CA Clarity™ Project & Portfolio Manager

CA Clarity-Xcelsius Implementation Guide

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Chapter 1: Using Xcelsius to Display Real-time CA Clarity PPM Data

This section contains the following topics:

About CA Clarity PPM-Xcelsius Support

Xcelsius is a dashboarding tool used to design and build visualizations that provide a visually rich and interactive approach to analyzing data. You can include Xcelsius visualizations in CA Clarity PPM by exporting the visualization to the ShockWave Flash file (.swf) format and creating an interactive portlet in CA Clarity PPM. Xcelsius visualizations can display real-time CA Clarity PPM data outside of CA Clarity PPM, such as from a PowerPoint presentation, Word document, and more.

Note: To get optimal performance from your Xcelsius visualizations, follow the guidelines outlined in the *BusinessObjects Xcelsius 2008 User Guide*. For example, set up complex calculations in the database queries.

The CA Clarity PPM-Xcelsius integration supports the following:

- Real-time CA Clarity PPM data transfers using CA Clarity PPM Web Services or Business Objects Query as a Web Service (QaaWS) as the connection method.

- Secured data transfers that authenticate CA Clarity PPM users through session IDs and that preserve CA Clarity PPM access rights. Users only see information they have rights to view.

- Context-aware Xcelsius visualizations automatically filter data based on where the interactive portlet is located in CA Clarity PPM. For example, the Overview page can display unfiltered data, such as all projects, and a project page can display filtered data, such as only projects managed by a particular user.

- Color scheme consistency between the Xcelsius visualization and CA Clarity PPM.

- Multiple language support enables users to view information using their preferred language.

- Cross-domain setup to view visualizations with real-time CA Clarity PPM data outside of CA Clarity PPM.

In addition to Xcelsius, the following are the primary components used to implement Xcelsius visualizations with real-time CA Clarity PPM data. Each is discussed in more detail in the topics that follow.

- Interactive Portlets (see page 9)

- Connection Methods (see page 10)

- Global and Object Parameters (see page 12)

Who Should Read this Guide

Intended Audience

This guide is written for a technical audience. It assumes you are familiar with the following products and know how to perform the following tasks listed under each one:

 In Xcelsius:

- Create visualizations

- Use the Data Manager

In CA Clarity Studio:

- Develop and configure CA Clarity PPM Studio objects.

- Use NSQL and WDSL (if you plan to use the Web Services connection method)

- Create portlets

In Business Objects:

- Use Business Objects universes

- Create queries using the Query as a Web Service tool

What Is Covered

This guide explains how to:

- Download Xcelsius from CA Clarity PPM and install it

- Set up to use real-time data from CA Clarity PPM in an Xcelsius visualization

- Enable cross-domain data transfers that allow real-time data to be displayed in applications other than CA Clarity PPM

- Set up the CA Clarity PPM color scheme in Xcelsius

- Install and use the sample Xcelsius files provided with CA Clarity PPM

What Is Not Covered and Where You Can Find the Information

This guide does not explain how to:

- Use Xcelsius or create visualizations

  For this information, see the *BusinessObjects Xcelsius 2008 User Guide*. This guide from SAP provides detailed information about visualizations and the Xcelsius Data Manager.

- Create NSQL queries.

  For this information, see the *Studio Developer's Guide.* This guide provides a general overview of interactive portlets for the administrator who wants to add interactive portlets when configuring an object. This guide also provides information about creating queries and NSQL. Also see the *XML Open Gateway Developer Guide* for information about WSDL and query WSDLs.

- Personalize user pages with interactive portlets

  For this information, see *Common Features and Personal Options Guide.* This guide provides a general overview of the interactive portlets for basic CA Clarity PPM users who want to personalize their pages with interactive portlets, or add interactive portlets to personal dashboards or portlets.

Interactive Portlets

Interactive portlets display visually rich CA Clarity PPM information in real time. Interactive portlets are created in CA Clarity PPM and contain Xcelsius visualizations. These visualizations are exported as vector-based graphic Adobe Flash (.SWF) files and imported into CA Clarity PPM. Interactive portlets use global and object parameters with Flash variables to establish secured data transfers and to create context-aware visualizations.

Use interactive portlets to:

- Perform a what-if analysis

- Set up alerts

- Drill down to go to more detailed information

- Mouse over areas to view more information

Once you have created Xcelsius visualizations and imported them into CA Clarity PPM interactive portlets, you can associate them with objects, such as Project or Resource. You can also make Xcelsius visualizations available on object pages. Users can personalize their pages and add interactive portlets anywhere in CA Clarity PPM, such as their Overview page, as they can with other portlet types.

Note: See the *Common Features and Personal Options User Guide* for more information.

Connection Methods for Real-Time Data Exchanges

To enable real-time data exchanges between Xcelsius and CA Clarity PPM, set up the data connection using one of the following connection methods:

- CA Clarity PPM Web Service (see page 11). Use this connection method if you want to get real-time CA Clarity PPM data through the CA Clarity PPM Web Service.

- Query as a Web Service (QaaWS) (see page 11). Use this connection method if you want to get real-time CA Clarity PPM data through the Business Objects Query as a Web Service.

These connections include the data sources that establish real-time data exchanges with CA Clarity PPM. You set up and configure the data connections for your visualizations using the Xcelsius Data Manager.

Note: See the *BusinessObjects Xcelsius 2008 User Guide* for more information.

CA Clarity PPM Web Service

The CA Clarity PPM Web Service connection method enables the Xcelsius visualization to get real-time CA Clarity PPM data by using the web services provided through CA Clarity PPM.

The CA Clarity PPM Web Service connection method is a good choice when:

■ Your CA Clarity PPM implementation is integrated with a solution other than Business Objects.

■ You want to use CA Clarity PPM to establish the data source. Experience writing NSQL is required.

■ You are unable to use the Query as a Web Service connection method.

See the following By Example topic for information about setting up a web services connection: By Example: Interactive Portlet using Web Services Connection Method (see page 33).

Secured data transfers are established in the following ways:

■ Authorization. A secured session for the logged in CA Clarity PPM user is enabled by creating a Flash variable, such as session_ID, in the Xcelsius visualization. A corresponding session ID is defined in the *Clarity Session ID in SOAP Header* global parameter in the interactive portlet. The Flash Variable Name field of the global parameter must reference the exact Flash variable name in the Xcelsius visualization.

■ Access control. User access rights are preserved by including an NSQL security clause to help ensure that users see only the data to which they have access.

Example design files are available to get you started quickly. These examples can help you set up Xcelsius visualizations using the CA Clarity PPM Web Service connection method. Download *Design Files for Stock Xcelsius Visualizations* from the CA Clarity PPM *Software Downloads* page to review these examples.

Query as a Web Service (QaaWS)

The QaaWS connection method enables the Xcelsius visualization to get real-time CA Clarity PPM data using the web services provided by Business Objects.

The QaaWS connection method is a good choice when:

■ You want to get the real-time CA Clarity PPM data through your Business Objects web services.

■ You prefer to use CA Clarity PPM Business Object universes to establish the data source. Experience writing NSQL is not required.

Important! To use this connection method, you must have access to the Business Objects Query as a Web Service tool. If you are licensed to use CA Clarity PPM through a service provider, contact your service provider to discuss your connection method options.

Secured data transfers are established in the following ways:

- Authorization. A secured session is established for the logged in CA Clarity PPM user by making the Business Objects Session ID available to the Xcelsius visualization. To establish the session, a flash variable named *CELogonToken* is created in the Xcelsius visualization and mapped to any cell in an Excel sheet. The interactive portlet uses the *BusinessObjects Session ID* global parameter.

- Access control. User access rights are preserved through Business Objects universes. The stock CA Clarity PPM Business Objects universes are configured in a way that allows users to see only data based on their access rights in CA Clarity PPM.

Interactive Portlet Parameters

Use interactive portlet global and object parameters to define the information that is sent from CA Clarity PPM to the Xcelsius visualization. Interactive portlets use global and object parameters to pass the information from CA Clarity PPM, and the Xcelsius visualization uses Flash variables to receive the information. Flash variables allow the visualization to accept secure data from CA Clarity PPM. The variables are defined when designing the Xcelsius visualization.

Global Parameters

Global parameters represent information that is available at the global level in CA Clarity PPM, from any CA Clarity PPM page where you can include an interactive portlet. For example, you can include an interactive portlet on the *Overview* page, a personal dashboard, or on an object page.

Global parameters are created from an interactive portlet in Studio. When you select a global parameter, the data is made available to the Xcelsius visualization as a Flash variable by the name that you select when creating the global parameter. This data is available regardless of where the interactive portlet appears on CA Clarity PPM pages.

For example, if you create the *Language* global parameter in your interactive portlet and specify the Flash variable name as "Lang," the language preference of the logged in CA Clarity PPM user is available to the Xcelsius visualization in the Flash variable named "Lang." The *Language* global parameter applies regardless of the CA Clarity PPM page in which you include the interactive portlet.

When configuring either of the web service connection methods in the Xcelsius Data Manager, the URL where the web service is hosted is required. You can explicitly specify the server where your web services are hosted. Alternatively, you can use the same Xcelsius visualization as-is on multiple CA Clarity PPM servers. In this case, create either the *Clarity Web Service URL* global parameter or the *BusinessObjects Web Service URL* global parameter, and supply the web service URL corresponding to the CA Clarity PPM server on which you view the Xcelsius visualization.

Download the *Design Files for Stock Xcelsius Visualizations* from the *Software Downloads* page to review stock Xcelsius visualizations and better understand how these parameters are used.

The following global parameters are available:

BusinessObjects Session ID

Authenticates the CA Clarity PPM user when the QaaWS connection method is used to get real-time CA Clarity PPM data when the user is viewing an Xcelsius visualization.

Xcelsius visualizations using the QaaWS connection method require the *BusinessObjects SessionID* global parameter of the user who is assessing the visualization to authenticate with the QaaWS. This information is made available to the Xcelsius visualization by creating the *BusinessObjects Session ID* global parameter.

Connection Method: Query as a Web Service

Required: When using the QaaWS connection method.

Flash Variable Name: Must match the *CELogonToken* Flash variable name defined in Xcelsius.

BusinessObjects Web Service URL

Maps to the Web Service URL in Xcelsius when the QaaWS connection method is used to enable the data exchange between CA Clarity PPM and the Xcelsius visualization.

Connection Method: Query as a Web Service

Required: When you want to use the same Xcelsius visualization as is on multiple CA Clarity PPM servers. Provide the Web Service URL for the CA Clarity PPM server from which the Xcelsius visualization is viewed. Otherwise, explicitly specify the server on which your Web services are hosted when setting up the data connection in Xcelsius.

Flash Variable Name: Must match the Flash variable name defined in Xcelsius.

Example:

http://<BO_servername>/dswsbobje/qaawsservices/

Clarity Session ID in SOAP Header

Authenticates CA Clarity PPM users when the CA Clarity PPM Web Service connection method is used to enable the data exchange between CA Clarity PPM and the Xcelsius visualization.

Xcelsius visualizations viewed from CA Clarity PPM that use the CA Clarity PPM Web Service connection method to get real-time CA Clarity PPM data require the SessionID of the user who is assessing the visualization. The SessionID is used to authenticate with the web service. This information is made available to the Xcelsius visualization by creating the *Clarity Session ID in SOAP Header* global parameter.

Connection Method: CA Clarity PPM Web Service

Required: When using the CA Clarity PPM Web Service connection method.

Flash Variable Name: Must match the Flash variable name defined in Xcelsius.

Example:

<n0:Auth><n0:SessionID><CLARITY_SESSION_ID>

</n0:SessionID></n0:Auth>

Clarity User Internal ID

Identifies the Internal ID associated with the logged in CA Clarity PPM user.

Example: You can use this global parameter to filter data by the internal ID to allow users to view global, user-specific information from the Xcelsius visualization.

Connection Method: CA Clarity PPM Web Service and Query as a Web Service

Required: No

Flash Variable Name: Must match the Flash variable name defined in Xcelsius.

Clarity User Name

Identifies the user name of the logged in CA Clarity PPM user.

Example: You can use this parameter to filter data by the user name to allow users to view global, user-specific information from the Xcelsius visualization.

Connection Method: Web Service Connection and QaaWS

Required: No

Flash Variable Name: Must match the Flash Variable name defined in Xcelsius.

Clarity Web Service URL

Maps the Web Service URL when using the CA Clarity PPM Web Service connection method in the Xcelsius visualization to access CA Clarity PPM Web services.

Connection Method: CA Clarity PPM Web Service Connection

Required: When you want to use the same Xcelsius visualization as is on multiple CA Clarity PPM servers. You must provide the Web Service URL for the CA Clarity PPM server from which you view the Xcelsius visualization. Otherwise, you must explicitly specify the server on which your web services are hosted when setting up the data connection in Xcelsius.

Flash Variable Name: Must match the Flash variable name defined in Xcelsius.

Example:

```
http://<servername>/niku/xog
```

Language

Identifies the language preference of the logged in CA Clarity PPM user. The CA Clarity PPM Account Settings of the user determines the language associated with the Xcelsius visualizations.

Connection Method: CA Clarity PPM Web Service Connection and Query as a Web Service

Required: No

Flash Variable Name: Must match the Flash variable name defined in Xcelsius.

Object Parameters

Object parameters allow CA Clarity PPM object-related information to pass to the Xcelsius visualization. For example, if you want to pass the information about a project manager to the Xcelsius visualization, you can create an object parameter in the interactive portlet that selects the Project object and Manager field. Information is made available to the Xcelsius visualization in the Flash variable by the name that you enter in the Flash Variable Name field.

Object parameters support stock objects and custom objects.

The object you select when creating an object parameter depends on the value selected for Instance Type when you create the interactive portlet. The following Instance Type options are available:

- General. Allows the interactive portlet (similar behavior as other portlet types) to embed on any CA Clarity PPM page where a portlet can be included.

- Object. Restricts the interactive portlet to the selected object. You can select an object, such as Resource or Project.

For example, if you select General as the Instance Type from the interactive portlet page, you can select any object from the Object drop down. Suppose you select Project from the Object drop down and Manager from the Field drop down, and then enter Proj_Mgr in the Flash Variable Name field. If this interactive portlet is embedded on any pages associated with the Project object, then the name of the Project Manager is made available to the Xcelsius visualization in the Proj_Mgr Flash variable. If the same interactive portlet is added to the *Overview* page, the Proj_Mgr Flash variable has an empty value.

Chapter 2: Before You Get Started

This section contains the following topics:

Tools and Resources for an Xcelsius Implementation

CA Clarity PPM provides the following tools and resources so that you take advantage of Xcelsius visualizations and set them up for real-time CA Clarity PPM data transfers.

You can access all the following, except for the Query as a web service tool, from the CA Clarity PPM Software Downloads page.

SAP BusinessObjects Xcelsius 2008

Used to download and install the Xcelsius locally on your computer. Use Xcelsius to create visualizations and to set up the data connections.

Required: Yes

CA Clarity UI Themes as Xcelsius Color Schemes

Used to give your Xcelsius visualizations the same colors as your CA Clarity PPM portlets and pages. The CA Clarity PPM UI themes are available to use in Xcelsius visualizations.

Follow the instructions on the *Software Downloads* page for more information about how to extract the UI themes and make them available as Xcelsius color schemes.

Required: No

Design Files for Stock Xcelsius Visualizations

Used to help you get started with sample implementations. You can use the Xcelsius visualization design files (.XLF) as is, or you can use them as a starting point to design your own Xcelsius visualizations.

Required: No

Query as a Web Service tool

Required only if you are using the Query as a Web Service connection method. This tool is available only if you have Business Objects installed.

If you are licensed to use CA Clarity PPM through a service provider, contact your service provider to discuss whether this option is available to you.

Install the Xcelsius Client

Install SAP BusinessObjects Xcelsius 2008 by downloading the .zip file from Software Downloads page. This installation includes the setup.exe, user guides, tutorials, and more.

You must have the following access right to download Xcelsius:

Software Download - Xcelsius

Required to download Xcelsius.

Type: Global

Note: For this download link to display on the *Software Downloads* page, you must have access rights to install Xcelsius and your CA Clarity PPM administrator must copy the Xcelsius setup zip file (Xcelsius.zip) to the CA Clarity PPM downloads folder (that is, ..\webroot\downloads. Contact your CA Clarity PPM administrator if you are unable to download Xcelsius.

To install the Xcelsius client on your computer

1. In CA Clarity PPM, go to the Personal menu and click Account Settings from the menu.

   The personal information page appears.

2. Click Software Downloads from the content menu.

3. Click the Download link next to *SAP BusinessObjects Xcelsius 2008* and save the .zip file to a location on your computer.

4. On your computer, navigate to the .zip file and extract the contents.

5. Run the setup.exe. For example, located in the folder path:

   `C:\downloads\Xcelsius-SP3\DATA_UNITS\Xcelsius\setup.exe`

6. Follow the instructions on the installation wizard to complete the installation.

   If you accept all the defaults, Xcelsius is installed on:

   `c:\Program Files\Business Objects\Xcelsius`

Enable Cross-domain CA Clarity PPM Data Transfers

You must set up for cross-domain data transfers if you plan to display Xcelsius visualizations in any of the following ways:

- Dashboard outside CA Clarity PPM

- Dashboard inside CA Clarity PPM using data from the Business Objects universes

- Dashboard inside CA Clarity PPM when the application server name is different than the server hosting Web Services

If you are licensed to use CA Clarity PPM through a service provider, contact your service provider to discuss whether this option is available to you.

To enable the cross-domain transfer of CA Clarity PPM data

1. Create an XML file with the following and save as crossdomain.xml:

```
<?xml version="1.0"?>
<!DOCTYPE cross-domain-policy SYSTEM
"http://www.macromedia.com/xml/dtds/cross-domain-policy.dtd">
<cross-domain-policy>
    <allow-http-request-headers-from domain="*" headers="*" secure="false" />
    <allow-access-from domain="*" secure="false" />
</cross-domain-policy>
```

2. Add the crossdomain.xml file to the following paths for each connection method:

   - CA Clarity PPM Web Service:
     <Clarity_home>\tomcat-app-deploy\ROOT

   - Query as a Web Service:
     <Clarity_home>\CommonReporting3\Tomcat55\webapps\ROOT

Install CA Clarity PPM Color Schemes in Xcelsius

Optionally install *CA Clarity UI Themes as Xcelsius Color Schemes* on Xcelsius and apply CA Clarity PPM color to visualizations to give them the same look-and-feel as a CA Clarity PPM page.

To install the CA Clarity PPM color schemes on Xcelsius

1. In CA Clarity PPM, go to the Personal menu and click Account Settings from the menu.

   The personal information page appears.

2. Click Software Downloads from the content menu.

3. Click the Download link next to *CA Clarity UI Themes as Xcelsius Color Schemes.*

4. Click the Clarity_Color_Schemes_for_XC.zip link and extract the contents to the following location.

   `<Xcelsius Install Folder>\assets\themes\built-in`

   CA Clarity PPM color schemes are available in Xcelsius and can be applied to Xcelsius visualizations.

Install Sample Xcelsius Dashboards

Optionally, install the *Design Files for Stock Xcelsius Visualizations* on your computer to view sample Xcelsius visualization pre-populated with CA Clarity PPM data and Web Service Connection settings. These sample Xcelsius files are the visualizations added to the stock interactive portlets The following sample Xcelsius files are available to help you get started quickly and to test web service connections:

■ Portfolio Dashboard.xlf. Corresponds to the stock interactive portlet, Portfolio.

■ Resource Dashboard.xlf. Corresponds to the stock interactive portlet, Resource.

You must have the following access right to download these sample files:

Software Download - Xcelsius

   Required to download Xcelsius.

   Type: Global

To install the Xcelsius client on your computer

1. In CA Clarity PPM, go to the Personal menu and click Account Settings from the menu.

   The personal information page appears.

2. Click Software Downloads from the content menu.

3. Click the Download link next to *Design Files for Stock Xcelsius Visualizations* and save the .zip file to a location on your computer.

4. Navigate to the DesignFiles_for_StockXcelsiusDashboards.zip file and extract the contents to a designated folder. For example:

`c:\Xcelsius\ClaritySamples`

Open these files in Xcelsius as needed to review best-practice setup and to test web service connections.

Chapter 3: Setting up Interactive Portlets

This section contains the following topics:

How to Set up an Interactive Portlet for Real-time Data

The following provides the basic steps on how to set up an interactive portlet that displays real-time CA Clarity PPM data. These instructions assume that you have installed the required tools for an Xcelsius implementation and have the appropriate access rights.

Note: To get optimal performance from your Xcelsius visualizations, follow the guidelines outlined in the *BusinessObjects Xcelsius 2008 User Guide*. For example, set up complex calculations in the database queries.

1. In Xcelsius, create the visualization.

    Best Practice: Create a mock up of the visualization you want to design and then create a static visualization in Xcelsius the first time you build an interactive portlet.

2. Set up the web services used to transfer data between CA Clarity PPM and Xcelsius. Do one of the following:

    ■   Set up a CA Clarity PPM Web Service connection (see page 24).

    ■   Set up a Query as a Web Service connection (see page 26).

3. In Xcelsius, do the following:

    a. Add the Web Service connection definition.

    b. Add the Flash Variable definition.

    c. Test the data connection.

    d. Export the visualization to the Flash (SWF) file format and save this file to your local drive.

4. In CA Clarity PPM, create the interactive portlet (see page 30).

5. Create global and object parameters (see page 31).

These interactive portlet parameters are used to define the CA Clarity PPM information that is sent to the Xcelsius visualization. Use these parameters to map to the Flash variables created in Xcelsius to establish the real-time data connection between CA Clarity PPM and Xcelsius.

Set up the CA Clarity PPM Web Service Connection to Xcelsius Visualizations

Use these steps to set up CA Clarity PPM Web Service as the data source and to establish real-time data transfers between CA Clarity PPM and the Xcelsius visualization.

To set up CA Clarity PPM Web Services as the connection method

1. In CA Clarity PPM, create an NSQL query in Studio.

   ■ Write a SELECT statement to transfer CA Clarity PPM data to Xcelsius.

   ■ Add the SECURITY in the WHERE clause. You can include access rights information in NSQL statement to add advanced security to interactive portlets.

   Note: See the *Studio Developer's Guide* for more information.

2. Navigate to CA Clarity PPM Web Services using the following URL and view the web Query WDSL associated with the query you created for your interactive portlet. Make note of the URL of the query.

   `http://<servername:port>/niku/wsdl/`

3. In Xcelsius, open the Data Manager and add a web service connection to establish a connection with CA Clarity PPM.

   See the Xcelsius documentation provided in the Xcelsius product download or refer to the following section in this guide for more information about the Data Manager: By Example: Interactive Portlet Using Web Services Connection Method (see page 33).

   a. Complete the following fields:

      WSDL URL

      Defines the URL of the web service to import the URL.

      Method

      Defines the web service connection.

      Value: Query

Web Service URL

Defines the mapping for an output value of the web service to a cell in the embedded spreadsheet.

Query Code

Defines the mapping for an output value of the web service to a cell in the embedded spreadsheet.

Records

Defines the mapping for an output value of the web service to a cell in the embedded spreadsheet.

b. Click the Usage tab and select Options to refresh the connection.

c. Click the Advanced tab and define the mapping for SOAP header to a cell in the embedded spreadsheet.

d. Create the following Flash variables. The names used to define these Flash variables are mapped to the interactive portlet as global and object parameters:

– Session ID. Required to receive the Session ID of the CA Clarity PPM user accessing the Xcelsius visualization in CA Clarity PPM. This named Flash variable is mapped to the interactive portlet as the *Clarity Session ID in SOAP Header* global parameter.

– (Optional) Web Service URL. Optional. Define if you want to use the same Xcelsius visualization as is on multiple CA Clarity PPM servers. This named Flash variable is mapped to the interactive portlet as the *Clarity Web Service URL* global parameter.

– (Optional) Other CA Clarity PPM information, such as user name, user internal ID, or language. These named Flash variables are mapped to the interactive portlet as the *Clarity User Name*, *Clarity User Internal ID*, or *Language* global parameters, respectively.

– (Optional) CA Clarity PPM object-related information to change the behavior based on where the interactive portlet is located in CA Clarity PPM. These named Flash variables are mapped to the interactive portlet as the object parameters that you create.

Set up the QaaWS Connection to Xcelsius Visualizations

Use these steps if you are using the QaaWS connection method to establish real-time data transfers between CA Clarity PPM and the Xcelsius visualization.

Users who view Xcelsius visualizations that transfer data using the QaaWS connection method must be members of the following Business Objects security groups:

- QaaWS Group Designer
- Universe Designer Users

To set up QaaWS as the connection method

1. In the Query as a Web Service tool, create the Query. Do the following:

   a. Enter a description for the Web Service.

   b. Select a Universe.

   c. Drag and drop Universe objects and classes to create the Query.

   d. View the web query WSDL URL associated with the query you created for your interactive portlet. Make note of the URL of the query.

2. In Xcelsius, open the Data Manager and set up the web service to establish the connection with CA Clarity PPM.

   Note: See the *BusinessObjects Xcelsius 2008 User Guide* for more information.

   a. Complete the following fields:

   WSDL URL

   Defines the URL of the web service to import the URL.

   b. Map Output Values of the web service to the appropriate cells in the spreadsheet.

   c. Create the following Flash variables. The names used to define these Flash variables are mapped to the interactive portlet as global and object parameters:

   – Session ID. Required to receive the Session ID of the CA Clarity PPM user accessing the Xcelsius visualization in CA Clarity PPM. This named Flash variable is mapped to the interactive port as the *BusinessObjects Session ID* global parameter.

      Required Name: CELogonToken

   – (Optional) Web Service URL. Define if you want to use the same Xcelsius visualization as is on multiple CA Clarity PPM servers. This named Flash variable is mapped to the interactive portlet as the *BusinessObjects Web Service URL* global parameter.

– (Optional) Other CA Clarity PPM information, such as user name, user internal ID, or language. These named Flash variables are mapped to the interactive portlet as the *Clarity User Name*, *Clarity User Internal ID*, or *Language* global parameters, respectively.

– (Optional) CA Clarity PPM object-related information to change the behavior based on where the interactive portlet is located in CA Clarity PPM. These named Flash variables are mapped to the interactive portlet as the object parameters that you create.

d. Link components to the embedded spreadsheet.

Add a Web Connection Definition

For either the Web Services Connection method or the Query as a Web Service connection method, you must create a connection definition in Xcelsius using the Data Manager.

The approach to connecting real-time data from CA Clarity PPM to an Xcelsius visualization can vary depending on the following:

■ Your level of experience with Xcelsius and Microsoft Excel spreadsheets (basic as opposed to advanced)

■ Connection choices you make, such as dynamically connecting to multiple Web Service URLs or displaying a visualization in another language

■ The complexity of the visualization you are designing in Xcelsius

To allow real-time CA Clarity PPM data transfers, you must bind elements to cells in the embedded Excel spreadsheet of a visualization. These series of steps enable the components of the visualization to retrieve data from the cells to which they are bound. The external data connection, either the Web Service connection or Query as a Web Service, must be configured to insert data into the embedded spreadsheet. Components that use the data from the external source are then bound to the cells updated by the external connection.

The following figure shows the Data Manager with a basic external data connection setup:
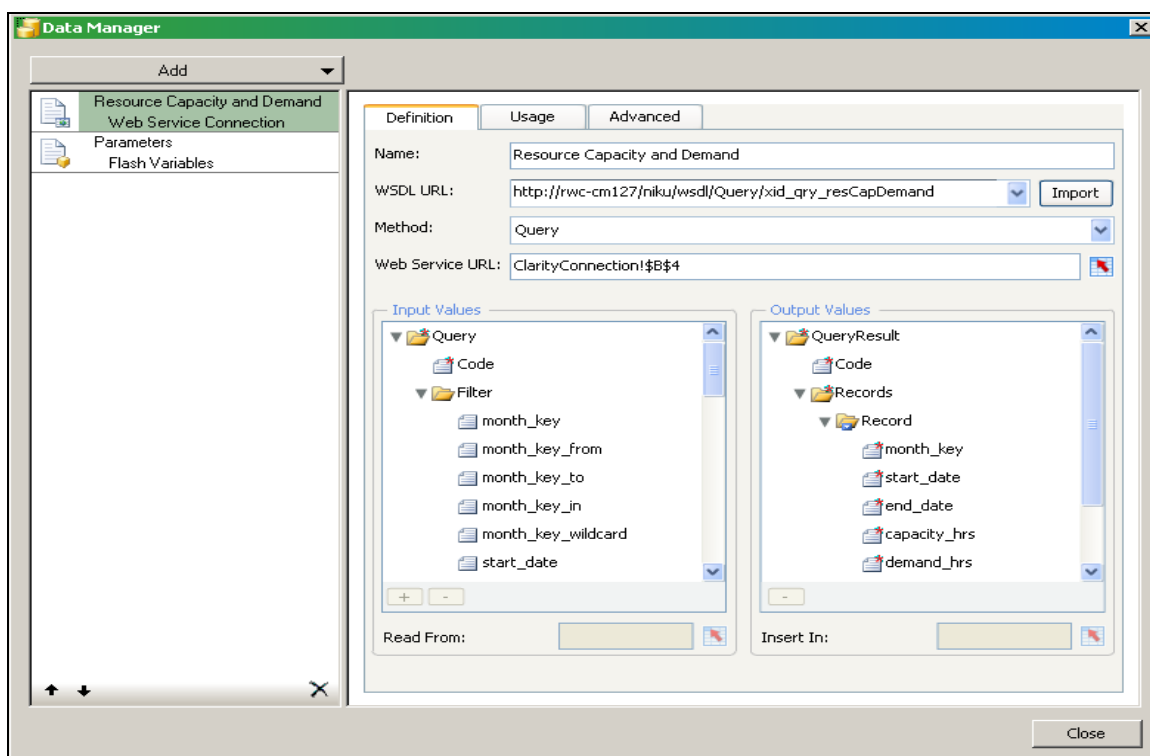
The following figure illustrates the corresponding, embedded spreadsheet for the web service connection:
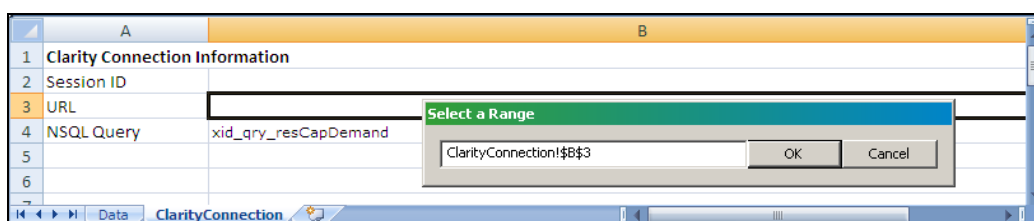
You must create an external data connection for each query associated with the visualization and one for the Flash variables that map to the global and object parameters.

- Query external data connection. Enables you to link data connection and query elements to cells in the embedded spreadsheet, such as the WSDL URL, connection method, web service URL, and to each data element defined in the query.

- Flash Variable external data connection. Enables you to create named Flash variables used in global and object parameters of an interactive portlet, such as the required global parameter, session ID.

For complete information about how to set up a data connection definition, see the following:

- *SAP BusinessObjects Xcelsius 2008 User Guide.*

- The following section in this guide: By Example: Interactive Portlet Using Web Services Connection (see page 33).

- The sample file *Resource Dashboard.xlf.* This file is provided as part of the Design Files for Xcelsius Visualizations download available from CA Clarity PPM. You can open the file in Xcelsius to view the Data Manager and the embedded Excel spreadsheet.

Add Flash Variable Definitions

Flash variables are defined in Xcelsius. For each Flash variable, create a corresponding global or object parameter for the interactive portlet in CA Clarity PPM. At runtime the Web Service URL passes a value from CA Clarity PPM using the parameter to the Flash variable, which saves the value to a linked (bound) cell in the embedded spreadsheet. Components in the visualization are also bound to spreadsheet cells and the visualization data is generated from the embedded spreadsheet.

Test the Data Connection at Design-time

After you have set up your run-time connection, test the data connection from Xcelsius to help ensure that the setup works properly. Do this before you export the Xcelsius visualization to a SWF file.

Important! Cross-domain must be enabled if you are logged in to CA Clarity PPM through a different URL than your Web Services URL.

To set up and test the data connection at design-time

1. Log into CA Clarity PPM and click the About.

   The About Page appears.

2. In the User information section, make note of your current session ID.

3. In Xcelsius, do the following:

   a. Create a new row in the embedded spreadsheet and complete the following actions:

      ■ In cell a, add a label, such as Design-time Session ID.

      ■ In cell b, enter the following:

      ```
      <n0:Auth><n0:SessionID>0000000__-0z11111:22y222222x2:-3a3b3333333333333</
      n0:SessionID></n0:Auth>
      ```

      where *0000000__-0z11111:22y222222x2:-3a3b3333333333333* is your current session ID

      Note: If you close your CA Clarity PPM session, update this cell with your latest session ID.

   b. Create a second new row in the embedded spreadsheet and complete the following actions:

      ■ In cell a, add a label, such as Design-time URL.

      ■ In cell b, enter the web service URL.

4. In Xcelsius, save the visualization and preview it to test the connection.

   If the connection is successful, you are ready to export to a .SWF file. If the connection is not successful recheck your data connection settings.

Create the Interactive Portlet

Use the following procedure to create an interactive portlet and import the Xcelsius visualization.

Before you start, create the Xcelsius visualization and export it to the Flash (.SWF) format.

To create an interactive portlet

1. Click Portlets from the CA Clarity Studio menu.

   The *Portlets* page appears.

2. Click New Portlet and select Interactive Portlet from the drop-down.

   The *Interactive Portlet: General* page appears.

3. Complete the following fields:

   Portlet Name

   Defines the name of the portlet. This name appears on the title bar of the portlet and in the list of available portlets.

Portlet ID

Defines a unique alphanumeric identifier for the portlet.

Content Source

Specifies where the data that appears in the portlet originates.

Category

Specifies the general area on which the portlet reports data.

Description

Defines the purpose of the portlet and provides any relevant information.

Active

Indicates the portlet is active and is visible to users. You can edit inactive portlets and activate them later.

Default: Selected

Instance Type

Specifies the type of page the portlet can be placed on. If you select General, the portlet can be added to any CA Clarity PPM page. If you select an Object, the portlet can only be added to CA Clarity PPM pages associated with that Object.

Visualization File (.swf)

Specifies the .SWF file used for the interactive portlet content.

Click the Browse icon to select the .SWF file. Do not enter or copy the file path.

4. Save.

The Xcelsius visualization is imported into the interactive portlet.

Create Object or Global Parameters

Interactive portlet object or global parameters define the data that is exchanged between CA Clarity PPM and the Xcelsius visualization. Your CA Clarity PPM administrator defines the Flash variables in Xcelsius while designing the visualization. The Flash variables allow the visualization to accept information from CA Clarity PPM. You use the Flash variable name when you create parameters in the interactive portlet.

Your CA Clarity PPM administrator must first create the Xcelsius visualization and the required Flash variables before you can create object or global parameters.

Important! You can delete object and global parameters from the parameters list page. Use care when deleting global and object parameters. Deleting these parameters can cause data instability in the Xcelsius visualization.

To create an object or global parameter

1. Open the interactive portlet.

   The *Interactive Portlet: General* page appears.

2. Click Parameters in the content menu.

   The *Interactive Portlet Parameters List* page appears.

3. Click New and select either Object Parameter or Global Parameter from the drop-down.

   The properties page appears for the selected parameter type.

4. Complete the following fields:

   Global Parameter

   (Global Parameter only) Displays the selected global parameter.

   Required: Yes

   Object

   (Object Parameter only) Displays the name of the object to which this object parameter is associated.

   Field

   (Object Parameter only) Specifies the field name. The values displayed are associated with the selected object.

   Required: Yes

   Flash Variable Name

   Defines the name for the flash variable. This name must be the same as the Flash Variable Name associated with the visualization.

   For Global Parameter, *BusinessObjects Session ID*, displays the required value: CELogonToken

   Required: Yes

   Description

   Defines the description for the parameter.

   Limits: 240 characters

   Required: No

5. Click Submit.

Chapter 4: By Example: Interactive Portlet using Web Services Connection Method

This section contains the following topics:

The Problem: Request to Analyze Resource Capacity and Demand

The following scenario example illustrates how you can create interactive portlets and display real-time data using the CA Clarity PPM Web Service connection method.

Human Resources Executive: William

William is a Human Resource executive for Forward, Inc. and is responsible for analyzing resource capacity and demand for the company. He wants to see the resource capacity and demand using full-time equivalent (FTE) so that he can view information centrally and make decisions on staffing. He wants to analyze data in CA Clarity PPM from the Resource Dashboard.

The Solution: Create an Xcelsius Visualization with Real-Time CA Clarity PPM Data

Administrator: Samantha

Samantha is a CA Clarity PPM administrator for Forward, Inc. She has received a request from William to build a dashboard that can help him analyze resource utilization. Samantha must use Xcelsius and CA Clarity PPM to implement an Xcelsius visualization using CA Clarity PPM Web Services.

Sample Files for this Example

The solution shown in this example uses a portion of the sample design file Resource Dashboard.xlf that comes with the download *Design Files for Stock Xcelsius Visualizations.* The supporting xid_qry_resCapDemand query is available from the WDSL Query if you want to create or review the NSQL used in this example.

Create the Visualization and the NSQL Query

1. In Xcelsius, Samantha designs a visualization that includes:

    –   A gauge displaying the average forecasted utilization by FTE or by hours

    –   A bar graph of capacity and demand

The following figure illustrates the model for her visualization:
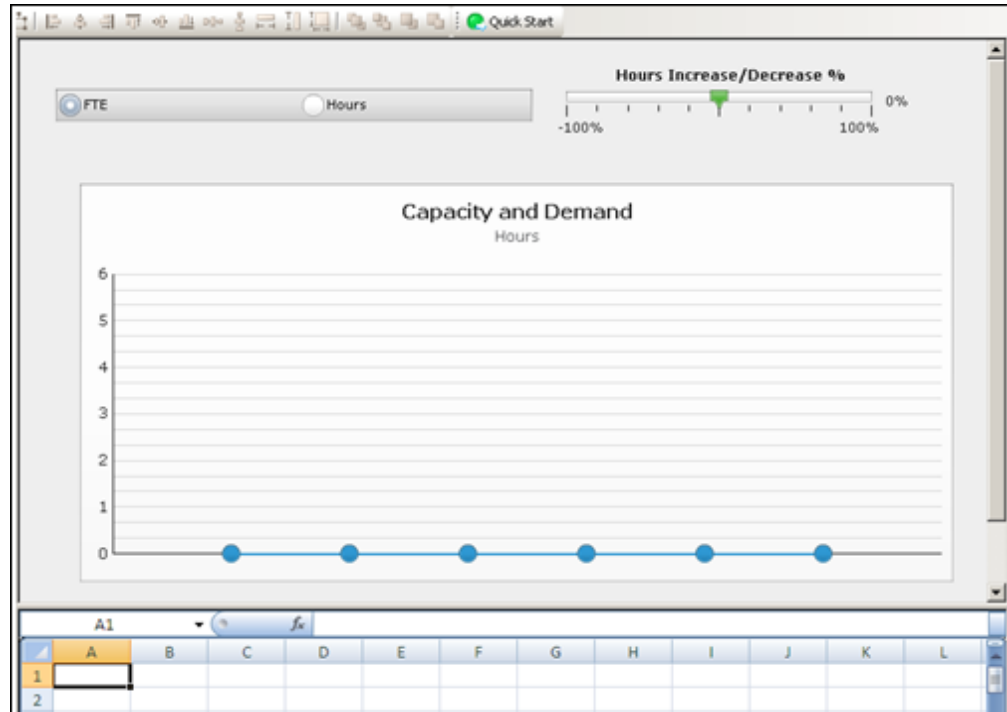
2. Samantha then maps the components in her visualization to the appropriate fields in CA Clarity PPM using the embedded Excel spreadsheet.

   For information about how to map data in Xcelsius, refer to the *SAP Xcelsius 2008 User Guide* or see the sample design file *Resource Dashboard.xlf*.

3. In CA Clarity PPM, Samantha creates a query using Studio that defines the SELECT statements for the data source and the SECURITY clause to restrict a user's access to the data. She names the query xid_qry_resCapDemand.

   The following illustration shows an abbreviated version of the xid_qry_resCapDemand query to demonstrate the SELECT statements and the SECURITY clause.

```
SELECT @SELECT:DIM:USER_DEF:IMPLIED:TEAM:cal.month_key:month_key@,
       @SELECT:DIM_PROP:USER_DEF:IMPLIED:TEAM:cal.period_start_date:start_date@,
       @SELECT:DIM_PROP:USER_DEF:IMPLIED:TEAM:cal.period_end_date:end_date@,
       @SELECT:DIM_PROP:USER_DEF:IMPLIED:TEAM:
              ROUND(SUM(amts.avail_hrs),0):capacity_hrs@,
       @SELECT:DIM_PROP:USER_DEF:IMPLIED:TEAM:
              ROUND(SUM(amts.alloc_hrs),0):demand_hrs@,
       @SELECT:DIM_PROP:USER_DEF:IMPLIED:TEAM:
              ROUND(SUM(amts.avail_hrs)/stdcal.avail,2):capacity_fte@,
       @SELECT:DIM_PROP:USER_DEF:IMPLIED:TEAM:
              ROUND(SUM(amts.alloc_hrs)/stdcal.avail,2):demand_fte@,
       @SELECT:DIM_PROP:USER_DEF:IMPLIED:TEAM:stdcal.avail:month_hrs@
```

```
FROM  SRM_RESOURCES r
INNER JOIN PRJ_RESOURCES prjr ON r.ID = prjr.prid
LEFT OUTER JOIN SRM_RESOURCES rl ON prjr.prprimaryroleid = rl.ID
INNER JOIN NBI_DIM_CALENDAR_TIME cal ON cal.hierarchy_level = 'MONTH'
INNER JOIN ( SELECT full_name, res_id, role_id, SUM(@NVL@(avail_hrs,0)) avail_hrs,
SUM(@NVL@(alloc_hrs,0)) alloc_hrs, slice_date
        FROM (
         SELECT r.ID res_id, r.full_name, prjr.prprimaryroleid role_id, SUM(@NVL@(s.slice,0))
avail_hrs, 0 alloc_hrs, s.slice_date
            FROM   SRM_RESOURCES r
            INNER JOIN PRJ_RESOURCES prjr ON r.ID = prjr.prid  AND prjr.prisrole <> 1
            INNER JOIN PRJ_BLB_SLICES_M_AVL s ON r.ID = s.prj_object_id
            WHERE r.is_active = 1
            AND s.slice_date BETWEEN @DBUSER@.XID_DOM_FIRST_FCT(@SYSDATE@) AND
@DBUSER@.XID_DOM_LAST_FCT(DATEADD(MM,5,@SYSDATE@))
            GROUP BY r.ID, r.full_name, prjr.prprimaryroleid, s.slice_date
        UNION ALL
            SELECT r.ID res_id, r.full_name, prjr.prprimaryroleid role_id,  0 avail_hrs,
SUM(@NVL@(s.slice,0)) alloc_hrs, s.slice_date
            FROM  PRTEAM tm
            INNER JOIN SRM_RESOURCES r ON tm.prresourceid = r.ID
            INNER JOIN PRJ_RESOURCES prjr ON r.ID = prjr.prid
            INNER JOIN PRJ_BLB_SLICES_M_ALC s ON tm.prID = s.prj_object_id
            WHERE r.is_active = 1
            AND s.slice_date BETWEEN @DBUSER@.XID_DOM_FIRST_FCT(@SYSDATE@) AND
@DBUSER@.XID_DOM_LAST_FCT(DATEADD(MM,5,@SYSDATE@))
                GROUP BY r.ID, prjr.prprimaryroleid, r.ID, r.full_name,  tm.prid, s.slice_date
                    ) A
             GROUP BY full_name, res_id, role_id, slice_date
        )  amts ON r.ID = amts.res_id AND amts.slice_date BETWEEN cal.period_start_date AND
cal.period_end_date
LEFT OUTER JOIN (SELECT r.ID res_id, SUM(s.slice) avail, s.slice_date
        FROM SRM_RESOURCES r
        LEFT OUTER JOIN PRJ_BLB_SLICES s ON r.ID = s.prj_object_id
        INNER JOIN PRJ_BLB_SLICEREQUESTS sr ON s.slice_request_id = sr.ID AND sr.request_name =
'MONTHLYRESOURCEAVAILCURVE'
        WHERE r.unique_name = 'xc_admin'
        GROUP BY r.ID, s.slice_date
        ) stdcal on stdcal.slice_date BETWEEN cal.period_start_date AND cal.period_end_date
WHERE @FILTER@
AND @WHERE:SECURITY:RESOURCE:r.id@
GROUP BY  cal.month_key, cal.period_start_date, cal.period_end_date,stdcal.avail
HAVING @HAVING_FILTER@
```

4. She navigates to the CA Clarity PPM Web Services using the following URL and views the web query WDSL:

    http://*<servername:port>*/niku/wsdl/Query

    A list of queries appears in XOG WSDL.

XOG WSDL

Query

- Benefits by Goal (save as...)
- Budgeted Costs Monthly (save as...)
- Life-cycle Funnel (save as...)
- xid_qry_portInvGoal (save as...)
- rightsbylicensetype (save as...)
- usercountbylicensetype (save as...)
- userlistbylicensetype (save as...)
- xid_qry_portInvList (save as...)
- xid_qry_prjHrsRole (save as...)
- xid_qry_resCapDemand (save as...) ← Query WSDL for the sample data file
- xid_qry_risks (save as...)
- xid_qry_roleCapDemand (save as...)
- xid_qry_spendByMonth (save as...)
- xid_qry_prjInfo (save as...)

5. She locates Query and selects the xid_qry_resCapDemand query.

    The WDSL for the query appears.

Address | http://forward_CI /niku/wsdl/Query/xid_qry_resCapDemand | Go

```
− <definitions xmlns:tns="http://www.niku.com/xog/Que      p://schemas.xmlsoap.c
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"         mas.xmlsoap.org/wsdl/
    name="xid_qry_resCapDemandQuery" targetNamespa        ku.com/xog/Query">
  − <types>
    − <xsd:schema elementFormDefault="qualified" targetNamespace="http://www.niku.com/xog/Que
      − <xsd:complexType name="xid_qry_resCapDemandFilter">
        − <xsd:sequence>
          <xsd:element maxOccurs="1" minOccurs="0" name="month_key" type="xsd:string" />
          <xsd:element maxOccurs="1" minOccurs="0" name="month_key_from" type="xsd:string" />
          <xsd:element maxOccurs="1" minOccurs="0" name="month_key_to" type="xsd:string" />
          <xsd:element maxOccurs="1" minOccurs="0" name="month_key_in" type="xsd:string" />
          <xsd:element maxOccurs="1" minOccurs="0" name="month_key_wildcard" type="xsd:string"
          <xsd:element maxOccurs="1" minOccurs="0" name="start_date" type="xsd:string" />
          <xsd:element maxOccurs="1" minOccurs="0" name="start_date_from" type="xsd:string" />
          <xsd:element maxOccurs="1" minOccurs="0" name="start_date_to" type="xsd:string" />
          <xsd:element maxOccurs="1" minOccurs="0" name="start_date_in" type="xsd:string" />
```

Note the URL of the Query WSDL

6. She makes note of the query URL (also known as the WDSL URL).

Samantha works with the Xcelsius Data Manager next to link the visualization to CA Clarity PPM data.

Add the Connection Definition to Link to CA Clarity PPM Data

1. In Xcelsius, Samantha opens the Data Manager and sets up the web service to establish the data connection with CA Clarity PPM.

The following figure illustrates the completed external data settings:
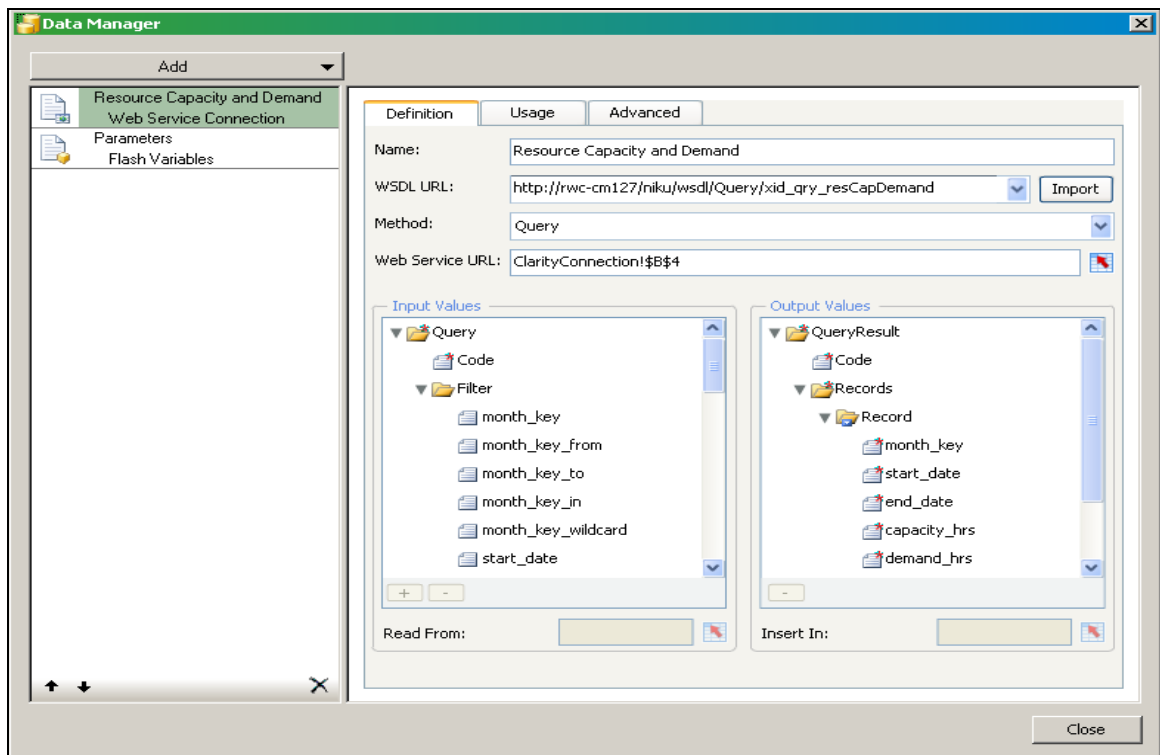
2. She does the following:

   a. Adds a new Web Service Connection definition and names it *Resource Capacity and Demand*.

   b. Enters the following WSDL URL and imports it:

      `http://forward_Cl/niku/wsdl/Query/xid_qry_resCapDemand`

      where *forward_cl* is replaced with your actual WSDL URL

   c. Selects the Method: Query.

      The method selected will change the attributes that appear in the Data Manager.

   d. She leaves the Data Manager open.

   The next series of steps involve linking or binding data to cells in the embedded spreadsheet.

3. In the embedded spreadsheet, she creates two worksheets and names them:

   – ClarityConnection. Used to link values related to the Web Services connection, such as the Web Service URL and NSQL.

   – ResCapDemand. Used to link values associated with the real-time data that will populate the visualization components.

4. In the ClarityConnection worksheet, she does the following:

   a. Creates labels in the following cells, but does not enter a value in the corresponding B column:

      – cell A1: Clarity Connection Information

      – cell A2: Design-time Session ID

      – cell A3: Design-time URL

      – cell A4: Run-time Session ID

      – cell A5 URL

      – cell A6: NSQL Query

   b. In the Data Manager, clicks the Cell Selector to the right of the Web Service URL field.

      The Select a Range window appears.
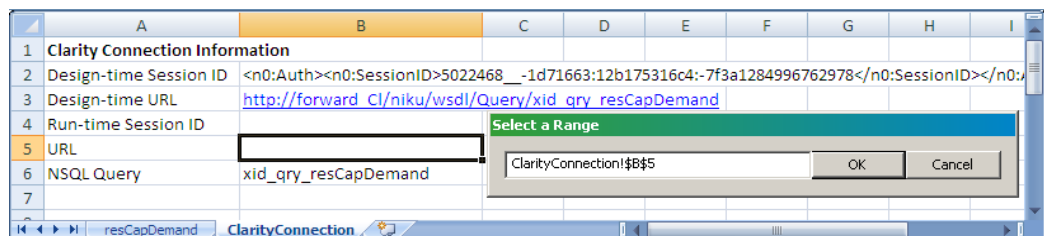
c. Selects cell B5 and clicks OK.

This cell range is added to the Web Service URL field. In a later step, she will create a Flash variable (for example, pSessionID) and then a global parameter with the same name in the interactive portlet. At runtime, these combined settings allow the Web Service URL to pass a value from CA Clarity PPM using the Global parameter to the Flash variable, which saves the value to the linked cell.

d. Leaves cell B4 for the run-time session ID empty.

In a later step, she will link the SOAP header to the session ID.

5. Using the same cell linking technique used for the Web Services URL, she does the following:

a. In Data Manager, links *Code* (from the Input Values section) to cell B6 of the ClarityConnection worksheet.

This action links the query to the visualization.

b. In the ClarityConnection worksheet cell B6, enters the name of the following query:

```
xid_qry_resCapDemand
```

The value of this cell is manually entered because once a query is created, it is absolute.

c. In the ClarityConnection worksheet cell B2, enters an active CA Clarity PPM session ID in the following SOAP format:

```
<n0:Auth><n0:SessionID>0000</n0:SessionID></n0:Auth>
```

where *0000* is her current Clarity Session ID.

Note: To get your current session ID, go to the About page in CA Clarity PPM, and copy and paste the session ID.

This information will enable you to test the real-time CA Clarity PPM data connection from Xcelsius.

d. In the ClarityConnection worksheet cell B3, enters the Web Service URL.

This link is used at design-time to preview and test the connection from Xcelsius.

The one remaining cell to define is the Run-time session ID. This cell is addressed in a later step when creating Flash variables.

In the next set of steps, she will select the data and select a range of records. This range will vary depending on the number of fields in the query and the number of records expected from the output.

Best Practice: In the worksheet, reserve the first column and first row for labels. To optimize performance, keep the output to 20 rows.

6. She does the following to define the destination output for the data:

   a. (Optional) In the resCapDemand worksheet, creates the column labels and creates a border and background to identify the perimeter of the data range. For this example, the cell range is B2 to I21 (eight columns and 20 rows).

   b. In the Data Manager, links *Record* (from the Output Values section) using the Cell Selector to a range of cells in the resCapDemand worksheet.

7. In the Data Manager, she does the following:

   a. On the Usage tab, selects the *Refresh Before Components Are Loaded* option.

   b. On the Advanced tab, links the *SOAP Header* to cell B2 on the ClarityConnection tab.

Samantha creates Flash variables next.

Set Up Flash Variables

Samantha is ready to create the Flash variables that will map to the global and object parameters in the interactive portlet.

1. In the Data Manager, Samantha adds a new Flash Variable definition and names it *parameters*.

2. She selects CSV as the Variable Format.

3. She creates the required session ID Flash variable and does the following:

   – Enters the Name: pSessionID.

   – Links to the Session ID cell B4 in the ClarityConnection worksheet.

   This named Flash variable is mapped to the interactive portlet as the *Clarity Session ID in SOAP Header* global parameter.

4. Creates the option Web Service URL Flash variable and does the following:

   – Enters the Name: pWSURL.

   – Links to the URL cell B5 in the ClarityConnection worksheet.

   This named Flash variable is mapped to the interactive portlet as the *Clarity Web Service URL* global parameter.

Note: The Flash variable (*pLangID*) shown in the preceding figure is present in the sample design file but is not covered in this example. It has a corresponding global parameter in the sample design file which is also called pLangID and is designed to manage languages. For information about handling this parameter, see the Xcelsius product documentation or see one implementation of the parameter by viewing the downloaded sample file in Xcelsius.

Samantha is now ready to test the connection between CA Clarity PPM and Xcelsius by viewing the data.

Test the Visualization and Create an Interactive Portlet

Samantha now views the visualization in Xcelsius to make certain the connection is good and data is moving from CA Clarity PPM to Xcelsius. When this is done, she can create the interactive portlet that displays the visualization in CA Clarity PPM

1. In Xcelsius, Samantha selects Preview from the File menu.

   She sees that information is populating the bar graph she designed and determines that the visualization is working exactly as she designed it.

2. From the File menu, Samantha selects Export, and then selects Flash (SWF). She indicates a place on her computer where the SWF file (capDemand.swf) is to be stored so that she can import the file into CA Clarity PPM.

3. In CA Clarity PPM, Samantha creates the Resource Capacity and Demand interactive portlet using Studio and imports the capDemand.swf file.

4. Samantha defines the following global parameters for the new interactive portlet with the same names as the Flash variables she created in Xcelsius:

5. In Studio, Samantha adds the new interactive portlet to a Resource dashboard.

6. She opens the Resource dashboard and looks at the data in the new interactive portlet.

7. Pleased with the results, Samantha sends William a message that he can open the Resource dashboard and see the data he requested.

The Result: Performing the Analysis Based on the Xcelsius Visualization

Executive: William

William logs in to CA Clarity PPM and goes to the Resource dashboard. William sees the interactive portlet displaying visual information. He sees bars that show the FTE developer role demand by month. The blue horizontal line shows the capacity for that role. The FTE percent increase/decrease is currently set at zero percent.
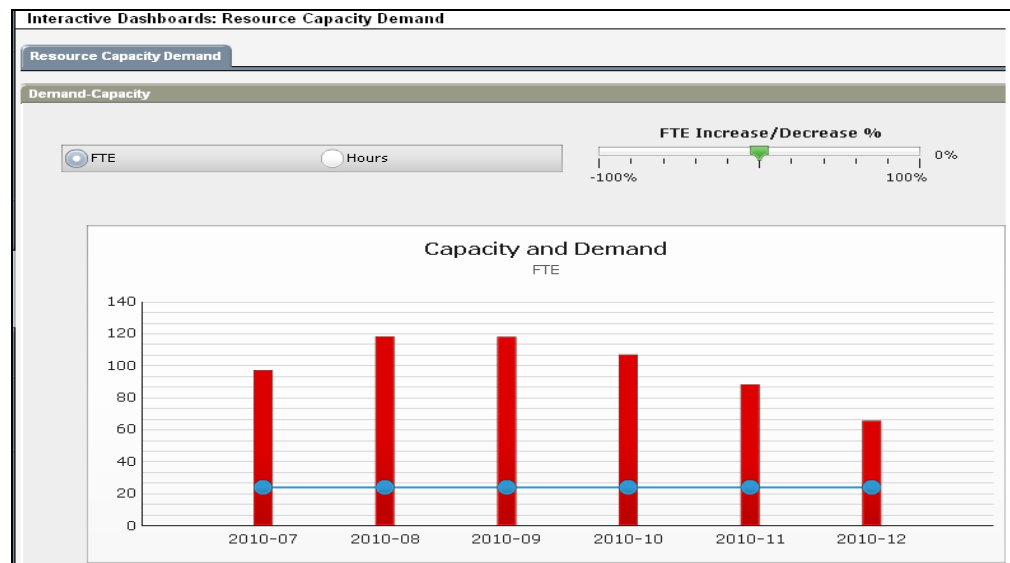
Based on the information displayed in the Capacity and Demand graph, he can see that the role demand per month exceeds the role capacity. Using the gauge, William performs a what-if scenario by increasing the FTE percent to see if resolves the staffing issue. Based on his analysis, William contacts the project manager and recommends hiring five developers, and reassigning five developers from non-strategic projects.

Chapter 5: By Example: Using an Object Parameter to Filter Portfolio Investments

Suppose that Samantha, the administrator responsible for designing Xcelsius visualizations and adding them to interactive portlets, wants to create an Xcelsius visualization that can filter portfolio investments for analysis.

Samantha creates a prototype, identifies the CA Clarity PPM data needed, and determines that the portfolio ID can be used to filter portfolio investments. Samantha designs an Xcelsius visualization for portfolios that has a filter to select investments for the analysis and has a set of charts to display the data.

She sets up her Xcelsius visualizations for real-time CA Clarity PPM data exchanges using the CA Clarity PPM Web Services connection method. She creates a Flash variable named pPortfolioID, which is used to filter the data in the visualization based on the portfolio ID. The exact Flash variable is mapped to the interactive portlet using an object parameter. She exports the visualization as a .SWF file.

In CA Clarity PPM, Samantha does the following from Studio:

1. Creates an interactive portlet named Portfolio.

2. Creates global parameters that map to the Flash variable names created for the CA Clarity PPM Web Services connection.

3. Creates an object parameter based on the Portfolio object and maps it to the Flash variable named pPortfolioID.

4. Defines the object parameter based on the following properties:

5. Adds the interactive portlet to the Portfolio object.

Users who have access to the Portfolios menu can view the Portfolio interactive portlet and analyze select investments in their portfolio.

Appendix A: Stock Interactive Portlets

This section contains the following topics:

Resource Portlet

Description

The *Resource* portlet is an interactive portlet that contains Xcelsius visualizations with multiple components. The visualizations help you identify resource forecasted utilization and also the capacity and demand of the roles in the next six months. The gauge component measures the forecasted resource utilization. The column graph gives a comparison between demand and capacity by month. The pie chart shows capacity by role and demand by role. This same information is displayed in the list, except it displays incremental cost information. The grid component displays the capacity and demand for a role for the next six months. Incremental cost in the grid displays the increase or decrease in cost when the FTE/hours slider is increased or decreased respectively.

Prerequisites

- The following must exist in CA Clarity PPM:
  - Entities, departments, fiscal periods

    Note: See the *Financial Management User Guide* for more information.
  - Location OBS

    Note: See the *Administration Guide* for more information.
  - Roles

    Note: See the *Resource Management User Guide* for more information.
  - Projects
- Resources must be:
  - Financially enabled
  - Associated with roles
  - Added to projects
  - Assigned project tasks

- Projects must be:
  - Financially enabled
  - Associated with tasks

    Note: See the *Project Management User Guide* for more information.
  - Associated with a rate source
- The following jobs must be run to display data in the portlets:
  - *Update Business Objects Report Tables*
  - *Cost Matrix Extraction*
  - *Time Slicing*

Information Displayed

Average Forecasted Utilization

Displays the utilization of roles in an organization.

Role Capacity/Demand

Displays the total capacity in percentage. Each pie segment represents the total capacity and demand for a role.

Capacity and Demand

Displays the total capacity and demand for all roles.

Capacity and Demand by Role

Displays the total capacity and demand for each role for six months starting with the current month. You can replace a role with resources that can complete the work.

The following columns display on the Capacity and Demand by Role chart:

Role

Displays the roles associated for this project.

Incremental Cost

Displays the increase or decrease in cost when FTE or hours are increased or decreased respectively. The values are taken from the cost matrix.

Capacity

Displays the total number of available hours for the associated resource.

Demand

Displays the total number of assigned or allocated hours for the associated resource.

Remaining Capacity

Displays the difference between the total demand and the total capacity for six months for all investments.

Portfolio Portlet

Description

The *Portfolio* portlet is an interactive portlet that contains Xcelsius visualizations for a selected portfolio.

Prerequisites

■ You must run the following jobs:

- *Time Slicing*

- *Datamart Extraction*

- *Datamart Rollup - Time Facts and Time Summary*

- *Rate Matrix Extraction*

■ You must select *Portfolio Default Layout* as the page layout for this portfolio.

Note: See the *Portfolio Management User Guide* for more information.

Information Displayed

Portfolio Dashboard

■ Budget/Forecast by Goal

■ Balance

■ Investment Financial Grid

Investment Dashboard

■ Spending Plan By Month

■ Schedule Variance

■ Investment Allocation Hours By Role

■ Issues

■ Risks

Viewing Information

To view information from this portlet

1. Open the portfolio and navigate to the Portfolio portlet.

   Note: Navigation depends on how you or the CA Clarity PPM administrator configures this portlet.

   A list of investments that are available from the selected portfolio appear.

2. Select the investments you want to factor into the analysis, and click the Portfolio button or Investments button.

   The Portfolio Dashboard or Investment Dashboard appears.

3. Click Update and clear the Filter check box to view information based on the selected investments.

4. Click the Portfolio Dashboard or Investment Dashboard buttons to view the visualizations.

Removing Information

To select or remove investments, select the Filter check box to display the list box of selected and available investments.

Portfolio Dashboard

Description

Use the Portfolio Dashboard to analyze the impact to your portfolio by adding and removing investments from the dashboard.

Prerequisites

The following must exist in CA Clarity PPM:

- Projects that are activated, approved, and financially enabled

  Note: See the *Project Management User Guide* for more information.

- Project cost plans

- Project issues and risks

  Note: See the *Project Management User Guide* for more information.

- Posted project costs

- Project baselines

- Portfolio. Add the projects as individual investments to the content page in the portfolio.

Information Displayed

Portfolio

Displays the portfolio name.

Manager

Displays the manager associated with this portfolio.

Start

Displays the start date of the portfolio.

Finish

Displays the end date of the portfolio.

Currency

Displays the currency selected for the portfolio.

Benefit

Displays the portfolio benefit defined in the Properties page.

Budget

Displays the budget defined for the portfolio.

Approved Investments Budget

Displays the approved investment budget for all investments in the portfolio.

Cost Variance

Displays a stoplight that shows a view of a portfolio's performance.

Values:

- Green. Approved investment's planned cost is less than the portfolio's Planned Cost.

- Red. Approved investment's planned cost is greater than the portfolio's Planned Cost.

Budget/Forecast by Goal

Description

The Budget/Forecast by Goal displays a column chart representing goals for all investments for that portfolio in the Y-axis and budget and forecast amounts from the cost plan in the X-axis.

Balance

Description

The Balance portlet displays a bubble graph that shows how the score of each investment balances between corporate alignment and the finish date. Investments use three factors when scoring; business alignment, cost, and risk. For example, if you defined a budget for a portfolio for this year only, its costs restrict to this year. In addition, changing the planned cost of an investment changes its bubble size.

Information Displayed

Schedule Finish Date

Displays the scheduled finish date of this investment.

Alignment Score

Investments appear on the graph somewhere between good and poor according to their alignment with business goals. An investment with a low y-coordinate (distance from the origin) lies somewhere within the red zone on the graph and move up the graph vertically based on their business alignment score.

Values: Bubble colors display the risk color

- Green (65 and 100). Investment is well aligned

- Yellow (35 and 64). Investment is average aligned

- Red (0 and 34). Investment is poorly aligned

- White. Alignment data undefined

Planned Cost

Displays the planned cost for the investment.

Investment Financial Grid

Description

The *Investment Financial Grid* tab on the Portfolio Dashboard page displays all investments that you have access rights to and the ones that match the filter settings that you selected.

Information Displayed

Investment

Displays the name of the investment in the drop-down. Click an investment name to view the detailed properties for that investment.

Goal

Defines the goal of this project.

Values: Cost Avoidance, Cost Reduction, Grow the Business, Infrastructure Improvement, or Maintain the Business.

Alignment

Displays how well the investment aligns to the organization's business goal. The higher the value, the stronger the alignment. This metric is used in portfolio analysis when you use comparable business alignment criteria across all portfolio investments.

Values:

■   Green (65 and 100). Investment is well aligned.

■   Yellow (35 and 64). Investment is average aligned.

■   Red (0 and 34). Investment is poorly aligned.

■   White. Alignment data undefined.

Risk

Displays a stoplight that helps you assess the risk of a project. The project's total risk score determines the color of the stoplight, including:

Values:

■   Green (0 to 33). Project is low risk.

■   Yellow (34 to 68). Project is medium risk.

■   Red (68 to 100). Project is high risk.

■   White. Risk data undefined.

Stage

Defines the stage in the project's lifecycle.

Start

Displays the start for this particular project.

Planned Cost

Defines the amount of money available for investments in this project. This information is important when planning a portfolio because it helps you decide how much more money you need to spend on an investment.

Actual Cost

Displays the actuals for the entire project (the sum of all actuals posted for the investment). Like Planned Cost, this information is important when planning a portfolio because it helps you decide how much more money you need to spend on an investment.

Remaining Cost

Displays the difference between the planned costs and the actual costs.

Role Allocation Demand

Displays the total effort required to complete the investment's tasks.

Role Actuals

Displays the aggregated total actuals of all the resources and roles irrespective of their investment role for each investment.

Remaining Role Allocation

Displays the aggregated total remaining allocation value for all resources and roles.

Investment Dashboard

Description

Use the Investment Dashboard to analyze your investments.

Information Displayed

Investment

Displays the name of the investment. Click an investment name to view the detailed properties for that investment.

Manager

Defines the manager of the investment.

Start

Displays the start of this particular investment.

Finish

Displays the end of this particular investment.

Baseline Finish

Displays the baseline finish date.

Stage

Defines the stage in the project's lifecycle.

Status

Displays a graphical representation of the status. For example, if the status is "Approved," the visual representation of the status is a Green stoplight. The selection is displayed as a stoplight symbol when saved.

Values: Red, Yellow, and Green.

Investment Allocation Hours by Role

Displays the roles assigned for an investment in hours.

Spending Plan by Month

Displays the cost plan for the month.

Schedule Variance

Displays the difference between the baseline finish and the finish dates. If there is no baseline, then it would be the current date minus finish date.

Issues

Displays the issue name, status, and priority.

Values:

■   Green. No high or medium priority issues exist.

■   Yellow. Medium priority issues exist.

■   Red. High priority issues exist.

■   White. Issue status not defined.

Risks

Displays the risk name, status, and priority.

Values:

■   Green (0 to 33). Project is low risk.

■   Yellow (34 to 68). Project is medium risk.

■   Red (68 to 100). Project is high risk.

■   White. Risk data undefined.

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