How To…

Export BPC Transaction Data Using A Custom Process Chain

SAP Product Name: SAP BusinessObjects Planning and Consolidation, version for SAP NetWeaver
Applicable Product Versions: 7.0
Last Updated: 03/23/2009

Enterprise Performance Management

www.sdn.sap.com/irj/sdn/bpx-epm
Table of Contents
1  Scenario .................................................................................................................. 1
2  Introduction ............................................................................................................ 1
3  Limitations .............................................................................................................. 1
4  The Step By Step Solution ....................................................................................... 2
   4.1  Create the custom process type ..................................................................... 2
   4.2  Create the custom process chain ..................................................................... 4
   4.3  Create the package from the BPC Excel Client .............................................. 16
   4.4  Test the package ........................................................................................... 21
5  Appendix ............................................................................................................... 27
   5.1  Data Manager Dynamic Script for the Export Package ................................ 27
1 Scenario

Within this scenario, we will show how to export data from SAP BusinessObjects Planning and Consolidations, version for SAP NetWeaver.

2 Introduction

The Data Manager module in SAP BusinessObjects Planning and Consolidations, version for SAP NetWeaver, utilizes SAP Process Chains, and provides a way for business users to execute these chains. Today, some packages, such as “import”, exist to allow business users to load flat files into BPC application (cubes). However, today, an “Export” package for business users to export application data to a flat file does not exist.

However, the product has a framework which provides the ability to extend its functionality by implementing custom process types and custom process chains. This guide contains a transport request which contains two classes which implement the functionality to export transaction data from a BPC application to a flat file. The export within this guide reads data from the BPC Shared Query Engine which is the interface that has all business logic applied to the data to ensure the data is correct.

We will demonstrate how to create the custom process type based on these classes, and how to create the process chain, in the NetWeaver backend system. We will also show how to create the Data Manager package from the BPC Excel Client, and finally test the new package to show the exported data. The supplied classes support exporting transaction data to either the BPC File Service, or the NetWeaver application server. The classes also support selection filtering on dimension members. Currently, there is no support for transformation and conversion files.

All the steps in this guide only need to be performed once by an IT Administrator. Once these steps are performed, business users of the BPC system can utilize this export package for any application (if they have security for this package).

3 Limitations

- This data export supports only exporting “SIGNEDDATA” only and does not support sending out any other measures or measure formulas such as “QTD” or “YTD”.
- This data export supports only exporting base members. Calculated members and hierarchy nodes are not supported.
- This data export does not support using transformation / conversion files to modify or transform data prior to export.
4 The Step By Step Solution

This “How-To” guide contains transport request files, K900032.BPC and R900032.BPC. This transport request contains the two classes which are required to build the custom process type for exporting transaction data.

Required Classes

- ZCL_UJD_BPC_TRANS_EXPORT
- ZCL_UJD_TRANS_EXPORT

As the process of importing a transport request is not covered here, it is suggested that you seek assistance from your basis administrator in order to have this transport request imported into your system.

Note: These classes must be imported into your system before continuing any further.

4.1 Create the custom process type

1. Log on to your NetWeaver system via SAPGUI. Go to transaction RSPC. Click Settings → Maintain Process Types.

2. This is the standard table maintenance screen for process types. Click the icon. Then click the “New Entries” button.
3. In this screen, enter the name of the process type, name it as ZBPCTXEXP. It is very important that you use this name as this is what is recognized by the classes which implement the process type. Enter the data as you see in the image to the right. Make sure to set the “Possible Events” list box as “Process ends successful or incorrect”. After you have entered all the data shown in the image to the right, click the icon. You may be asked to create a transport request for your new custom process type, simply create one using your customer package. Then click the icon to go back. Click the once again to go back to the initial screen of RSPC.

4. From the initial screen of RSPC, open the “Business Planning & Consolidation: System” node from the tree on the left and double click on one of the process chains. Doing so, will change the process type icon to now be clickable. Click this icon to view the process types.
5. Open the “BPC – Process Types” node from the tree on the left. Notice that the new process type is now displayed here.

4.2 Create the custom process chain

1. Now click the process chains icon to go back to the list of process chains.

2. Click the create icon on the application toolbar to create a new process chain.
3. In this dialog box, enter the name of the process chain. Name it as ZBPC_EXPORT_TRANS, and enter the description as “BPC: Export Transaction Data”. Then click the icon.

4. In this dialog box, click the icon to create the “start” process variant. Each process chain needs to implement its own unique start process variant.

5. In this dialog box, enter the name of the process variant as ZBPC_EXPORT_TRANS_START, and the description as “BPC: Export Transaction Data Start”. Finally, click the icon.

6. The next screen gives you an opportunity to configure scheduling. Click the “Change Selections” button.

7. In the next dialog box, click the button for “Immediate” followed by the icon at the bottom.
8. Now click the save icon. Then click to go back.

9. Now that the variant has been created, click the icon to insert it in the custom process chain.

10. You should now see the start process in the layout to the right of the screen.

11. The BPC process chains use a framework which requires that you insert some standard BPC process types in order for the process chain to work correctly in the BPC Data Manager tool. The “Modify Dynamically” process type is one of these required types.

   Click on the process type icon. Under the “BPC Process Types” node, add the “Modify Dynamically” process type to the process chain, by selecting it from the tree on the left and dragging and dropping it into the layout on the right.
12. In the dialog box, select the /CPMB/MODIFY variant for this process type and click the icon.

13. You will then be presented with an information message, answer “No”.

14. The process type has now been added to the layout on the right side of the screen. The process chain layout should now look like this.

15. Next, create a link between these two process types by selecting the “Start” process type, and right-clicking and selecting, Connect With → Modify Dynamically → BPC: Modify Process Type Variant Value.

16. The process types are now linked together.
17. Next, add the standard process type “OR” from the “General Services” node in the tree on the left, to the layout on the right, by selecting it and dragging and dropping it into the layout on the right.

18. Click the icon in the following dialog box to add it into the process chain.

19. The layout is then updated with the new process type.
20. Next, create a link between the “Modify Dynamically” process type, and the “OR” process type, by right-clicking on “Modify Dynamically”, and choosing Connect with → OR → and then the random number identifier.

21. You will then get a dialog box for error handling actions. Choose the radiobutton for “errors” and click the icon.

22. The process chain now looks like this.

23. Before we add the custom process type which will do most of the work to export transaction data, we need to insert one last process type which is needed for the BPC process chain framework. Go back to the “BPC – Process types” node and drag and drop the “BPC: Clear BPC Tables” process type into the layout on the right.
24. In the next dialog box, enter the name of the variant as /CPMB/CLEAR and click the icon.

25. You will then be presented with an information message, answer “No”.

26. The process has now been added to the layout on the right.

27. Next, create a link between the “OR” process type and the “Clear BPC Tables” process type by selecting and right-clicking on the “OR” process type, and selecting, Connect with → Clear BPC Tables → clear the temp data.
28. The process chain now looks like this.

29. Finally, we can now add the final process type to the process chain. Drag and drop the process type for “BPC: Transaction Data Export” into the layout.

30. In the following dialog box, click the icon to create the process variant.

31. Enter the name of the process variant as ZBPC_EXPORT_TRANS and the description as “BPC: Export Transaction Data”. Then click the icon.
32. In the next screen, enter the parameters for this variant.
   - **SELECTION**
   - **PACKAGE_SIZE**
   - **EXPORT_FILE_PATH**

   Make sure to set the field value for **PACKAGE_SIZE** as you see here. Click the save icon. Then click 🔄 to go back.

33. Now that the variant has been created, click the ✅ icon to insert it in the custom process chain.

34. The process chain should now look like this.
35. Next, create a link from the “Modify Dynamically” process type to the “BPC: Export Transaction Data” process type by selecting and right-clicking on the “Modify Dynamically” process type, and choosing, Connect with → BPC:Tx Data Export → BPC:Export Transaction Data.

36. In the following dialog box, make sure the radiobutton for “successful” is marked and click the icon.

37. Next, create a link from the “BPC:Tx Data Export” process type to the “Clear BPC Tables” process type by selecting and right-clicking on the “BPC:Tx Data Export” process type and choosing, Connect with → Clear BPC Tables → clear the temp data.

38. In the following dialog box, mark the radiobutton for “always” and click the icon.

39. In the next dialog box, simply choose “Connect”.

Target process (BPC:CLEAR) already has other predecessors. You can carry out this operation anyway. However, the target process then starts if one of the predecessors has ended.

If you don’t want this, you must use an AND process. Moreover, the target process is scheduled in duplicate. You can prevent this by using an OR process.

Connect  Cancel
40. The completed process chain should now look like this.

41. Check the process chain by clicking the icon. All process types should show as green. Finally click the icon to activate the process chain.

42. You should then get a message saying that the process chain has been saved as “active”. 
43. Click on the icon to return to the process chains. Then click the icon to refresh the process chain list. The new process chain should now show in the tree to the left. It should currently be under the “Not Assigned” node. Assign this process chain to one of the BPC groups, by selecting the new process chain, under the “Not Assigned” node, and clicking the icon.

44. Enter the name of the group as /CPMB/BPC and click the icon.

45. Click the icon to save and activate the process chain. Now click the button again. The process chain is now assigned to the group.
4.3 Create the package from the BPC Excel Client

1. Launch the BPC Excel Client and log on to the “ApShell” Appset. From the action pane, click “Manage Data”.

2. Next, click “Maintain data management”.

3. Next, click “Manage packages (organize list)”.
4. In this dialog, we can create the packages. In this case, we want to create the package for our newly created process chain, ZBPC_EXPORT_TRANS. Select the “Data Management” package group, and click the icon, to create a new package.

5. Click the icon next to the input field for Process Chain.

6. Select the “BPC: Planning and Consolidation: System” group on the left, and then select the ZBPC_EXPORT_TRANS process chain on the right. Finally click the “Select” button.
7. Continue creating the package, and enter the package name as “Export”, and the description as “Export Transaction Data”. Also check both checkboxes under Task Type. Finally click the “Add” button.

8. Now click the “Save” button. A message will appear stating that the package has been saved successfully, and the dialog will close.

9. From the action pane, once again click the “Manage packages (organize list)” link to go back into the package maintenance screen.
10. Select the “Export” package from the list, and right-click on it. Choose “Modify Package” from the context menu.

11. In the following dialog, click the icon to view the package.

12. The “Data Manager Package and Dynamic Script Editor” will then be launched. Here you can configure how the dialog screen for this package will look and behave. For example, we need a dialog box which will accept an output file path. Click the “Advanced” button at the top to launch the editor.
13. Enter the text into the right side of the window and click the “Ok” button. Refer to the Appendix 5.1 for a text version of this coding.

Note: If you do not require “selection filtering” functionality in the dialog box, then you may omit lines 2 and 4 or the script code.

14. Control is then passed back to the previous dialog, click the “Save” button.

15. Control is then passed back to the previous dialog, click the ‘Save” button.

16. Finally, at the last dialog, click “Save” one last time. You will receive a message saying that the package has been saved successfully.
4.4 Test the package

1. From the BPC Action Pane, click the icon.

2. Click the “Run a data management package” link in the Action Pane.

3. In the following dialog, select the Export package and click the “Run” button.
4. The Data Manager “Run Package” dialog will then be triggered. Select a destination file path to save the exported data file to. This can either be a file path in the BPC file service directory, or it could be a file path on the NetWeaver application server itself. In the latter case, the file path may be something like, \usr\sap\BPC\SYS\testExport.csv. Check transaction AL11 for accessible directories. In either case, the file extension should be either .txt or .csv as the data will be comma delimited. Once you have entered the file path, click the “Next” button.

5. This next screen is the selection filtering functionality mentioned earlier. It allows you to do some filtering on the data by dimension members. Click on the icon next to the dimension which you want to apply filtering on.
6. In the following dialog box, you can build the selection filtering. In this example, I am filtering by the ACTUAL member of the CATEGORY dimension. Select the member, and then click the “Copy Selected” button.

7. The selection dialog screen now has the filter values. Click the “Next” button.
8. The next screen is simply a confirmation screen. The filtering values will be shown in the window, verify them, and click the “Finish” button.

9. You will then get a message stating that the request was successful and that the package is now running.

10. Click the “View Status” button to view the status of your package.

11. The package should have an icon associated with it. This means that the package has completed successfully. Close this dialog, by clicking on the “Close” button.
12. Close the Data Manager dialog, by clicking on the “Cancel” button.

13. Next, click on the “Preview data file” link from the Action Pane. Note: the preview functionality will only work if the exported data file is present in the BPC file service. This function does not support reading files from the NetWeaver application server. In order to see the file on the application server, you would need to have access to that file system, or access to transaction AL11.

14. In the “Open” dialog, find the file which has been created by the Data Manager package, and click the “Open” button.
15. You can now see the contents of the file which contains the transaction data exported from the BPC application. Click “Cancel” to close this dialog.
5 Appendix

5.1 Data Manager Dynamic Script for the Export Package.

PROMPT(OUTFILE,%DESTINATIONFOLDER%, "Please enter an output path and file name",)
PROMPT(SELECTINPUT,%SELECTION%, "Select the members to filter", "%DIMS%")
TASK(ZBPC_EXPORT_TRANS,EXPORT_FILE_PATH,%DESTINATIONFOLDER%)
TASK(ZBPC_EXPORT_TRANS,SELECTION,%SELECTION%)