Proficy Batch Execution 5.6

Campaign Manager Guide

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About This Guide

This guide explains how to use the Campaign Manager to create and manage campaigns. It is intended for integrators, operators and plant managers responsible for configuring and running a campaign.

The manual assumes you have a working knowledge of the Batch Execution Client.

Reference Documents

For related information about working with the Batch Client and the Campaign Manager, refer to the following documents:

- Operations Manual
- Custom Applications

Understanding Campaigns

Typically, a campaign is set up as a sequence of identical or nearly identical batches to be run on one equipment line. When you create a campaign, you specify the process units the campaign will run on and the recipe formula. The batch recipe used in a specific campaign can be scaled to allow different size batches to be run using the same base recipe. For each campaign, all of the batches are linked to the same Campaign ID.

In the following illustration, a customer order is used as the basis for a campaign. The campaign created to fulfill the customer order is comprised of three separate batches. The batches use the same recipe and equipment, with only the flavor and size parameters modified. The entire campaign is centrally controlled via the Campaign Client, which allows easy modification of the campaign, should the customer's needs change.
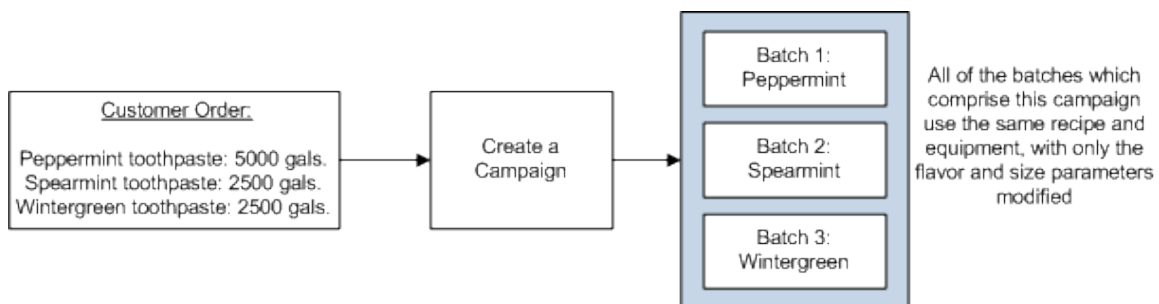
Translating a Customer Order to a Campaign

Introduction to the Campaign Manager

The Campaign Manager provides a simple way to control campaigns, or the execution of multiple, similar batches, which are typically required to fill a process order; process orders are orders where one or more customer orders are grouped together by product and assigned to specific production equipment.

Once you translate a process order into a set of one or more batches needed to satisfy the required quantities of the process order, the Campaign Manager does the rest. The Campaign Manager saves you from manually calculating the number of batches required to satisfy an order, creating all of the batches, entering all of the parameter values, binding each to all of the appropriate units and executing each batch; it does all of these tasks, while letting you control the setup and execution of campaigns via a simple user interface.

Once configured, the Campaign Manager executes the following tasks, necessary for campaign completion:

- Schedules a batch

- Binds the units required by the batch

- Runs a batch

- Checks the current state of the batch

- Removes the batch from the batch list upon completion

- Maintains an event log for all batches that comprise a process order

Campaign Manager Components

The Campaign Manager includes the following components:

- Campaign Client
- Campaign Server
- Campaign Database DLL

You can use the Campaign Manager Client to create and configure campaigns, as well as to monitor campaigns during runtime. The Campaign Manager Server controls and executes campaigns in a Batch Server, while the Campaign Database DLL communicates the campaign data to the Campaign Database.

Campaign Server

The Campaign Manager Server controls the triggering and execution of campaigns and campaign batches. The Campaign Manager Server starts whenever a Campaign Client attempts to connect to it. Or, if the Campaign Manager Server is configured to run as a service, it starts on system startup. The Campaign Manager Server runs and continues to run as long as there are Campaign Clients connected it to or there are campaigns waiting to be executed.

Data Storage and Persistence

Once a Campaign is created, the Campaign's data persists on the Campaign Manager Server. The Campaign Server saves the following items to the Campaign Database: Campaign ID, start time, complete time, amount produced, and individual batch information, including the batches' size or scale and status. This information is available even for those batches that have been removed from the Campaign Client's Batch List, at least until the campaign is completed and removed. The Campaign Server also maintains and restores the campaign data at shutdown and restart. However, if the Batch Server where the Campaign Manager resides is shut down and a Cold Restart of the Batch Server is performed, the status of all campaign and batch data becomes Unknown. The status remains unknown until you mark the batches within the campaign as Complete.

TIP: To prevent loss of campaign data, always perform a Warm Restart on the Batch Server where the Campaign Manager resides.

Campaign Server and the Campaign Database

The Campaign Server verifies the database connection and performs error handling and recovery if the database is inaccessible. Because of their interrelationship, if the Campaign Database shuts down, the Campaign Server cannot read or start new campaigns. Additionally, the Campaign Server cannot save updates to the Campaign Database's Campaign table.

Campaign Server and Campaign Monitoring

The Campaign Server monitors all campaigns and batch starts. While doing so, it responds to all Campaign Client commands – start, pause, delete, and modify. Whenever there is a campaign status change, the Campaign Server updates all Campaign Clients. It also maintains the quantity created and quantity remaining for each campaign and updates all Campaign Clients whenever a campaign quantity changes. In addition, the Campaign Server maintains the count of campaign batches completed and batches remaining.

Campaign Server and Batch Server Limits

The Campaign Server only allows 100 batches to run on the Batch Server at any one time. Batches in all states, Ready, Running, Complete, etc., listed on the Batch Server, count towards the 100 batch limit. The Campaign Server will not schedule batches to the Batch Server until the total number of batches drops below 100.

The Failure column on the Batch List view of the Campaign Client indicates if the number of batches scheduled to the Batch Server exceeds 100. If this occurs, you can either wait until the number of batches scheduled to the Batch Server falls below 100, or you can remove completed batches from the Batch Server, causing the total number of batches on the Batch Server to fall below the threshold.

If your circumstances require that more than 100 batches be allowed to run on the Batch Server at any one time, you can change the setting in the following registry key: HKEY_CLASSES_ROOT\Software\VisualBatch\CampaignMgr\MaxRunningBatches. Be aware, however, that your system's performance may be impacted by increasing the number of batches allowed to run on the Batch Server.

Campaign Database

The Campaign Database provides storage for the campaign data, such as the Campaign ID, start time, complete time, amount produced, and individual batch information, including the batches' size or scale and status. The Campaign Server manages this information.

The Campaign Database DLL communicates, on behalf of the Campaign Manager, with the Batch database and pushes the campaign data to the Campaign Database. The DLL, along with the Campaign Server, is installed on the same PC as the Batch Server.

Campaign Client

The Campaign Client is the user interface that allows you to configure the details of the campaign, including the recipe to use, when you want the campaign to run, its size and which equipment you want to use.

The following graphic depicts the Campaign Client. In this example, there is an active campaign, as indicated in the State column of the Campaign list (the upper portion of the Campaign Client). The first batch of the three that comprise the campaign is in a Running state, as indicated in the State column of the Batch Info tab (the lower portion of the Campaign Client).
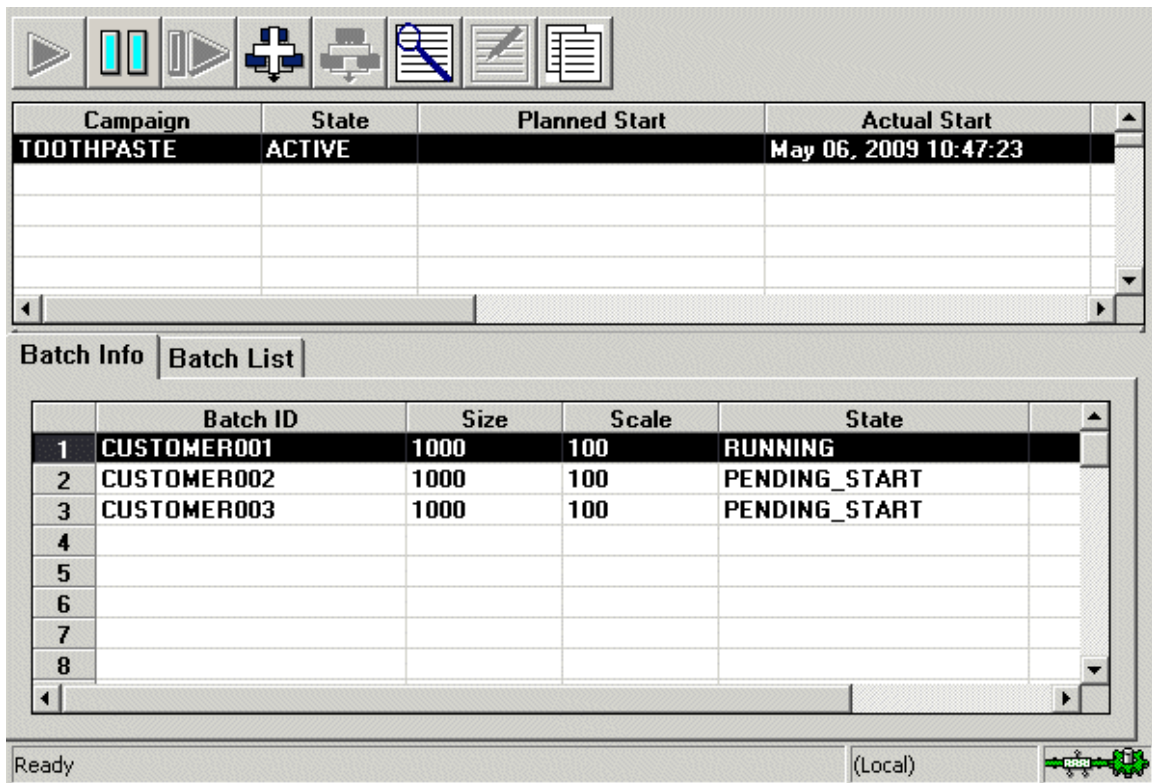
Campaign Client

Understanding How the Campaign Manager Communicates with Batch Execution

In the following illustration, all components of the Campaign Manager communicate with each other. However, communication with Batch Execution components is indirect; it is routed through the VBIS interface.
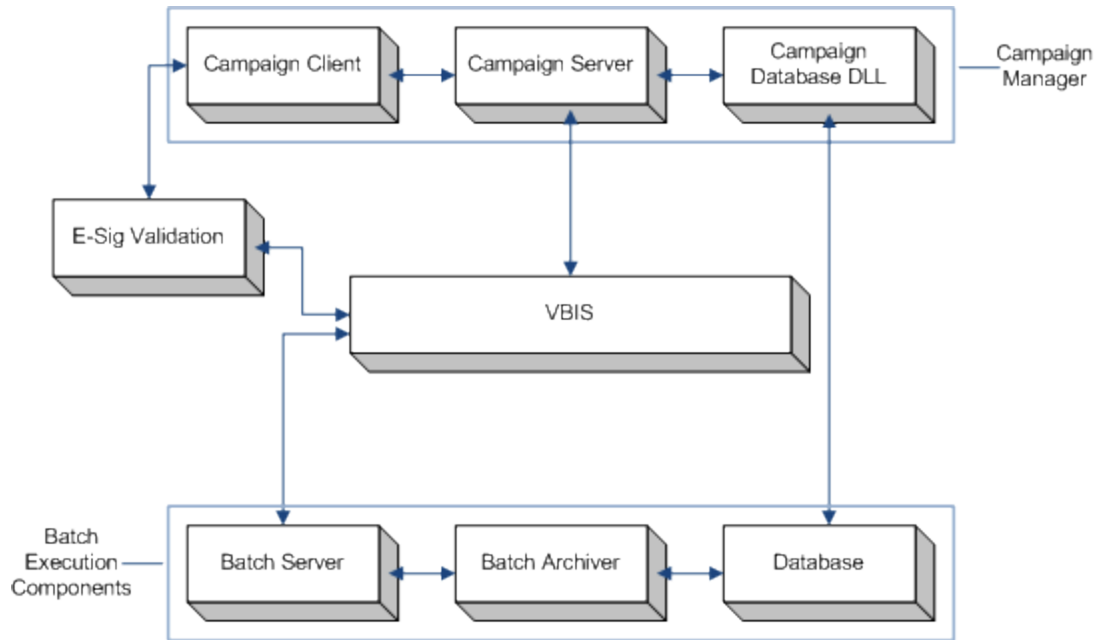
Overview of the Campaign Manager and Batch Execution Communication

Configuring the Campaign Manager

The following table describes the stages of the Campaign Manager setup process.

Stage	Description
1	Verify that you have a key that has the Campaign Manager feature enabled.
2	Complete all installation or upgrade procedures.
3	Enable Distributed COM.
4	Set up a DSN for your Campaign Database.
5	Run the Campaign Manager database script.

Stage	Description
6	In the Batch WorkSpace, configure the Campaign Database DSN.
7	Start the Batch Server.
8	Configure the Campaign Client.

Campaign Server Configuration

Make sure to install the Campaign Manager Server on the same PC as the Batch Server. This is important because the Campaign Manager Server only communicates with the Batch Server that is installed on the same PC as itself.

Starting the Campaign Manager Server

The Campaign Manager Server starts whenever the Batch Server service runs.

Database Considerations

You need to add a Campaign Database in order for the Campaign Manager to work. To do so, you need only run the CampaignMSSQL script for SQL Server or the CampaignOra script for Oracle. The script sets up the five tables necessary for the Campaign Database.

Once you have created the Campaign Database, you must configure its location in the Campaign Server. This is done in the WorkSpace on the Campaign Manager tab of the Batch Execution Configuration dialog box.

Configuring the Campaign Client

After you configure the Campaign Server and the Campaign Database, you need to configure the Campaign Client. By configuring the Campaign Client you can control its appearance and functionality at run time. By selecting various commands from the Command tab, choosing options to allow on the Security tab, or requiring signatures on the Electronic Signature tab you can control the amount of freedom that operators have.

The Campaign Client has multiple tabs on the Properties dialog box that allow you to customize the Campaign Client appearance, select the Campaign Server and enable security.

You can configure the Campaign Client in Proficy iFIX WorkSpace, Visual Basic or Visual C++.

Creating and Running Campaigns

Use the Campaign Manager Client to create and run your campaigns. To create a campaign, you access the Create Campaign dialog box on the toolbar of the Campaign Manager Client. After configuring a campaign using the dialog box, you can easily manage your campaigns using the Campaign Manager Client.

Preparing to Create a Campaign

Before you create a campaign, you will need the following information:

- The recipe you want to use

- Any parameter value or unit binding setting modifications you want to make to the recipe

- Quantity required for the campaign

- The time you want to start the campaign

Using the Create Campaign Dialog Box

You can use the Create Campaign dialog box to set up your campaigns. The Create Campaign dialog box is accessed using the toolbar in the Campaign Client. You are prompted for the parameters necessary for creating your campaign, including those mentioned in Preparing to Create a Campaign.

Choosing How to Start a Campaign

The following table describes the ways to start a campaign along with the situations for which each is best suited. You can select the start method on page 4 of the Create Campaign dialog box.

To start the campaign...	Setting	Description	Situation Best Suited for
Immediately	Auto	Starts the campaign as soon as you complete the Create Campaign dialog box	All materials, personnel, and equipment are free and available and there is no other order or campaign that takes precedence
At a certain time	Time	Starts the campaign on the date and time specified on the Create Campaign dialog box	Materials, personnel, and equipment will be available at a specified time and an order or campaign are due at a specified time

To start the campaign...	Setting	Description	Situation Best Suited for
When you want to	Manual	Starts the campaign once you manually trigger it	You want to directly control when the campaign starts

About Campaign Duplication

You can easily duplicate a campaign. The advantage of duplicating a campaign is that you do not have to recreate the entire campaign from scratch. Once you have a campaign configured and working the way that you want, all you have to do is duplicate it. This works equally well if you have a campaign that you want to run which is very similar to existing campaign except for a single batch parameter. In that case, you could duplicate the similar campaign and modify the single different parameter.

You can select a campaign to duplicate that is any state. The duplicated campaign is saved to the Campaign Database and remains in a Planning state until you modify the campaign and click Finish.

Security

The Campaign Manager offers a few ways to control security, or what operators are able to see and do at run time.

First, if your process requires it, you can require electronic signatures for each of the actions performed while using the Campaign Client. Enabling electronic signatures provides user authentication for each action before it is performed and an audit trail after. For more information, refer to the Electronic Signatures section.

Second, you can configure the security settings for the Campaign Client on the Security tab of the BatchCampaignClient Control Properties dialog box. There, you can establish which properties an operator can modify at run time.

Finally, on the Misc tab of the BatchCampaignClient Control Properties dialog box, you can select which items an operator can see and use at run time, such as the tool bar or the right-mouse menu. The Commands tab functions in the same way – it allows you to select which toolbar command buttons are available to the user at run time.

Electronic Signatures

You can configure electronic signatures at design time for each of the actions performed while using the Campaign Client. Enabling electronic signatures provides user authentication for each action before it is performed and an audit trail after. You can specify whether or not a user must sign-off on a command before it is performed. The signature types for each command include:

- None (no signature required)

- Performed By (only "Performed By" signature required)

- Performed By/Verified By (both "Performed By" and "Verified By" signatures required)

If you do not define a signature type, no signature is requested when the command is performed; NONE is the default signature type if you do not select one. If you specified a Performed By or Performed By/Verified By signature type, Windows security groups are used to validate the user who performs the command.

iFIX Security

You can enable iFIX security on the Security tab of the Properties dialog box. If iFIX security is enabled, iFIX security checks to see if the current user is authorized to execute a command. If the user is not logged into iFIX or they do not have the necessary privileges to execute Campaign Client commands, they cannot use the Campaign Client.

NOTE: If you choose to use iFIX security, verify that you have Client Startup permission. If you do not have this permission, you will receive the error message, "Access to Server Denied". Configuring the Client Startup permission is done via the iFIX Security Configuration Utility (SCU). For more information, refer to SCU and Security Configuration.

Security settings for electronic signatures in Batch Execution supersede iFIX security settings. If you enable electronic signatures for certain commands, iFIX security checking does not occur for those commands.

For iFIX security to work correctly with Campaign Manager, you must have the most recent iFIX SIM installed. For more information, refer to Using iFIX Security with the Campaign Manager in the section Working with Other Proficy Products of the release notes.

Using the Campaign Client

The Campaign Client contains the following parts:

- Status Bar
- Command Buttons
- Campaign List
- Batch Information Tab
- Batch List Tab

Status Bar

In the following illustration, there are two status bars. The status bar on the top reflects a Campaign Server that is connected. The status bar on the bottom reflects a Campaign Server that is not connected.

Campaign Server Connected

①	Indicates the connection status of the Campaign Server.	②	Displays the current Campaign Server name. The default server is selected automatically. You can double-click to access the Server tab of the Properties dialog box to change the server.	③	Connection Icon. If it is green, it indicates that the Campaign Server is connected. If it is red, it indicates that the Campaign Server is disconnected. If it is half green and half red, it indicates that the Batch Server shutdown while connecting to the Campaign Server.

Campaign Server Disconnected

Command Buttons

The Campaign Client has a command toolbar for campaign commands. The toolbar includes the following commands:

Icon	Description
	Starts the campaign. Only available if selected campaign is in a Pending state.

Icon	Description
	Pauses the campaign. Only available if the selected campaign is in an Active state.
	Restarts the campaign. Only available if the selected campaign is in a Paused state.
	Launches the Create Campaign dialog box, which allows you to create a campaign.
	Removes the campaign from the campaign list. However, the campaign is not removed from the database.
	Displays a read-only view of the options selected on the Create Campaign dialog box for the selected campaign.
	Modifies the selected campaign.
	Duplicates the selected campaign. Campaigns can be in any state.

Campaign List

The Campaign List is located on the upper half of the Campaign Client. The following table details the items that are included in the Campaign List:

Item	Description
Campaign	Name of the campaign.
State	The state of the campaign.

Item	Description
Planned Start	This column remains blank unless you selected a start time during campaign creation, in which case, it appears here.
Actual Start	The start time of the campaign, displayed in the Campaign Client's local time.
Actual Finish	The time the campaign completes, displayed in the Campaign Client's local time.
Planned	The planned quantity for the campaign.
Remaining	The remaining quantity left in the campaign.
EGU	The engineering units used for the campaign.
Planned	Planned number of batches.
Remaining	Remaining number of batches.
Recipe	The recipe used for the campaign.
Description	The description entered during campaign creation.

Sorting the Campaign List

The Campaign List can be sorted in ascending or descending order by up to three of the Campaign List columns. You can choose the items to sort by as well as the sort order on the Sort tab of the Property dialog box.

Batch Info Tab

The following figure of the Batch Info tab shows the Batch information for the campaign. The information includes the Batch ID, Size, Scale, State and Failure. The batches on the Batch Info tab include the following types of batches: unscheduled to the Batch Server, scheduled to the Batch Server and complete. Batches that are removed from the Batch Server also appear here.
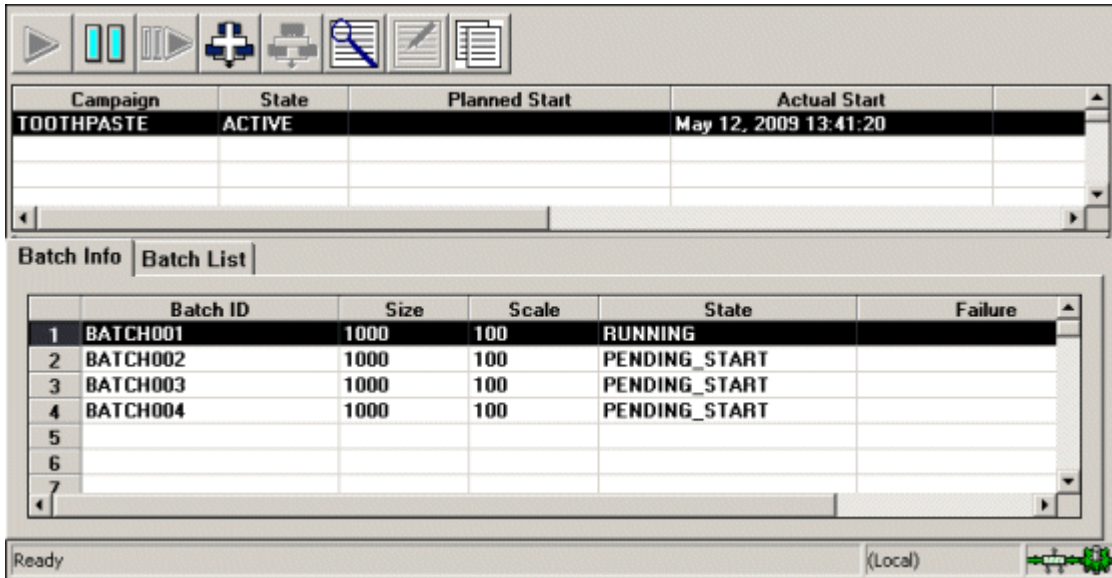
Batch Info tab for the Campaign Client

Batch List Tab

As the following figure illustrates, the Batch List tab displays the batches that are part of the selected campaign and provides access to the Batch command buttons for those batches. In addition, it provides the following information for the current campaign's batches: Batch ID, Recipe Name, Recipe Description, Batch State, Start Time, Elapsed Time, Failures and Batch Mode.
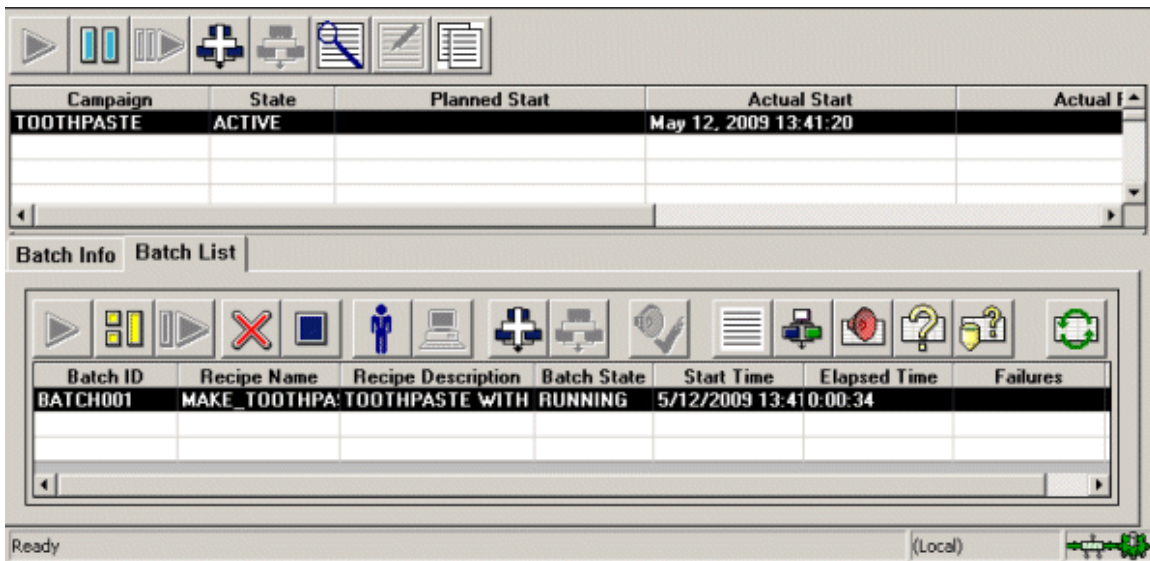
Batch List tab for the Campaign Client

Modifying the Appearance of the Campaign Client

There are three areas where you can modify the appearance of the Campaign Client: the Campaign Client list, the Batch Info and the Batch List tabs. For all three, you can change the fonts and colors used. To change the font and color, right-click the Campaign List to access the Properties dialog box. There, you can make your changes on the Fonts and Colors tabs. Changes made to fonts and colors on the Campaign Client Properties dialog box are also applied to the Batch Info and the Batch List tabs.

Additionally, you can change the columns displayed, and the order in which they appear on the Batch List and Recipe List areas. This is also done via the Properties dialog box on the Columns tab.

Finally, you can change the sort order for up to three selected items on the Campaign Client list. You can make these changes on the Sort Order tab of the Properties dialog box.

Please note that while you can modify the appearance of the Batch Info and Batch List tab on their respective Properties dialog boxes, the changes are not persisted. Their appearance reverts to the settings configured on the Campaign Client Properties dialog box the next time you re-open them.

Managing Campaigns

Using the Campaign Client, you can manage your campaign, including removing, scheduling and scaling the size of batches.

The following topics discuss the various ways you can manage your campaign:

- Removing Campaigns
- Removing Batches
- Scaling Batches
- Scheduling

Removing Campaigns

If you decide that you need to remove an entire campaign from the Campaign Client, it is easy to do so. From the Campaign Client, select the campaign to remove, and click Remove Campaign.

Removing Batches

You can remove batches from a campaign if your needs change and you no longer need all batches in the campaign to run. Only batches that have not yet started can be removed.

If you decide that you want to remove a batch from a campaign, you have to modify the campaign. After clicking the Modify Campaign button, and proceeding to page three of the Modify Campaign dialog box, where the batches are listed, you can select the batch to remove and click Remove Batch.

If you remove a batch, it is removed from the list but it remains on the Batch Server.

Scaling Batches

The scale size of each batch is displayed on the Campaign Client's Batch Info tab. There, you can also determine each batch's state. As long as a batch is in a Paused, Pending or Planning state, you can easily change the scale size of that batch.

To change the scale of a batch that has not yet been scheduled to the Batch Server, change the scale value on page three of the Modify Campaign dialog box, which is accessed by clicking Modify Campaign.

Scheduling

When scheduling the start time for the batches of your campaigns, consider your available resources. If you have limited resources, you may choose to schedule each of your batches to start sequentially, rather than all at one time.

Daylight Saving Time

Adjustments for daylight saving are handled automatically and campaigns begin based on the local time the user entered during campaign creation. When a user sets a start time for a campaign using the Campaign Client, the Campaign Client List displays the start time using the locally configured time zone settings. The Campaign Client translates the local time entered to universal time. The universal time is the time that is stored in the Campaign Database. This ensures that no matter where the Campaign Manager components are located, they are all using the same time.

Special Considerations

There are two special cases to keep in mind when scheduling campaigns around daylight saving time on PCs set to time zones with daylight saving. For fall daylight saving time, you cannot schedule a campaign for the second occurrence of the hours of 1:00 a.m. to 1:59 a.m. in advance. You can only schedule campaigns for this time once the time change has occurred. For spring daylight saving time, the Campaign Client will not permit you to schedule a campaign to begin during the hours of 2:00 a.m. to 2:59 a.m.

Campaign States

The following table describes the various states of campaigns.

Campaign State	Description
Active	The campaign was created, scheduled and started according to the configured batch options. The Active state results when a user starts the campaign, or the campaign was created using the Auto or Time start options. If the campaign is configured to start at a specified time, the time displays in the Planned Start column. Otherwise, the Planned Start column is blank.

Campaign State	Description
Bad	The campaign's recipe does not exist or is no longer released to production. Campaigns in this state can not be modified. However, they can be viewed, removed and duplicated.
Complete	All campaign batches are successfully completed. This state may also occur if a user modifies a campaign by decreasing the size or batch count such that the currently completed batches fulfill the newly modified campaign size.
Expired	The designated start time configured during campaign creation has passed. Typically, this happens when the Campaign Manager is off line when the configured start time was due to occur.
Paused	The campaign was paused by a user. Currently scheduled campaign batches will remain in a Paused state until the user clicks Restart. Also, no additional batches will be scheduled or started on the Campaign Server. Campaigns in this state may be modified. *NOTE: Currently executing campaign batches will continue to execute.*
Pending	The campaign was created, but is waiting for a manual start by the user. This state only occurs for campaigns configured for manual start. Campaigns in this state may be modified.
Planning	The campaign creation was started, but not completed. This occurs when you click Cancel on the Create Campaign dialog box or you have duplicated a campaign. Campaigns in this state can be modified by any client, but cannot be scheduled until the campaign creation is completed using the Finish button on the Create Campaign dialog box. When you modify a campaign in a Planning state, the security settings configured for creating a campaign are used rather than those configured for modifying a campaign. This is because, essentially, the campaign was never created. Modifying the campaign simply resumes campaign creation. For example, assume you configure a Campaign Client to require electronic signatures for modifying a campaign, but not for creating one. Then, you decide to modify a campaign which you started to create and is now in a planning state. An electronic signature is not required to modify this campaign, even though you configured the Campaign Client to require electronic signatures for modifications. The reason no electronic signature is required is because the campaign is in a planning state; it uses the settings configured for creating a campaign, and not those configured for modifying one.

Campaign State	Description
Unknown	The status of existing campaigns cannot be determined. This state occurs when the Batch Server is started using a Cold Boot restart and there is a pre-existing campaign that had batches running and it cannot be determined if the batches were completed or aborted.

Managing an Unknown, Aborted or Stopped State

If a batch's state becomes Unknown, Aborted or Stopped, you must modify the campaign. If you do not modify the campaign, the campaign cannot transition to a Complete state. Once you address the batches that are in Unknown, Aborted or Stopped states, the campaign will transition to Complete.

The following table describes the options for managing Unknown, Aborted or Stopped batch states, along with the associated results.

Batch State	Options	Results
Unknown	Mark Complete	Campaign transitions to Complete
	Remove	
	Replace	A new batch, with the same parameters and unit binding selections, is added to the campaign. This allows you to easily maintain the size and configuration of the original campaign, without any additional work.
Aborted or Stopped	Remove	Campaign transitions to Complete Optionally, remove the batch from the Batch Server
	Replace	A new batch, with the same parameters and unit binding selections, is added to the campaign. This allows you to easily maintain the size and configuration of the original campaign, without any additional work. Optionally, remove the batch from the Batch Server

You can access the options for addressing these batch states via the Modify Campaign dialog box.

Removing Batches from the Batch Server

When addressing batches in Aborted or Stopped states, you have the option of removing the batch from the Batch Server. You may decide to remove the batch if the number of batches on the Batch Server is approaching the maximum allowable number of batches, which is 100. Or, you may choose to leave the batch on the Batch Server, so you can complete any necessary actions. Either way, the

Campaign Client allows your circumstances to dictate your decision when it comes to removing batches from the Batch Server.

Reclaiming a Campaign in an Expired State

Campaigns that are in an Expired state can be reclaimed, saving you the effort of recreating the entire campaign. To reclaim a campaign, you need to modify one of two things. You can either change the start time to a new time in the future, or you can change the start option to Manual or Auto. Making either of these changes returns the campaign to either an Active or Pending state.

Understanding the Campaign Manager Data Model

The Campaign Manager logical data model defines the structures and rules that represent the storage of campaigns in a relational database. The data model:

- Is not specific to a particular vendor's implementation.

- Represents the tables, table attributes, constraints, and relationships among the tables.

Entity Relationship Diagram for Campaign Manager

The Campaign Manager entity relationship diagram, shown in the following figure, identifies the entities (tables) and the relationships between these entities that represent the collection of data related to one campaign.

Campaign

campaign_id
campaign_serial_no
server_name
Description
recipe_id
recipe_version
EGU
MinimumSize
MaximumSize
DefaultSize
State
PlannedStartTime_UTC
PlannedQuantity
PlannedBatches
ActualStartTime_UTC
ActualFinishTime_UTC
ActualQuantity
StartOption
ScheduleBatchOption
NumBatchesToRun
ConfigurationOption
BatchNamePrefix
BatchSizeSelection
BatchSize
CustomizedBatchSize
AutoStart
AutoRemove
RemovedFlag
UnitBinding
ParametersBinding

Campaign_Batch

batch_id
campaign_serial_no
Id
CampaignServerBatchId
batch_serial_no
BatchSize
Scale
Status

Campaign_Parameter

parameter_name
campaign_serial_no
CampaignServerBatchId
StringValue

Campaign_Unitbinding

unit
campaign_serial_no
CampaignServerBatchID
DefaultUnit

Campaign_ESig

SignatureType
Command
server_name
campaign_serial_no
campaign_id
PerformedByName
PerformedByTimeStamp
PerformedByTimeStampUTC
PerformedByNTSecurityGroup
VerifiedByName
VerifiedByTimeStamp
VerifiedByTimeStampUTC
VerifiedByNTSecurityGroup

Campaign Manger Entity Relationship Diagram

Campaign Manager Database Tables

This section describes the tables in which the Campaign Manager stores campaign information. These tables include the following:

- Campaign Table
- Campaign_Batch Table
- Campaign_Parameter Table
- Campaign_Unitbinding Table
- Campaign_Esig Table

Notes on Adding These Tables to Your Database

To add these Campaign Manager tables, you must run the appropriate scripts. See the Relational Database Configuration section in the System Configuration manual for more information on database setup and running scripts. If you had a previous version of Batch Execution, refer to the Upgrading Relational Databases in the Upgrade guide.

Campaign Table

The Campaign table captures the overall campaign information. The following table lists the attributes for the Campaign table.

Campaign Table	
Attribute	**Attribute Description**
campaign_id	Data Type: String. Length: 128 characters. Null Support: Nulls not allowed. Allowable Values: a-z, A-Z, 0-9 and underscores (_). Description: The name of the Campaign.
campaign_serial_no	Data Type: Integer. Length: 10 digits. Key: Primary key. Null Support: Nulls not allowed. Description: A user-defined ID that identifies an instance of a campaign.

Campaign Table	
Attribute	**Attribute Description**
server_name	Data Type: String. Length: 64 characters. Null Support: Nulls not allowed. Description: The computer name on which the Campaign Manager Server resides.
Description	Data Type: String. Length: 132 characters. Null Support: Nulls allowed. Allowable Values: a-z, A-Z, 0-9 and underscores (_). Default Value: None. Description: The description of the campaign.
recipe_id	Data Type: String. Length: 128 characters. Null Support: Nulls allowed. Allowable Values: a-z, A-Z, 0-9 and underscores (_). Default Value: None. Description: The name of the recipe to use for this campaign.
recipe_version	Data Type: Integer. Length: 10 digits. Null Support: Nulls allowed. Description: The version of the recipe to use for this campaign.
EGU	Data Type: String. Length: 60 characters. Null Support: Nulls allowed. Allowable Values: a-z, A-Z, 0-9 and underscores (_). Description: Describes the engineering units used by the campaign.

Campaign Table	
Attribute	**Attribute Description**
MinimumSize	Data Type: Double. Length: 15 digits. Null Support: Nulls not allowed. Description: Describes the minimum size for this campaign.
MaximumSize	Data Type: Double. Length: 15 digits. Null Support: Nulls not allowed. Description: Describes the maximum size for this campaign.
DefaultSize	Data Type: Double. Length: 15 digits. Null Support: Nulls not allowed. Description: Describes the default size for this campaign.
State	Data Type: Integer. Length: 10 digits. Null Support: Nulls not allowed. Description: The state of the campaign. States include: 1 – Planning, 2 – Pending, 3 – Active, 4 – Complete, 5 – Paused, 6 – Expired, 7 – Unknown.
PlannedStartTime_UTC	Data Type: Date. Length: Not applicable. Null Support: Nulls allowed. Allowable Values: A time stamp in UTC format. Default Value: The current date and time, in UTC format. Description: The GMT date and time, in UTC format, entered by the user for the planned start of the campaign.
PlannedQuantity	Data Type: Double. Length: 15 digits. Null Support: Nulls not allowed. Description: Describes the planned quantity for this campaign.

Campaign Table	
Attribute	**Attribute Description**
PlannedBatches	Data Type: Integer. Length: 10 digits. Null Support: Nulls not allowed. Description: The number of planned batches for this campaign.
ActualStartTime_UTC	Data Type: Date. Length: Not applicable. Null Support: Nulls allowed. Allowable Values: A time stamp in UTC format. Default Value: The current date and time, in UTC format. Description: The GMT date and time, in UTC format, of the actual start of the campaign.
ActualFinishTime_UTC	Data Type: Date. Length: Not applicable. Null Support: Nulls allowed. Allowable Values: A time stamp in UTC format. Default Value: The current date and time, in UTC format. Description: The GMT date and time, in UTC format, of the finish time of the campaign.
ActualQuantity	Data Type: Double. Length: 15 digits. Null Support: Nulls not allowed. Description: The actual quantity produced by the campaign.
StartOption	Data Type: Integer. Length: 10 digits. Null Support: Nulls not allowed. Allowable Values: 1=manual start, 2=auto, 3=time trigger start. Description: The user entered campaign start option.

Campaign Table	
Attribute	**Attribute Description**
ScheduleBatchOption	Data Type: Integer. Length: 10 digits. Null Support: Nulls not allowed. Allowable Values: 0=schedule batches sequentially, 1=schedule all batches. Description: The user entered schedule option.
NumBatchesToRun	For future use only.
ConfigurationOption	Data Type: Integer. Length: 10 digits. Null Support: Nulls not allowed. Allowable Values: 1. Default Value: None. Description: The configuration option selected for this campaign.
BatchNamePrefix	Data Type: String. Length: 128 characters. Null Support: Nulls not allowed. Allowable Values: a-z, A-Z, 0-9 and underscores (_). Description: A prefix for the batch name used by the campaign.
BatchNameSequence	Data Type: String. Length: 128 characters. Null Support: Nulls not allowed. Allowable Values: a-z, A-Z, 0-9 and underscores (_). Description: The batch sequence number assigned to a batch during campaign creation.

Campaign Table	
Attribute	**Attribute Description**
BatchSizeSelection	Data Type: Integer. Length: 10 digits. Null Support: Nulls not allowed. Allowable Values: 0=minimum batch size, 1=default batch size, 2=maximum batch size, 3=user entered batch size. Description: The batch size selected for this campaign.
BatchSize	Data Type: Double. Length: 15 digits. Null Support: Nulls not allowed. Description: The batch size.
CustomizedBatchSize	Data Type: Double. Length: 15 digits. Null Support: Nulls not allowed. Description: User entered batch size.
AutoStart	Data Type: Boolean. Length: 1 digit. Null Support: Nulls not allowed. Description: If true, automatically start the batch on the Batch Server.
AutoRemove	Data Type: Boolean. Length: 1 digit. Null Support: Nulls not allowed. Description: If true, automatically remove the batch from the Batch Server when it completes.
RemovedFlag	Data Type: Boolean. Length: 1 digit. Null Support: Nulls not allowed. Description: If true, the campaign is removed from the active campaign list.

Campaign Table	
Attribute	**Attribute Description**
UnitBinding	Data Type: String. Length: 4000 characters. Null Support: Nulls not allowed. Description: The unit binding information for this batch, in XML format.
ParametersBinding	Data Type: String. Length: 4000 characters. Null Support: Nulls not allowed. Description: The parameter name and value list for the batch, in XML format.

Campaign_Batch Table

The Campaign_Batch table captures information about the batch size and scale for this campaign. The following table lists the attributes for the Campaign_Batch table.

Campaign_Batch Table	
Attribute	**Attribute Description**
batch_id	Data Type: String. Length: 64 characters. Null Support: Nulls not allowed. Description: The Batch ID.
campaign_serial_no	Data Type: Integer. Length: 10 digits. Key: Primary key (PK1), Foreign key. Null Support: Nulls not allowed. Description: A unique ID that identifies an instance of a campaign.
Id	For internal use only.

Campaign_Batch Table	
Attribute	**Attribute Description**
CampaignServerBatchId	Data Type: Integer. Length: 10 digits. Key: Primary key (PK2). Null Support: Nulls not allowed. Description: A Campaign Server generated internal ID for this batch.
batch_serial_no	Data Type: Integer. Length: 10 digits. Null Support: Nulls allowed. Description: The Batch Server generated batch serial number.
BatchSize	Data Type: Double. Length: 15 digits. Null Support: Nulls not allowed. Description: The size of the batch for this campaign.
Scale	Data Type: Double. Length: 15 digits. Null Support: Nulls not allowed. Description: Indicates if a percentage of the batch size is used.
Status	Data Type: String. Length: 64 characters. Null Support: Nulls not allowed. Allowable Values: a-z, A-Z, 0-9 and underscores (_). Description: The status of this batch in the campaign.

Campaign_Parameter Table

The Campaign_Parameter table captures the parameter information for the campaign. The following table lists the attributes for the Campaign_Parameter table.

Campaign_Parameter Table	
Attribute	**Attribute Description**
parameter_name	Data Type: String. Length: 128 characters. Key: Primary key (PK1). Null Support: Nulls not allowed. Allowable Values: Windows computer name. Default Value: None. Description: The computer name on which the Campaign Manager Server resides.
campaign_serial_no	Data Type: Integer. Length: 10 digits. Key: Primary key (PK2), Foreign key (FK1). Null Support: Nulls not allowed. Description: A unique ID that identifies an instance of a campaign.
CampaignServerBatchId	Data Type: Integer. Length: 10 digits. Key: Primary key (PK3), Foreign key (FK2). Null Support: Nulls not allowed. Description: A unique ID that identifies this batch to the Campaign Server.
StringValue	Data Type: String. Length: 128 characters. Null Support: Nulls not allowed. Allowable Values: a-z, A-Z, 0-9 and underscores (_). Description: The parameter value.

Campaign_Unitbinding Table

The Campaign_Unitbinding table captures the unit binding information for the campaign. The following table lists the attributes for the Campaign_Unitbinding table.

Campaign_Unitbinding Table	
Attribute	**Attribute Description**
unit	Data Type: String. Length: 128 characters. Key: Primary key (PK1). Null Support: Nulls not allowed. Allowable Values: Windows computer name. Default Value: None. Description: The computer name on which the Campaign Manager Server resides.
campaign_serial_no	Data Type: Integer. Length: 10 digits. Key: Primary key (PK2), Foreign key (FK1). Null Support: Nulls not allowed. Description: A unique ID that identifies an instance of a campaign.
CampaignServerBatchId	Data Type: Integer. Length: 10 digits. Key: Primary key (PK3), Foreign key (FK2). Null Support: Nulls not allowed. Default Value: None. Description: A unique ID that identifies this batch to the Campaign Server.
DefaultUnit	Data Type: String. Length: 128 characters. Null Support: Nulls not allowed. Allowable Values: a-z, A-Z, 0-9 and underscores (_). Description: The bound unit name.

Campaign_ESig Table

The Campaign_ESig table captures the electronic signature information for the campaign. It records information only if electronic signatures are enabled. The following table lists the attributes for the Campaign_ESig table.

Campaign_ESig Table	
Attribute	**Attribute Description**
SignatureType	Data Type: String. Length: 40 characters. Null Support: Nulls not allowed. Allowable Values: a-z, A-Z, 0-9 and underscores (_).
Command	Data Type: String. Length: 255 characters. Null Support: Nulls not allowed. Allowable Values: a-z, A-Z, 0-9 and underscores (_).
server_name	Data Type: String. Length: 255 characters. Null Support: Nulls not allowed. Allowable Values: Windows computer name. Default Value: None. Description: The computer name on which the Campaign Manager Server resides.
campaign_serial_no	Data Type: Integer. Length: 10 digits. Null Support: Nulls not allowed. Allowable Values: Sequential number generated by the Campaign Server. This number can range from 0 to 2147483647. Description: A unique ID that identifies an instance of a campaign.

Campaign_ESig Table	
Attribute	**Attribute Description**
campaign_id	Data Type: String. Length: 128 characters. Null Support: Nulls not allowed. Allowable Values: a-z, A-Z, 0-9 and underscores (_). Description: The name of the campaign.
PerformedByName	Data Type: String. Length: 255 characters. Null Support: Nulls not allowed. Allowable Values: a-z, A-Z, 0-9 and underscores (_). Description: The full Windows user name of the user who performed the action.
PerformedByTimeStamp	Data Type: Date. Length: Not applicable. Null Support: Nulls not allowed. Allowable Values: A time stamp in UTC format. Default Value: The current date and time, in UTC format. Description: The date and time, in the Campaign Client's local time, that the user performed an action.
PerformedByTimeStampUTC	Data Type: Date. Length: Not applicable. Null Support: Nulls not allowed. Allowable Values: A time stamp in UTC format. Default Value: The current date and time, in UTC format. Description: The GMT date and time, in UTC format, that the user performed an action.

Campaign_ESig Table	
Attribute	**Attribute Description**
PerformedByNTSecurityGroup	Data Type: String Length: 255 characters. Null Support: Nulls not allowed. Allowable Values: a-z, A-Z, 0-9 and underscores (_). Description: The Windows user group for the user who performed the action.
VerifiedByName	Data Type: String. Length: 255 characters. Null Support: Nulls allowed. Allowable Values: a-z, A-Z, 0-9 and underscores (_). Description: The full Windows user name of the user who verified the action.
VerifiedByTimeStamp	Data Type: Date. Length: Not applicable. Null Support: Nulls allowed. Allowable Values: A time stamp in UTC format. Default Value: The current date and time, in UTC format. Description: The date and time, in the Campaign Client's local time, that the user verified the action.
VerifiedByTimeStampUTC	Data Type: Date. Length: Not applicable. Null Support: Nulls allowed. Allowable Values: A time stamp in UTC format. Default Value: The current date and time, in UTC format. Description: The GMT date and time, in UTC format, that the user verified the action.

Campaign_ESig Table	
Attribute	**Attribute Description**
VerifiedByNTSecurityGroup	Data Type: String. Length: 255 characters. Null Support: Nulls allowed. Allowable Values: a-z, A-Z, 0-9 and underscores (_). Description: The Windows user group for the user who validated the action.

Campaign Manager Dialog Boxes

The Campaign Manager has the following dialog boxes:

- Create Campaign Dialog Box
- Modify Campaign Dialog Box

  NOTE: The fields on the Modify Campaign dialog box are the same as those on the Create Campaign dialog box and are therefore completed in the same way.

- Parameters for Batch Dialog Box
- Unit Bindings for Batch Dialog Box

Create Campaign Dialog Box

The Create Campaign dialog box has five pages, as follows:

- Create Campaign Dialog Box - Page 1
- Create Campaign Dialog Box - Page 2
- Create Campaign Dialog Box - Page 3
- Create Campaign Dialog Box - Page 4
- Create Campaign Dialog Box - Page 5

Create Campaign Dialog Box – Page 1

NOTE: The fields on the Modify Campaign dialog box are the same as those on the Create Campaign dialog box and are therefore completed in the same way.

The Create Campaign dialog box, page one, has the following parts.

Campaign Name

Allows you to enter a campaign ID.

Description

Allows you to enter a campaign description.

Recipe

NOTE: Only recipes and formulations released to production are displayed.

Item	Description
Recipe ID	Displays the recipe ID.
Recipe Description	Displays the recipe description.
Product ID	Displays the product ID of the recipe.
Recipe Type	Displays the type of recipe.
Recipe File Name	Displays the file name of the recipe.
Audit Version	Displays the audit version of the recipe.

Recipe Type

Item	Description
All	Allows you to display all recipes and formulations.
Formulations Only	Allows you to display formulations only.
Recipes Only	Allows you to display recipes only.

Batch ID

Allows you to enter a batch ID.

Sequence

Allows you to enter a batch ID sequence. This sequence number must be numeric. The sequence is appended to the batch ID.

Next

Allows you to proceed to the next page of the Create Campaign dialog box.

Cancel

Allows you to cancel creation of this campaign. If you choose Cancel, you are prompted to save the campaign in a Planning state.

Create Campaign Dialog Box – Page 2

NOTE: The fields on the Modify Campaign dialog box are the same as those on the Create Campaign dialog box and are therefore completed in the same way.

The Create Campaign dialog box, page two, has the following parts.

Campaign

Displays the campaign ID for this campaign.

Recipe

Displays the name of the recipe for this campaign.

Campaign Sizing

NOTE: The Campaign Client will not allow you to create a campaign that has more than 100 batches. If your circumstances require that you create campaigns with over 100 batches, you can change the setting in the following registry key:
HKEY_CLASSES_ROOT\Software\VisualBatch\CampaignMgr\SizeLimit. Be aware, however, that your system's performance may be impacted by increasing the number of batches allowed to be created by the Campaign Client.

Item	Description
Number of Batches	Allows you to set the size of the campaign by providing the number of batches for the campaign.
Campaign Size	Allows you to set the size of the campaign by directly entering the campaign size.
EGU	Allows you to specify the type of engineering units for this campaign.

Batch Size

Item	Description
Minimum	Allows you to create the campaign using the minimum size batch configured.
Default	Allows you to create the campaign using the default batch size.
Maximum	Allows you to create the campaign using the maximum size batch configured.
Specify	Allows you to specify the size of the batch to use for this campaign.

Default Parameters and Unit Bindings

Item	Description
Edit Parameters	Allows you to access the Parameters for Batch dialog box, where you can edit the batch parameters for all batches.
Edit Unit Bindings	Allows you to access the Unit Bindings for Batch dialog box, where you can edit the unit bindings for all batches.

Back

Allows you to return to a previous page of the Create Campaign dialog box.

Next

Allows you to proceed to the next page of the Create Campaign dialog box.

Cancel

Allows you to cancel creation of this campaign. If you choose Cancel, you are prompted to save the campaign in a Planning state.

Create Campaign Dialog Box – Page 3

NOTE: The fields on the Modify Campaign dialog box are the same as those on the Create Campaign dialog box and are therefore completed in the same way.

The Create Campaign dialog box, page three, has the following parts.

Campaign

Displays the name of the Campaign.

Recipe

Displays the recipe selected for the Campaign.

Batches

Item	Description
Batch ID	Displays the Batch ID and sequence number.
Size	Displays the size of the batch. The Batch Size selected determines the size.
Scale	Allows you to set the percentage amount to scale the batch. The default value is 100%.

Unit Binding

> *NOTE: The information displayed in the Unit Binding area is for the selected batch only; each batch can have individual binding settings.*

Item	Description
Step	Displays the step for the unit binding.
Bound Unit	Displays the bound unit selection for the step.

Add Batch

Click to add a batch to the campaign.

Remove Batch

Click to remove the selected batch from the campaign.

Replace Batch

Click to replace the batch in the campaign.

Mark Complete

Click to mark the selected batch as complete.

NOTE: This option is only available if the selected batch is in an Unknown state.

Parameters

NOTE: The information displayed in the Parameters area is for the selected batch only; each batch can have individual parameter settings.

Item	Description
Parameter	Displays the batch parameter.
Minimum	Displays the minimum value for the parameter.
Value	Displays the editable value of the parameter.
Maximum	Displays the maximum value for the parameter.
EU	Displays the engineering units for the parameter.

Back

Allows you to return to a previous page of the Create Campaign dialog box.

Next

Allows you to proceed to the next page of the Create Campaign dialog box.

Cancel

Allows you to cancel creation of this campaign. If you choose Cancel, you are prompted to save the campaign in a Planning state.

Create Campaign Dialog Box – Page 4

NOTE: The fields on the Modify Campaign dialog box are the same as those on the Create Campaign dialog box and are therefore completed in the same way.

The Create Campaign dialog box, page four, has the following parts.

Campaign Start

Item	Description
Manual	Allows you to set the campaign to begin when you click Start.

Item	Description
Auto	Allows you to set the campaign to begin as soon as you complete the Create Campaign dialog box.
Time	Allows you to set the campaign to begin at a specified time. *NOTE: The time selected displays as the Campaign Client's local time but is saved in UTC format in the Campaign Database.*
Date	Allows you to select the start date for the campaign.
Time	Allows you to select the start time for the campaign. *NOTE: The time selected displays as the Campaign Client's local time but is saved in UTC format in the Campaign Database.*

Batch Start

Item	Description
Schedule Batches Sequentially	Allows you to set all batches to be scheduled sequentially.
Schedule All Batches	Allows you to set all batches to be scheduled at the same time.
Batches Start Automatically	Allows you to set the batch to start automatically.
Remove Completed Batches Automatically	Allows you to automatically remove completed batches from the Batch Server.

Back

Allows you to return to a previous page of the Create Campaign dialog box.

Next

Allows you to proceed to the next page of the Create Campaign dialog box.

Cancel

Allows you to cancel creation of this campaign. If you choose Cancel, you are prompted to save the campaign in a Planning state.

Finish

Allows you to complete the campaign.

NOTE: Finish is only available on this page if e-signatures is not enabled for the Create Campaign command.

Create Campaign Dialog Box - Page 5

> *NOTES:*
>
> - *The fields on the Modify Campaign dialog box are the same as those on the Create Campaign dialog box and are therefore completed in the same way.*
>
> - *This page is only available if electronic signatures are configured for the Create Campaign command.*

The Create Campaign dialog box, page five, has the following parts.

Performed By

Item	Description
User Name	Allows you to enter your Windows user name.
Password	Allows you to enter your Windows password.
Validate	Allows you to request validation of the user name and password.
Timestamp	Displays a time stamp, in the Campaign Client's local time, for the signature.

Verified By

Item	Description
User Name	Allows you to enter another Windows user name.
Password	Allows you to enter the associated password.
Timestamp	Displays a time stamp, in the Campaign Client's local time, for the signature.

Back

Allows you to return to a previous page of the Create Campaign dialog box.

Cancel

Allows you to cancel creation of this campaign. If you choose Cancel, you are prompted to save the campaign in a Planning state.

Finish

Allows you to complete the campaign.

Parameters for Batch Dialog Box

The Parameters for Batch dialog box displays the following items.

Parameter

Displays the name of the parameter.

Minimum

Displays the minimum value of the parameter.

Value

Allows you to change the value of the parameter.

Maximum

Displays the maximum value of the parameter.

EU

Displays the engineering unit of the parameter.

OK

Allows you to save the changes made to the parameters.

Cancel

Allows you to cancel the changes made and exits dialog box.

Unit Bindings for Batch Dialog Box

The Unit Bindings for Batch dialog box displays the following items.

Step

Displays the name of the step.

Bound Unit

Allows you to make a binding selection for the step.

OK

Allows you to save the changes made to the unit bindings.

Cancel

Allows you to cancel the changes made and exits dialog box.

How Do I...

The following sections explain how to work with the Campaign Manager:

- Performing Basic Operations
- Configuring Campaign Elements
- Modifying Campaign Elements
- Modifying the Appearance of the Campaign Client

Performing Basic Operations

The following topics explain how to perform basic operations for the Campaign Manager:

- Creating a Campaign
- Connecting to the Campaign Server
- Adding a New Batch
- Starting a Campaign
- Pausing a Campaign
- Restarting a Campaign
- Removing a Batch

- Removing a Campaign

- Duplicating Campaigns

- Changing a Campaign from a Planning State to a Pending or Active State

- Disconnecting from the Campaign Server

Creating a Campaign

▶**To create a campaign:**

1. On the Campaign Client, click Add Campaign. The Create Campaign dialog box appears.

2. Create a campaign ID and designate the recipe to use:

    a. In the Campaign Name field, enter a campaign ID.

    b. In the Description field, enter a description for this campaign.

    c. In the Recipes area, select a recipe for this campaign. To view only formulations or recipes, select the appropriate option below the recipe list in the Recipe Type area.

    d. In the Batch ID field, enter an ID for this batch.

    e. In the Sequence field, enter a sequence number for this batch.

    f. Click Next. Page 2 of the Create Campaign dialog box appears.

3. Specify the batch size and parameters:

    a. In the Campaign Sizing area, select a method for sizing your campaign, either Number of Batches or Campaign Size. Depending on the method you selected, enter either the Number of Batches or the Campaign Size.

    b. In the Batch Size area, select a method for sizing your batch. If you selected Specify, enter the size in the Specify field. The value must be between the Minimum and Maximum batch size values.

    c. In the Default Parameters and Unit Bindings area, click Edit Parameters and/or Edit Unit Bindings if you want to edit either item for all batches. If you chose Edit Parameters, go to Step i. If you chose Edit Unit Bindings go to Step iii. If you chose neither, go to Step d.

        i. In the Edit Parameter dialog box, select the parameter you want to change.

        ii. In the Value field, enter the desired value.

        iii. Click OK. Go to Step d.

        iv. In the Edit Bindings dialog box, select the Step for which you want to change the binding.

        v. In the Bound Unit field, select the unit to bind to.

        vi. Click OK. Go to Step d.

    d. Click Next. Page 3 of the Create Campaign dialog box appears.

4. Review the campaign information for each batch:

    a. In the Batches list, under Scale, make any desired changes to the scale size of the associated batch.

      b.   In the Unit Binding and Parameters lists, make any necessary changes for each batch.

      c.   Click Next. Page 4 of the Create Campaign dialog box appears.

5.   Designate the campaign and batch start methods:

      a.   In the Campaign Start area choose a method for starting the campaign. If you chose Time, select a date from the Date field and a time from the Time field.

      b.   In the Batch Start area, choose to either schedule batches sequentially or to schedule them all at once.

      c.   Select Batches Start Automatically to cause batches to start automatically.

      d.   Select Remove Completed Batches Automatically to remove completed batches automatically from the campaign.

      e.   Click either Finish or Next. If you clicked Next, Page 5 of the Create Campaign dialog box appears. Go to Step 6.

          NOTE: If electronic-signatures are enabled, Next appears. Otherwise, Finish appears.

6.   Provide electronic signatures:

      a.   In the Performed By area, in the User Name field, enter a user name and in the Password field, enter a password.

      b.   If required, in the Verified By area, in the User Name field enter a user name and in the Password field, enter a password.

      c.   Click Validate and then click Finish.

Connecting to the Campaign Server

▶To connect to the Campaign Server:

- In the Campaign Client, in run mode, on the Status bar, click the connect icon.

Adding a New Batch

▶To add a new batch:

1.   On the Campaign Client list, select the campaign to which you want add a batch.

2.   On the Campaign Client toolbar, click Modify Campaign. The Modify Campaign dialog box appears.

3.   Click Next and Next again, until you reach the third page of the dialog box.

4.   Click Add Batch and then Next.

5.   Click Finish.

Starting a Campaign

▶**To start a campaign:**

1. On the Campaign Client list, select the campaign to start.

   NOTE: The selected campaign must be in a Pending state.

2. On the Campaign Client toolbar, click Start Campaign.

Pausing a Campaign

▶**To pause a campaign:**

1. On the Campaign Client list, select the campaign to pause.

2. On the Campaign Client toolbar, click Pause Campaign.

Restarting a Campaign

▶**To restart a campaign:**

1. On the Campaign Client list, select the campaign to restart.

2. On the Campaign Client toolbar, click Restart Campaign.

Removing a Batch

▶**To remove a selected batch from a campaign:**

   NOTE: Only batches that have not yet been scheduled to the Batch Server can be deleted.

1. Pause the campaign that the batch belongs to.

2. Click Modify. The Modify Campaign dialog box appears.

3. Click Next and Next again, until you reach the third page of the dialog box.

4. In the Batches area, highlight the batch to remove and click Remove Batch.

5. Click Next and then Finish.

   NOTE: Removed batches are no longer listed on the Batch Info tab.

Removing a Campaign

▶**To remove a campaign from the Campaign Client:**

1. On the Campaign Client list, select the campaign to remove.

2. If the campaign is running, click Pause.

3. On the Campaign Client toolbar, click Remove Campaign.

4. Click Yes when prompted to remove the campaign.

5. Click Yes if prompted to remove the batches for this campaign from the Batch Server.

Duplicating Campaigns

▶**To duplicate a campaign:**

1. From the Campaign List, chose a campaign to duplicate.

   NOTE: The selected campaign can be in any state.

2. On the Campaign Client toolbar, click Duplicate Campaign.

3. Click OK. The selected campaign is duplicated and put in a Planning state.

   NOTE: Duplicated campaigns must be modified before they can be started.

Changing a Campaign from a Planning State to a Pending or Active State

▶**To change a campaign from a Planning state to a Pending or Active state:**

1. Select the campaign from the Campaign Client and click Modify Campaign. The Modify Campaign dialog box appears.

2. Make any desired changes to the campaign.

3. Click Finish.

Disconnecting from the Campaign Server

▶**To disconnect from the Campaign Server:**

- On the Campaign Client, on the Status bar, click the disconnect icon.

Configuring Campaign Elements

The following topics explain how to configure Campaign elements:

- Configuring the Campaign Client
- Configuring the Campaign Database DSN
- Configuring Security
- Configuring Electronic Signatures
- Enabling iFIX Security
- Selecting the Campaign Server

Configuring the Campaign Client

▶**To configure the Campaign Client:**

1. In design mode, on the Campaign Client, from the right-click menu, select Properties.

2. On the Columns tab, complete the following actions:

    a. To display row numbers, select the Row Numbers check box.

    b. Under Visible, select the check box next to each column that you want to appear in the control.

    c. To change the column name:

        i.   Select the column you want to edit.

        ii.   Click the text you want to change under Visible.

        iii. Enter the column header text that you want to appear on the control.

    d. To change the width of the column:

        i.   Click the column you want to edit.

        ii.   Click the width you want to edit under Width.

        iii. Enter width for the column.

    e. To change the filter for the column:

        i.   Click the column you want to edit.

        ii.   Click the filter you want to edit under Filter.

        iii. Enter the filter you want to apply to the column.

    f. To change the order in which the columns appear, highlight the name of the column you want to move and click the Up button to move the column to the left in the display and the Down button to move it to the right.

3. On the Sort tab, complete the following actions:

    a. In the Columns list box, select the columns you want to sort by and click the Add button to add them to the sort list. You can add up to three columns to the sort list.

    b. In the sort list, select a column and click the Up or Down arrows to move the column up or down in the sort priority.

    c. In the sort list, select a column and click the Ascending or Descending button to sort the column in ascending or descending order.

4. On the Server tab, complete the following actions:

    d. Select either a local or remote server.

    e. Click Connect on Startup to cause the client to connect automatically at startup to the Campaign Server.

    f. In the Refresh Rate list, click a refresh rate.

        NOTE: The default value of 5 is the recommended setting.

5. On the Commands tab, select the commands that you want available to operators at run time.

6. On the Misc tab, select items that you want to be visible and mouse actions available to operators at run time.

7. On the Security tab, in the Property Access area, select the properties that you want operators to be able to modify at run time. In the BatchList Viewers area, select the items you want operators to be able to access at run time.

8. On the Electronic Signature tab, complete the following actions:

    a. Select Use Default Signature Requirements if you want to use the defaults.

    b. If you want to require signatures for specific commands, in the Signature Requirements list, click the type of signatures you want require for the associated command.

    c. In the Performed By field, enter the Windows user group that can perform the action.

    d. If your signature type requires it, in the Verified By field, enter the Windows user group that can perform the action.

9. On the Colors tab, complete the following actions:

    a. In the Properties list, click the item for which you want to change the color.

    b. In the Color Set list, choose the set you want for your color palette.

    NOTE: The System Colors are the colors of the theme selected for your Windows operating system.

    c. In the Color Palette click the color the color to use for the property selected.

10. On the Fonts tab, complete the following actions:

    a. In the Property Name list, click the item for which you want to change the font properties.

    b. In the Font list, click the desired font for the item selected.

    c. In the Font Style list, click the desired style.

    d. In the Size list, click the desired size.

    e. In the Effects area, select any desired font effects.

11. Click OK.

Configuring the Campaign Database DSN

▶**To configure the Campaign Database DSN:**

NOTE: This procedure assumes that you have already configured the DSN in the database.

1. In Batch Execution WorkSpace, navigate to the Batch Execution Configuration dialog box.

2. On the Campaign Manager tab, in the Data Source Name field, enter the DSN you configured for the Campaign Database.

3. In the User Name field, enter your database user name.

4. In the Password field, enter your database password.

5. Click Test Connection to verify your connection.

6. Click OK.

Configuring Security

▶**To configure security:**

1. On the Campaign Client, from the right-click menu, select Properties.

2. On the Security tab, in the Property Access area, select the properties you want operators to be able to modify at run time.

3. If you want operators to be able to disconnect and connect from the Campaign Server, select the Toggle Server Connection option.

4. In the Viewers area, select which dialog boxes you want operators to be able to access during run time.

5. On the Commands tab, select the commands you want operators to be able to see and use at run time.

6. Click OK.

Configuring Electronic Signatures

▶**To configure the electronic signature properties:**

NOTE: Electronic signatures can only be configured at design time.

1. On the Campaign Client, from the right-click menu, select Properties.

2. On the Electronic Signature tab, select the Use Default Signature Requirements check box if you want to use a default signature.

3. Select the signature type for the default, or for each command listed (if default is not selected):

- Performed By

- Performed By / Verified By

- None

4. Select the Windows security group for each Performed By and Verified By signature specified.

NOTE: Right-click on the edit box and click Browse to open the Windows Security Groups dialog box. Make sure that the cursor is not displaying in the text box when you right-click on it. Select a group from the Windows Security Groups dialog box and click OK. You can only browse local security groups, but you can manually enter a domain group.

5. Click OK to save your changes.

Enabling iFIX Security

▶**To enable iFIX security:**

1. On the Campaign Client, from the right-click menu, select Properties.

2. On the Security tab, in the Property Access area, select Enable iFIX Security.

3. Click OK.

Selecting the Campaign Server

▶**To select the Campaign Server:**

1. From the Campaign Client, on the right-click menu, select Properties.

    -Or-

    Click on the Server Name on the Status Bar.

2. On the Server tab, choose either Local or Remote. If you chose Remote, either Browse for the server, or enter the address in the Remote field.

3. Click Connect on Startup to cause the Campaign Server to connect immediately.

4. In the Refresh Rate list, select a refresh rate.

    NOTE: The refresh rate is applied to the Batch List, not the Campaign List.

5. Click OK.

Modifying Campaign Elements

The following topics explain how to modify Campaign elements:

*   Modifying a Campaign
*   Marking a Batch Complete
*   Removing a Batch
*   Replacing a Batch
*   Modifying a Campaign in an Expired State
*   Changing a Batch's Scale Size
*   Editing the Batch Parameters
*   Editing the Unit Bindings

Modifying a Campaign

▶**To modify a campaign:**

1. On the Campaign Client list, select a campaign that is in the Planning or Pending state.

2. On the Campaign Client toolbar, click Modify Campaign. The Modify Campaign dialog box appears.

3. Complete the Modify Campaign pages as needed.

4. Click Finish.

Marking a Batch Complete

▶**To mark a batch as complete:**

> *NOTE: Only batches in an Unknown state can be marked Complete.*

1. Pause the campaign that the batch belongs to.

2. Click Modify Campaign. The Modify Campaign dialog box appears.

3. Click Next and Next again.

4. In the Batches area, highlight the batch to mark as complete and click Mark Complete.

5. Click Next and then Finish.

Removing a Batch

▶**To remove a batch:**

1. Pause the campaign that the batch belongs to.

2. Click Modify. The Modify Campaign dialog box appears.

3. Click Next and Next again, until you reach the third page of the dialog box.

4. In the Batches area, highlight the batch to remove and click Remove Batch.

5. Click Yes.

6. For batches in an Aborted or Stopped state only: if you want to remove the batch from the Batch Server, click Yes. Otherwise, click No.

7. Click Next and then Finish.

Replacing a Batch

▶**To replace a batch:**

1. Pause the campaign that the batch belongs to.

2. Click Modify. The Modify Campaign dialog box appears.

3. Click Next and Next again, until you reach the third page of the dialog box.

4. In the Batches area, highlight the batch to remove and click Replace Batch.

5. To generate a new Batch ID, click Yes. Otherwise click No.

6. For batches in an Aborted or Stopped state only: to remove this batch from the Batch Server, click Yes. Otherwise, click No.

7. Click Next and then Finish.

> *NOTE: It may take awhile for the batch to appear on the Batch Server.*

Modifying a Campaign in an Expired State

▶**To modify a campaign in an Expired state:**

1. Click Modify Campaign. The Modify Campaign dialog box appears.

2. Click Next until you reach the Campaign Start section, on page four.

3. Either change the Time to a future date and time or select Manual or Auto.

4. Click Finish.

Changing a Batch's Scale Size

▶**To change the scale size of a batch:**

1. On the Campaign Client toolbar, click Modify Campaign. The Modify Campaign dialog box appears.

   NOTE: Only campaigns that have not been scheduled yet on the Batch Server can be modified.

2. Click Next and then Next. Page 3 of the Create Campaign dialog box appears.

3. In the Batches list, under Scale, change the scale value for the batch you want to modify.

4. Click Next and then click either Next or Finish.

5. Click Finish.

Editing the Batch Parameters

▶**To edit the batch parameters:**

   NOTE: Batch parameters can only be edited for batches that have not yet been scheduled to the Batch Server.

1. On the Campaign Client toolbar, click Modify Campaign. The Modify Campaign dialog box appears.

2. Click Next and then Next. Page 3 of the Modify Campaign dialog box appears.

3. In the Batches list, select the batch for which you want to modify the parameters.

4. In the Parameters list, change the value of the selected parameter.

5. Click Next and then click either Next or Finish.

6. Click Finish.

Editing the Unit Bindings

▶**To edit the unit bindings:**

   NOTE: Unit bindings can only be edited for batches that have not yet been scheduled to the Batch Server.

1. On the Campaign Client toolbar, click Modify Campaign. The Modify Campaign dialog box appears.

2. Click Next and then Next. Page 3 of the Modify Campaign dialog box appears.

3. In the Batches list, select the batch for which you want to modify the unit bindings.

4. In the Unit Binding list, select a Bound Unit for the selected Step.

5. Click Next and then click either Next or Finish.

6. Click Finish.

Modifying the Appearance of the Campaign Client

The following topics explain how to modify the appearance of the Campaign Client:

- Modifying the Appearance of the Campaign Client List
- Sorting the Campaign List

Modifying the Appearance of the Campaign Client List

▶**To modify the appearance of the Campaign Client List:**

> *NOTE: Font and color changes you make to the Campaign Client list are also applied to the Batch Info tab and Batch List tab.*

1. On the Campaign Client list, from the right-click menu, select Properties.

2. On the Misc tab, choose which items you want to display in the Campaign Client at run time.

3. On the Colors tab of the BatchCampaignClient Control Properties dialog box, in the Property Name list, select the property for which you want to change the color.

4. Click the color you want to use.

5. On the Fonts tab, in the Property Name list, select the property for which you want to change the font.

6. Select the Font face, style, size and effects as desired.

7. Click OK.

Sorting the Campaign List

▶**To sort the campaign list:**

1. On the Batch List tab of the Campaign Client, from the right-click menu, select Properties.

2. On the Sort Order tab of the BatchCampaignClient Control Properties dialog box, in the Columns area, select the column to sort by.

3. Click Add.

   NOTE: You can select up to three columns to sort by.

4. To change the sort order of a column, in the Sort Key area, select a column heading and click either Ascending or Descending.

5. To change the location of the column, in the Sort Key area, select a column heading and click either Up or Down to move the column to the left or to the right.

6. Click OK.

Troubleshooting

The following table describes some typical troubleshooting scenarios for working with the Campaign Manager, along with their solutions.

Scenario	Solution
The Campaign Server does not seem to be able to schedule a task.	Verify that the Batch Server is running. If it is not running, the Campaign Server cannot schedule tasks.
I cannot retrieve recipe information.	Verify that the Batch Server is running. If it is not running, the Campaign Server cannot retrieve information.
I cannot find my campaign in the Campaign Manager.	Verify that another operator did not remove the campaign. Also, check the filtering settings on the Columns tab of the BatchCampaignClient Control Properties dialog box to determine if your campaign was filtered out of the list.
The Campaign Manager is unable to start a new campaign.	Verify that the Campaign Database is running. If the database is not running, the Campaign Server cannot read new campaigns from the database or start them.
Campaign information seems to be missing from the Campaign Database.	Check the database error log. If the Campaign Database is not running, the Campaign Server cannot save updates to the database's Campaign table. The information is cached to a text file as SQL statements and re-executed later.
The next batch of my campaign has not started.	Verify that you have removed all completed batches from your campaign and that Batches Start Automatically is selected on page four of the Create Campaign dialog box.

Scenario	Solution
The next batch of my campaign has not been scheduled.	Check the Failure column on the Batch List of the Campaign Client. If it indicates that there are too many batches scheduled to the Batch Server, you can either wait until the number of batches scheduled to the Batch Server falls below 100, or you can remove completed batches from the Batch Server, causing the total number of batches on the Batch Server to fall below 100.
My campaign is in an Active state even though all of the batches in the campaign are either stopped or aborted.	Modify the campaign by removing or replacing the aborted and stopped batches. The campaign cannot proceed to a Complete state until all batches in an Aborted or Stopped state are addressed.
I received the error message "Access to Server Denied."	Verify that you have Client Startup permission. If you have iFIX security enabled, you must also have Client Startup permission to avoid receiving the error message. For more information refer to SCU and Security Configuration.

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