApplicationCache|//
<machineB>:40000/campaignApplicationCache"/>
-->

```

- Uncomment the following section of the file.

```

<!--
<cacheEventListenerFactory
class="net.sf.ehcache.distribution.RMICacheReplicatorFactory"
properties="replicateAsynchronously=true, replicatePuts=true,
replicateUpdates=true, replicateUpdatesViaCopy=true,

```

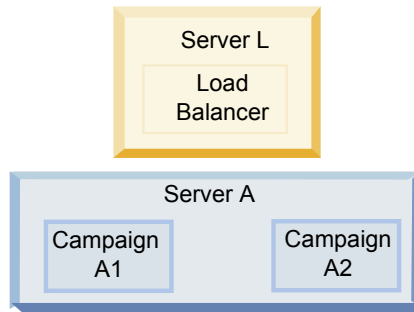
```

replicateRemovals=true"/>
<cacheEventListenerFactory
class="com.unicacorp.Campaign.cache.CampaignCacheEventListenerFactory" />
-->

```

Configuring ehcache with multicast

IBM Campaign systems that have the following topography typically use multicast:



Go to the `<IBM_EMM_HOME>\<CAMPAIGN_HOME>\conf` directory and open the `campaign_ehcache.xml` file in a text editor. Then, make the following edits:

- Uncomment the following section of the file.

You must customize the settings for `multicastGroupAddress` and `multicastGroupPort` to reflect your environment.

```

<!--<cacheManagerPeerProviderFactory
class="net.sf.ehcache.distribution.RMICacheManagerPeerProviderFactory"
properties="peerDiscovery=automatic, multicastGroupAddress=230.0.0.1,
multicastGroupPort=4446, timeToLive=32"/>

```

```

<cacheManagerPeerListenerFactory
class="net.sf.ehcache.distribution.RMICacheManagerPeerListenerFactory"/>
-->

```

- Uncomment the following section of the file.

```

<!--
<cacheEventListenerFactory
class="net.sf.ehcache.distribution.RMICacheReplicatorFactory"
properties="replicateAsynchronously=true, replicatePuts=true,
replicateUpdates=true, replicateUpdatesViaCopy=true,
replicateRemovals=true"/>
<cacheEventListenerFactory
class="com.unicacorp.Campaign.cache.CampaignCacheEventListenerFactory" />
-->

```

Appendix B. Upgrading to a clustered listener environment

Follow these instructions if you want to upgrade your existing single-listener configuration for IBM Campaign to a clustered listener configuration. A listener cluster is a set of two or more listeners that act as a unit to provide load balancing and high availability. IBM Campaign listener clusters are Active-Active; meaning each node serves requests using the load-balanced approach. Each Campaign listener provides an interface between front-end clients (such as the Campaign web application) and back-end analytical server processes.

Procedure

1. Confirm that you have met the prerequisites listed in “Supported listener clustering configurations” on page 92. For example, it is important that a shared file location is already configured and that you have prepared separate machines for each node in the cluster.
2. Follow the instructions in Chapter 2, “Planning the Campaign upgrade,” on page 9.
3. Familiarize yourself with the material in Chapter 3, “Upgrading Campaign,” on page 15.
4. Follow the instructions below to upgrade to a clustered listener configuration.

Step	Description
A. Start the installer.	Go to the folder where you saved the IBM EMM installer and run the installer. This invokes all of the product installers that are in that location (Marketing Platform, Campaign).
B. Upgrade Marketing Platform if necessary.	If you have not already done so, complete the screens that upgrade Platform, and click Done on the Installation Complete window.

Step	Description
<p>C. Upgrade IBM Campaign in a clustered listener configuration, optionally including the first listener.</p>	<p>The IBM Campaign installer opens. In this installer, you must configure IBM Campaign for a clustered configuration and, optionally, upgrade the first listener in the cluster as well. One listener in the cluster may already be installed on the Campaign server; however, each subsequent listener must be installed on its own standalone server. To upgrade Campaign to a clustered listener configuration, complete the following screens:</p> <ul style="list-style-type: none"> • Introduction • Software License Agreement • Installation Directory • Campaign Components: Select the desired options and be sure to select Campaign Server, which is the option to install the listener. • Single or Multiple Listeners: Select Clustered listener configuration (two or more nodes) • Complete the following screens to upgrade the first listener: <ul style="list-style-type: none"> – Shared Network File Location. The clustered listener configuration requires that certain files and folders are shared and accessible to all of the listeners in a cluster. Use this screen to specify the path to the shared file location. Use a mapped Microsoft Windows server path (such as Z:\Campaign_Shared) or a mounted UNIX path (such as /mnt/Campaign_Shared). This location is known as the campaignSharedHome. – Move Listener files to the Shared Network Location. Choose Automatic (recommended) or Manual. If you choose Automatic, the installer copies partition data to the campaignSharedHome location. If you choose Manual, you must manually copy the partition[n] data to campaignSharedHome. – Listener Node Properties. For each listener node that you install in a cluster, you must specify properties such as a unique name for the node, the node's network host and port, and so on. – Master Listener Priority. The priority determines which node in the listener cluster is the master listener and which node to use in the event of failover. – Load Balancing Weight. The weight determines how much listener traffic the node can support to share processing with the other nodes. Specify any value other than zero, because a value of zero prevents the node from handling any listener connections.
<p>D. Continue with the upgrade process.</p>	<p>From this point in the upgrade process, the remaining screens are essentially the same as for a single-node upgrade. When you complete the Pre-installation Summary screen, click Install to complete the upgrade of Campaign and the first listener node in the cluster.</p> <p>The Campaign installer runs with the options that you specified.</p> <p>If you selected Automatic for Move Listener files to the Shared Network Location, certain files are moved from the original installation directory to the campaignSharedHome directory structure. Campaign-related objects (such as .ses files and .dat files) are now located under the shared partition location, not the local installation location. For details, see “Shared network location for clustered listeners: campaignSharedHome” on page 93.</p>
<p>E. Run the acUpgrade tool.</p>	<p>Run the acUpgrade tool as described in “Running acUpgradeTool” on page 19 and complete any additional upgrade tasks before continuing.</p>

Step	Description
F. Deploy and package the EAR file.	<p>For the first installer node in the cluster, which you are installing on the main Campaign server, the installer displays screens to deploy and package the EAR file, the same as for a single-node installation.</p> <p>Continue with the process of deploying and running Campaign in your web application server, and running the listener on the Campaign server, as described in Chapter 5, “Configuring Campaign before deployment,” on page 27.</p>
<p>G. Install the second node in the cluster.</p> <p>Important: Each listener node must be installed on a separate machine.</p>	<p>If you have not already done so, copy the IBM EMM master installer and the Campaign installation files onto the server where your next Campaign installer node will run, and launch the master installer.</p> <p>In the master installer, provide the information necessary to connect to the Marketing Platform database, exactly the same way as for the first listener that you installed. Each listener in the same cluster must use the same master installer configuration.</p> <p>When the Campaign installer appears, complete the screens described here:</p> <ul style="list-style-type: none"> • Introduction • Software License Agreement • Installation Directory • Campaign Components: Select only Campaign Server, because you are only installing the listener on this system. • Single or Multiple Listeners: Select Clustered listener configuration (two or more nodes) • Complete the following screens to install the second listener: <ul style="list-style-type: none"> – Shared Network File Location. The clustered listener configuration requires that certain files and folders are shared and accessible to all of the listeners in a cluster. Use this screen to specify the path to the shared file location. Use a mapped Microsoft Windows server path (such as Z:\Campaign_Shared or \\hostname.example.com\Campaign_Shared) or a mounted UNIX path (such as /mnt/Campaign_Shared). Note: The value that you enter here must be the same for every listener in the cluster. – Listener Node Properties. For each listener node that you install in a cluster, you must specify properties such as a unique name for the node, the node's network host and port, and so on. – Master Listener Priority. The priority determines which node in the listener cluster is the master listener, and the priority used to determine which node to use in the event of failover. – Load Balancing Weight. The weight determines how much listener traffic the node can support for sharing the processing with the other nodes. Specify any value other than zero, because a value of zero prevents the node from handling any listener connections. <p>From this point in the installation process, the remaining screens are essentially the same as for a single-node install. When you complete the Pre-installation Summary screen, click Install to complete the installation of Campaign and the first listener node in the cluster.</p> <p>The Campaign installer runs with the options that you specified.</p>
H. Start the Campaign listener on the second node.	<p>When the installation is complete, start the Campaign listener. See “Starting the Campaign server” on page 39.</p>

Step	Description
I. Install each subsequent node in the cluster.	Repeat the installation steps that you performed for the second listener node for each additional node that you want to install. Remember that each node must be installed on a separate system from the other nodes. Start the listener on each node as you complete its installation.
J. This step is required only if you did a Manual update.	<p>If you did an Automatic update, skip this step.</p> <p>If you selected Manual for Move Listener files to the Shared Network Location, set up the campaignSharedHome folder structure as described above, and copy the required files from the local installation directory to the campaignSharedHome.</p>
K. Adjust configuration settings, then restart the web application server and listeners.	<p>Log in to Campaign and set the following configuration properties:</p> <ul style="list-style-type: none"> Campaign campaignClustering: Set enableClustering to TRUE. Campaign campaignClustering: Set campaignSharedHome to the Shared Network File Location (campaignSharedHome) that you specified during the upgrade. <p>Configuration properties are explained in the <i>IBM Campaign Administrator's Guide</i>.</p> <p>Be sure to restart the web application server and the listeners.</p>

Results

You have now upgraded to a clustered listener configuration.

Supported listener clustering configurations

This topic pertains to a clustered listener configuration.

Prerequisites and requirements for IBM Campaign listener cluster configurations:

- There can be only one listener per physical host machine.
- All back-end machines for clustered listeners must be running the same operating system type.
- All back-end machines for clustered listeners must have the same version of IBM Campaign installed.
- The shared network location (campaignSharedHome) must be in place and must be accessible from each physical host machine on which you plan to install a listener node. You must set this up prior to installing the listener nodes.

Diagram of listener clustering

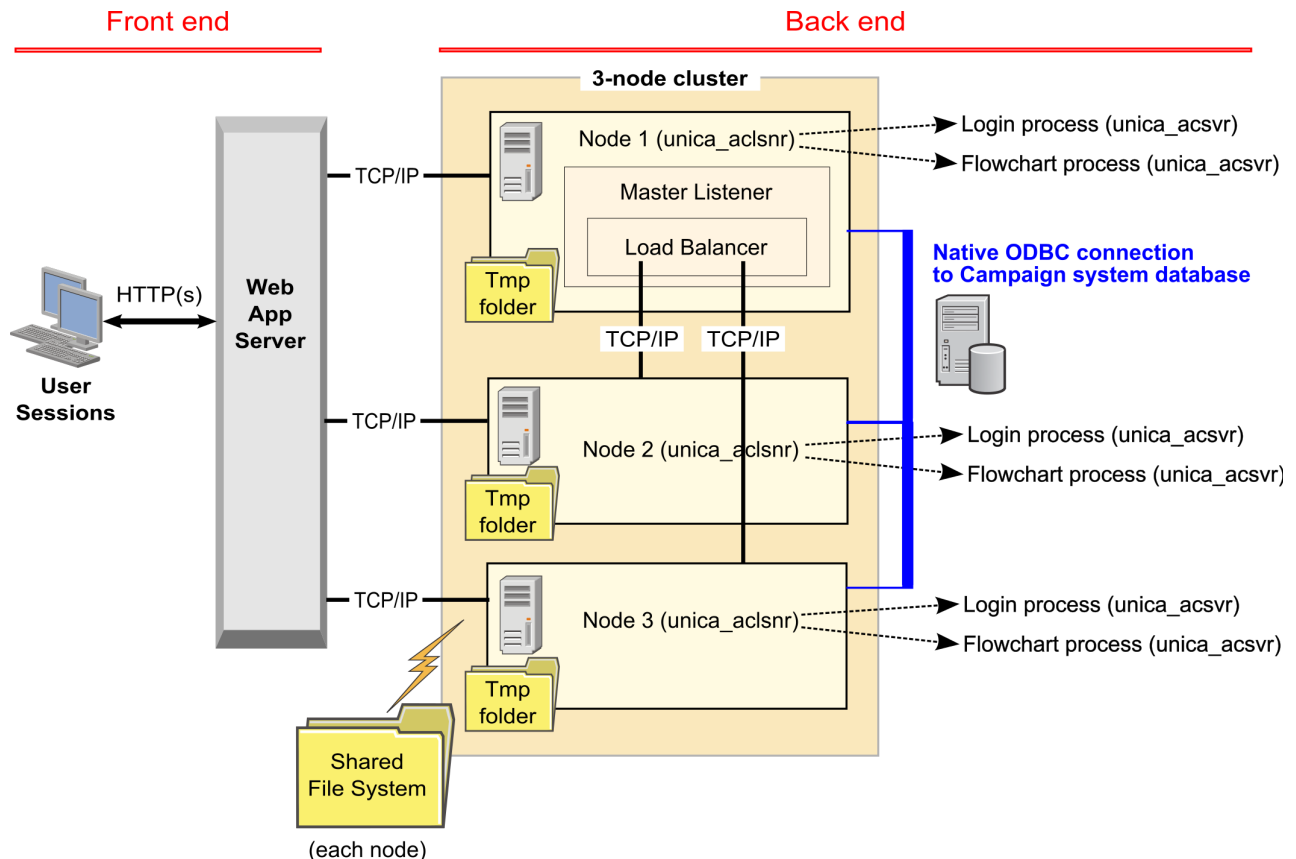
This diagram illustrates a three-node listener cluster configuration.

Note: The following summary provides a high-level overview of the components. Details are provided in separate topics.

A cluster consists of multiple listener nodes. Each node (unica_aclsnr) is on a separate physical machine, and each node has a native ODBC connection to the Campaign system database. As with a single-node configuration, each unica_aclsnr process spawns additional back-end processes for logins and flowcharts.

Each node also has a connection to a back-end user database (not shown in diagram).

In a clustered configuration, one node acts as the master listener. The job of the master listener is to perform load balancing by distributing incoming requests to each node. The Campaign web application sends client requests over TCP/IP, and the load balancer component communicates with clustered nodes over TCP/IP. All of the nodes share a network file system, so they can access shared files. Additionally, each node has its own local tmp folder and its own set of files that are not shared.



Shared network location for clustered listeners: campaignSharedHome

A clustered listener configuration for IBM Campaign requires that certain files and folders must be shared and accessible to all of the listeners in a cluster. Therefore, you must have a shared file system in place.

Requirements

- The common area can be a machine or location that is accessible from all of the other machines in the listener cluster.
- Each listener in a cluster must have full access to the shared files and folders.
- Best practice is for all of the listeners to be on the same network, and for the shared home to also be on that network, to avoid latency issues.
- To avoid any single point of failure, the shared file system should use mirrored RAID or an equivalent method of redundancy.
- If you are installing a single-listener configuration, a shared file system is a best practice, in case you decide to implement listener clusters in the future.

Shared files and folders

In a clustered configuration, all of the listeners share the folder structure shown below. The shared location (<campaignSharedHome>) is specified at installation time and is configurable at **Campaign | campaignClustering | campaignSharedHome**. The shared partition contains all of the logs, campaigns, templates, and other files.

```
campaignSharedHome
|--->/conf
|   |-----> activeSessions.udb
|   |-----> deadSessions.udb
|   |-----> etc.
|--->/logs
|   |-----> masterlistener.log
|   |-----> etc.
|--->/partitions
|   |-----> partition[n]
|       |-----> {similar to <Campaign_home> partition folder structure}
```

Files and folders that are not shared

Each IBM Campaign listener has its set of folders and files that are not shared, under <Campaign_home>. Campaign_home is an environment variable that represents the IBM Campaign application installation directory. This variable is set in cmpServer.bat (Windows) or rc.unica_ac.sh (UNIX). Partitions are specific to the local listener. Each local partition folder contains a tmp folder for temporary files during flowchart runs and a conf folder for the table manager cache file.

```
Campaign_home
|--->/conf
|   |-----> config.xml
|   |-----> unica_acIsnr.pid
|   |-----> unica_acIsnr.udb
|   |-----> etc.
|--->/logs
|   |-----> unica_acIsnr.log
|   |-----> etc.
|--->/partitions
|   |-----> partition[n]
|       |-----> /tmp
|       |-----> /conf
|       |-----> {other files specific to the partition}
```

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