

Direct Access to Source System Data using VirtualProviders



Applies to:

SAP BI 7.0. For more information, visit [EDW Homepage](#)

Summary

Transaction data can be accessed directly from source system. This is possible through VirtualProviders which does store any data but is read directly for reporting.

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Introduction

Data in the source system can be accessed directly without extraction. This is possible using VirtualProviders. VirtualProviders are InfoProviders with transaction data that is not stored in the object itself but which is read directly in reporting. The data can be from the BI system, or other SAP or non-SAP systems. VirtualProviders only allow read access to data.

Usage of VirtualProviders

VirtualProviders are used in three different scenarios.

Based on Data Transfer Process

With BAPI's

With Function modules

This paper deals with the usage of VirtualProviders based on Data Transfer Process.

VirtualProviders based on Data Transfer Process

This type of VirtualProvider is based on a DataSource or an InfoProvider. There is no need to program interfaces in the source system. Extractors which replicate data into the BI system is also used to select data in the source system. When the query is executed every navigation step sends a request to the extractors in the assigned source system. The delivered data records are passed through the transfer rules in the BI system and are then filtered into the query again.

Note: The point to be taken into consideration is both master data and hierarchy data need to be available in the BI system before executing the query.

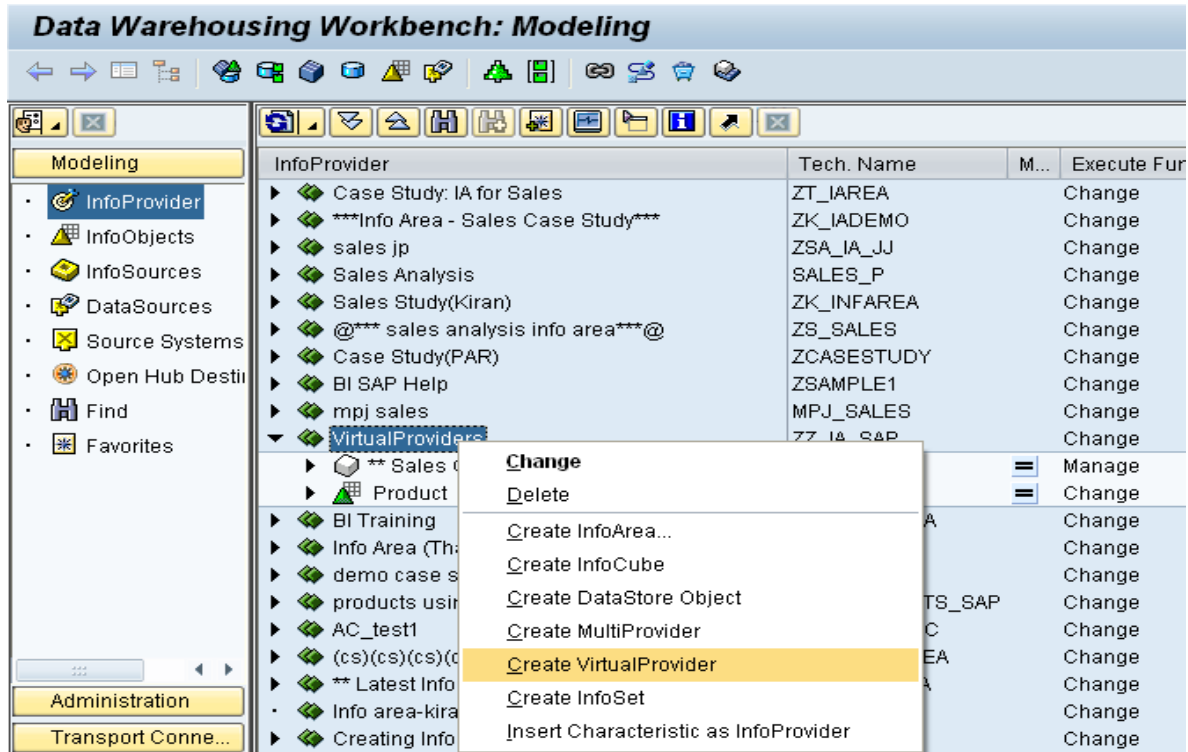
VirtualProvider based on DTP is used in the following scenarios:

1. When up-to-date data is required from an SAP source system.
2. Only a small amount of data is needed from time to time.
3. Only a few users execute queries simultaneously on the database.

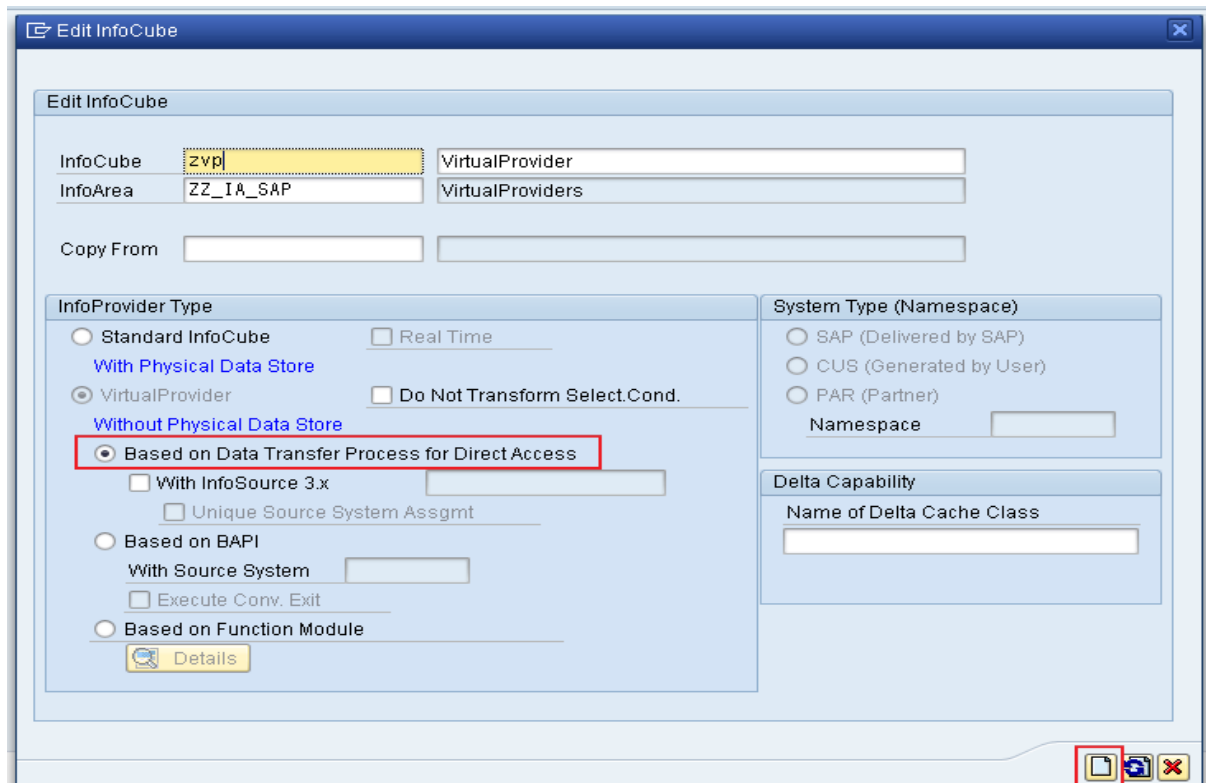
VirtualProvider based on DTP should not be used in the following scenarios:

1. Large amount of data is required in the first navigation step and no appropriate aggregates are available in the source system.
2. A lot of users execute query simultaneously.
3. The same data is accessed frequently.

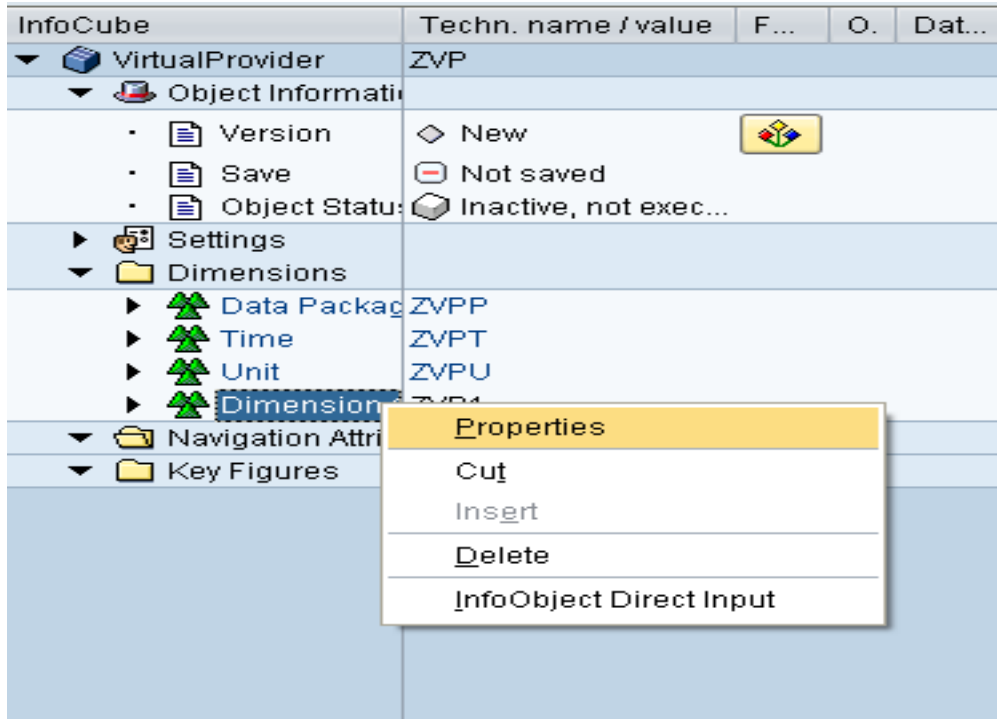
Creating a VirtualProvider



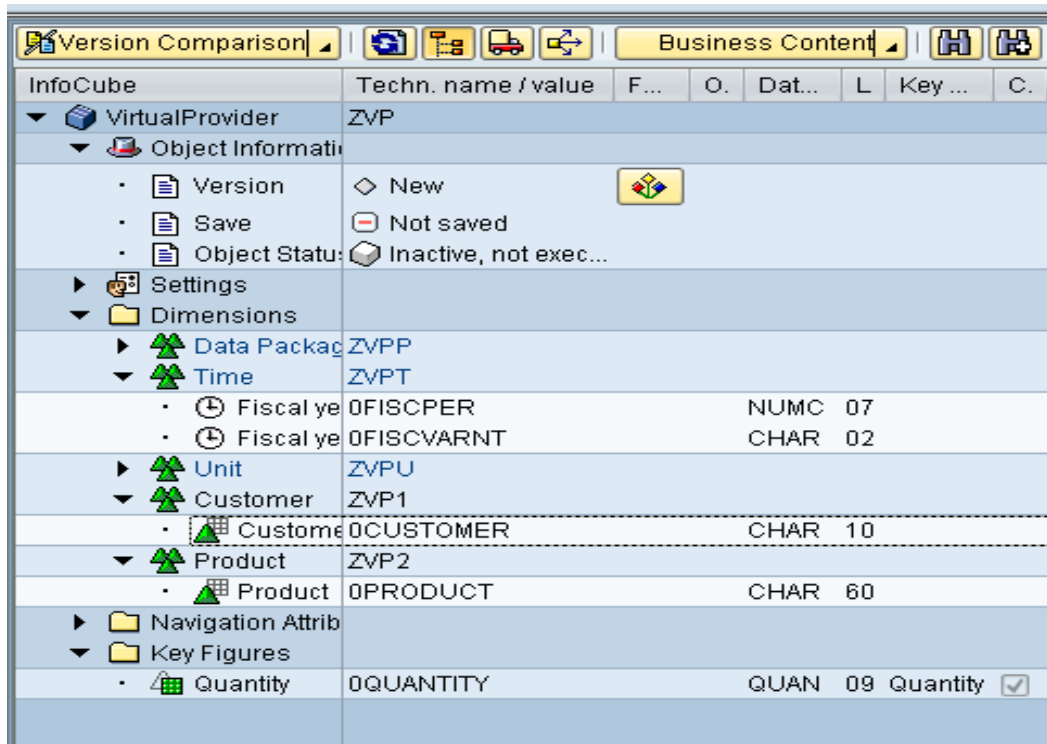
Click on the InfoArea and select 'Create VirtualProvider'.

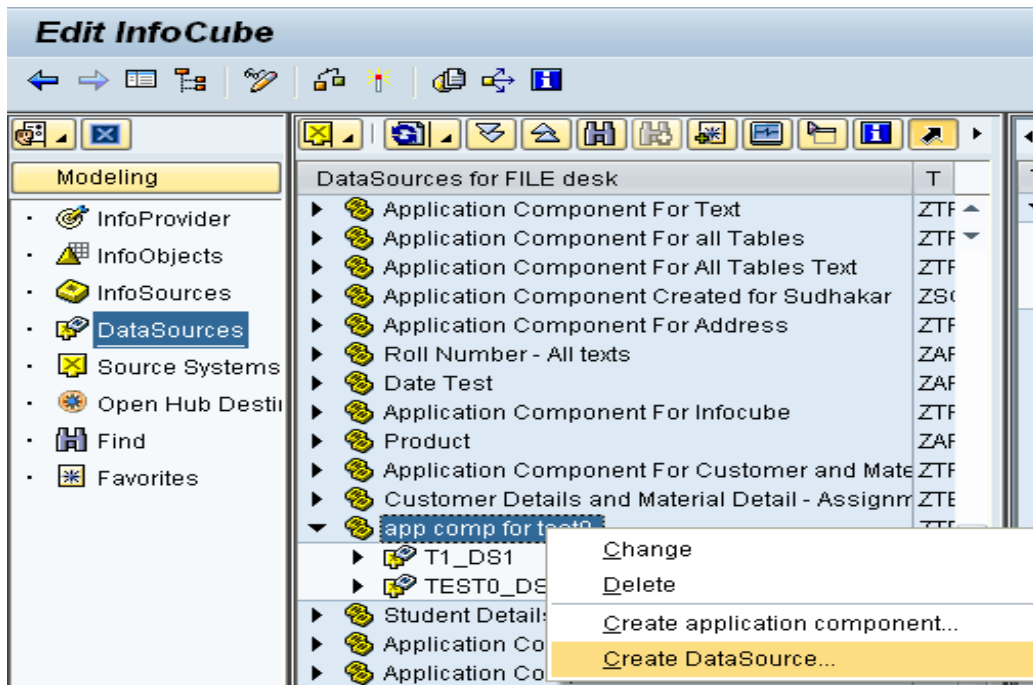


Specify a name and description for the VirtualProvider. By default the radio button 'Based on the Data Transfer Process for Direct Access' is selected. In this scenario the name of the VirtualProvider is 'ZVP'.

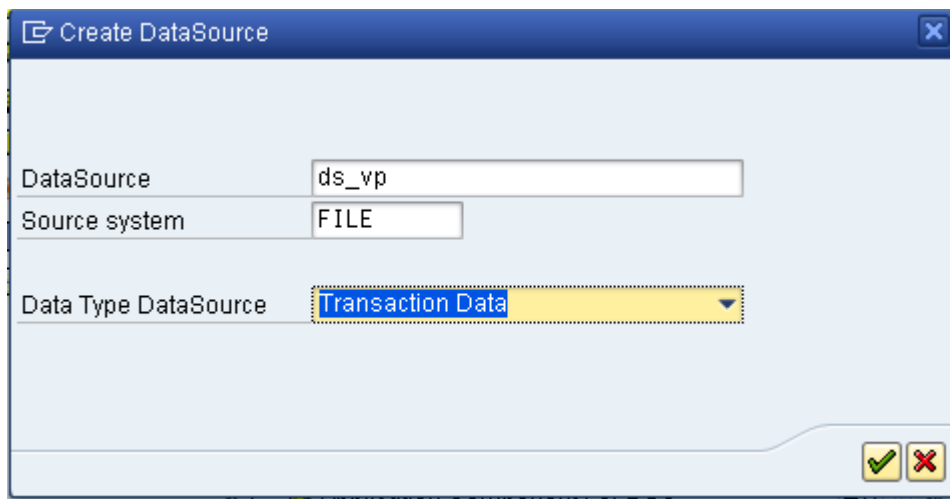


Right click on the dimension and select 'Properties' and change the name to 'Customer'. Similarly create dimensions for 'Product' also. Drag and drop '0customer' into 'Customer' dimension, '0product' into 'Product' dimension, '0fiscper' and '0fiscvarint' into 'Time' dimension and '0quantity' in the 'Key Figures'. Activate the cube 'ZVP'.

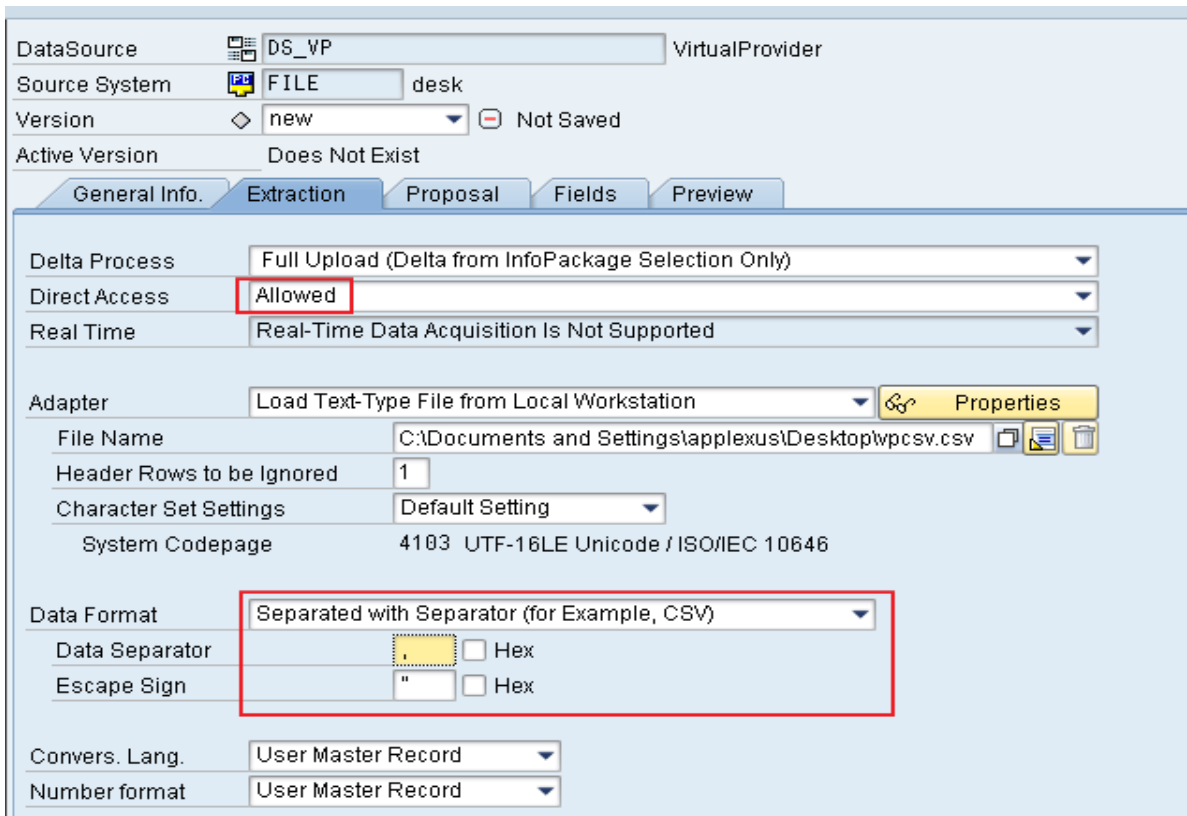




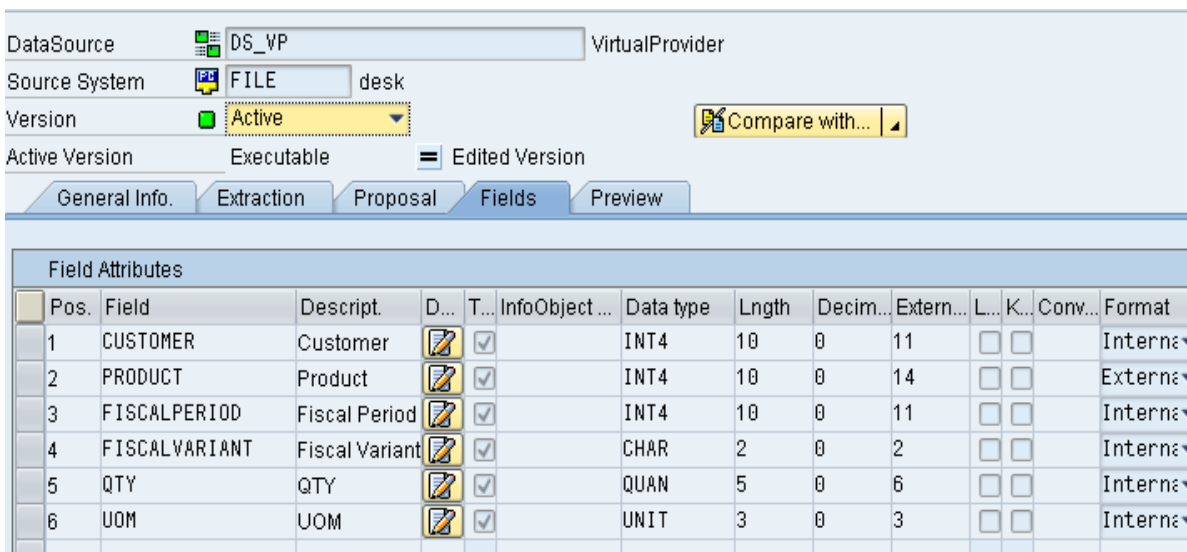
Create a datasource. Source system will be 'FILE' and type of data will be 'Transaction Data'.



In the extraction tab of the datasource select the file to be uploaded. Direct Access should be 'Allowed'. Data format should be CSV.



In the 'Fields' tab select the data type for the fields.



Right click on the DataSource and create InfoPackage.

Source system: FILE

InfoPackage Description: ip_vp

Name	Technical Name	Push InfoP...	Real-Time ...	Data Type for the DataSource
VirtualProvider	DS_VP		<input type="checkbox"/>	Transaction data

Buttons: Save, Cancel

Click on the start button in the InfoPackage so that the data will be available in the PSA.

InfoPackage: ip_vp(ZPAK_DASHRBKPV5AJ5H3YB03E3OCA)

DataSource: VirtualProvider(DS_VP)

Data Type: Transaction Dat

Source System: desk(FILE)

Last Changed By: APPDEVELOP Date: 07/04/2011 Time: 12:03:29

Buttons: Data Selection, Extraction, Processing, Update, Schedule

Options:

- Start Data Load Immediately
- Start Later in Background

Job Name Prefix/Suffix: BI_BTCH

Buttons: Scheduling Options, Gantt Diagram (Plan.Table), Subsequent Process.

Request Batch Process Runs Until All Data Has Been Updated in BW

Start button highlighted with a red box.

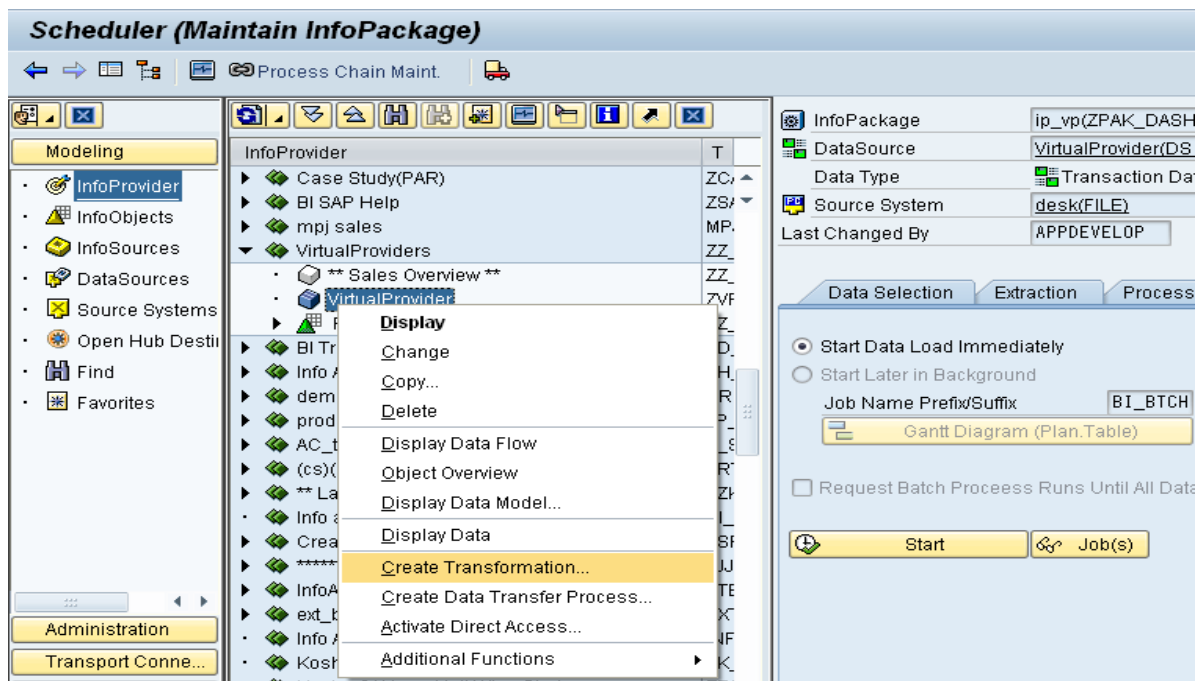
PSA Maintenance

Data records to be edited

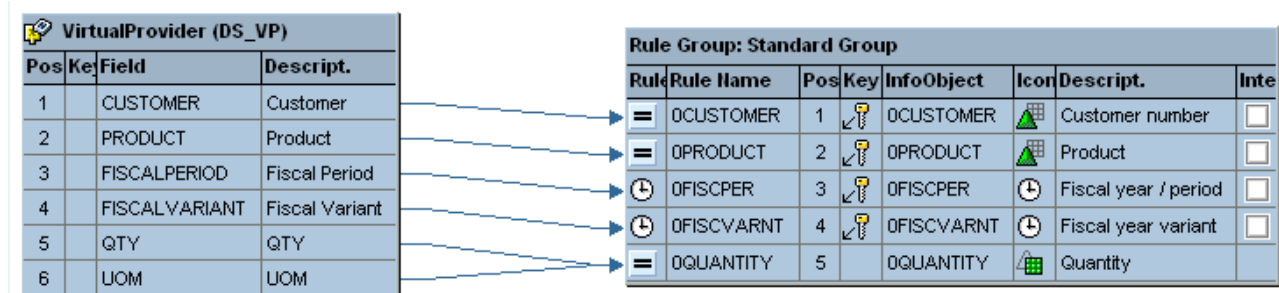
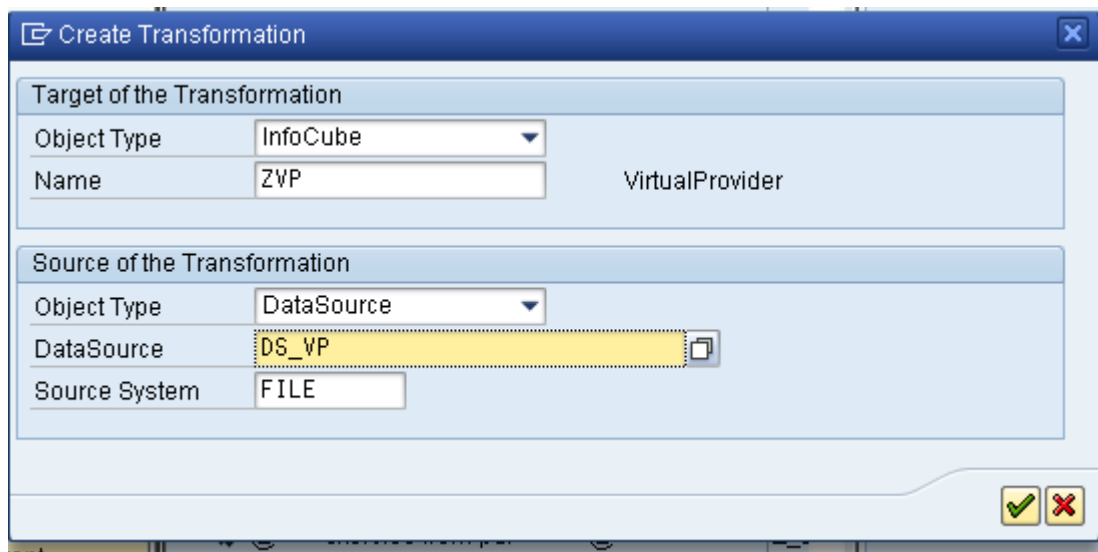
Status	DataPacket	Data Rec.	Customer	Product	Fiscal Per	Fiscal Var	QTY	UOM
<input checked="" type="checkbox"/>	1	1	31004753	100430	2010001	K4	15	EA
<input checked="" type="checkbox"/>	1	2	31004753	100792	2010001	K4	89	EA
<input checked="" type="checkbox"/>	1	3	31004753	101517	2010001	K4	456	EA

There are only three records in the flat file and all of them got uploaded to the PSA.

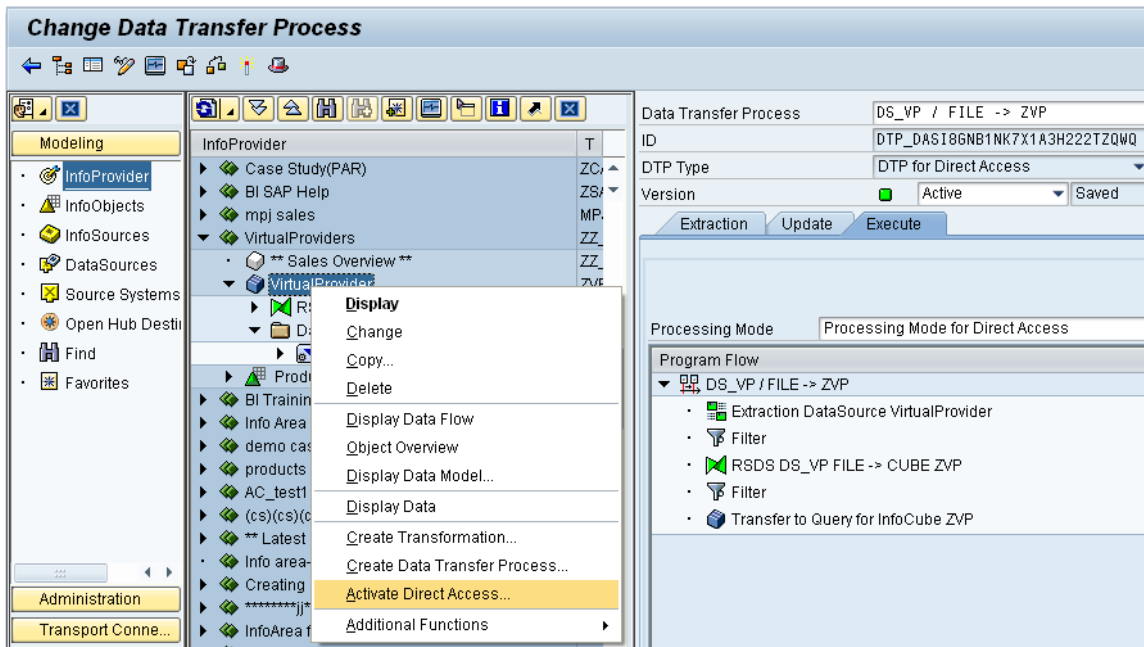
Transformation and DTP



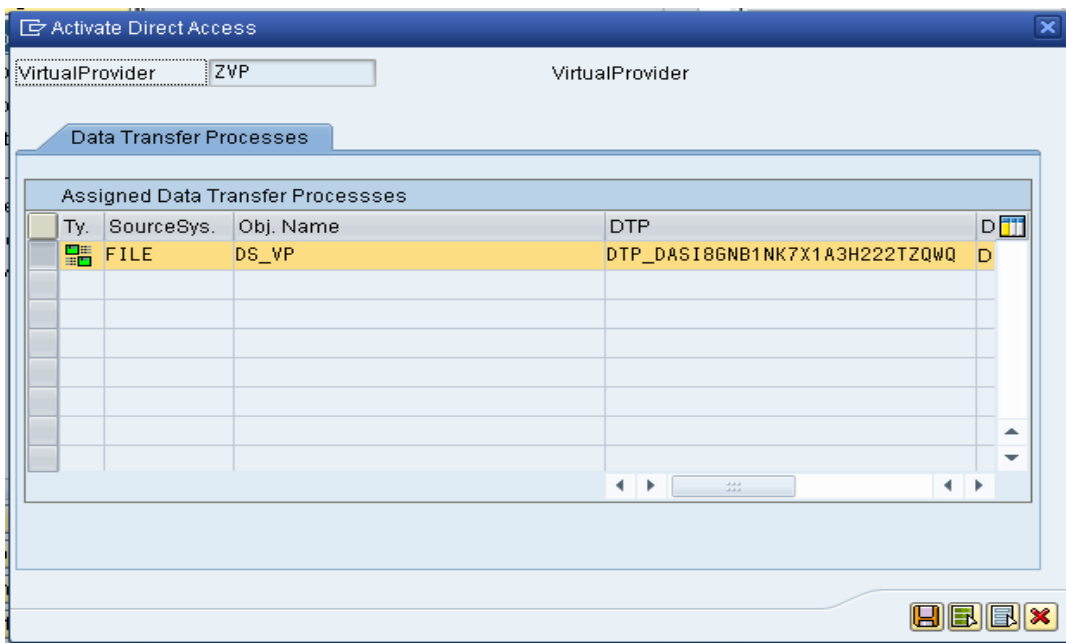
Create Transformation for the InfoCube and select the source system and datasource for the cube.

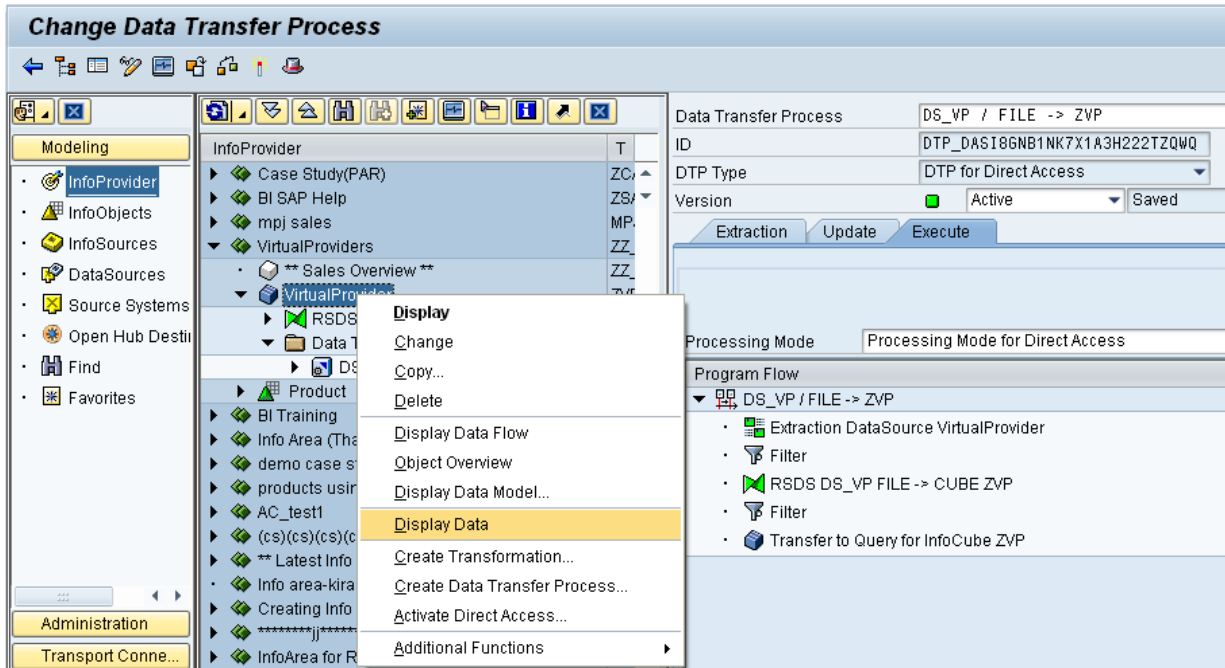


Map the fields as shown in the figure above.



From the context menu of the VirtualProvider select 'Activate Direct Access' and click on 'Save Assignments' to save the data.





Right click on the VirtualProvider and select 'Display Data' to display the results.

"ZVP", List output

0CUSTOMER	Product	0CHNGID	Record type	0REQUID	0FISCPER	0FISCVARNT	0UNIT
0031004753	100430				2010001	K4	EA
0031004753	100792				2010001	K4	EA
0031004753	101517				2010001	K4	EA

Now to understand the benefit of VirtualProvider the data in the source will be changed as shown below. That is four new records are added to the flat file.

	A	B	C	D	E	F
1	Customer	Product	Fiscal Period	Fiscal Variant	QTY	UOM
2	31004753	100430	2010001	K4	15	EA
3	31004753	100792	2010001	K4	89	EA
4	31004753	101517	2010001	K4	456	EA
5	31004764	100792	2010007	K4	874	EA
6	31004764	101517	2010007	K4	14	EA
7	31004764	100683	2010007	K4	65	EA
8	31004764	100200	2010007	K4	19	EA
9						

Save the file and display the data in the InfoCube by selecting 'Display Data'.

"ZVP", List output

0CUSTOMER	Product	0CHNGID	Record type	0REQUID	0FISCPER	0FISCVARNT	0UNIT
0031004753	100430				2010001	K4	EA
0031004753	100792				2010001	K4	EA
0031004753	101517				2010001	K4	EA
0031004764	100792				2010007	K4	EA
0031004764	101517				2010007	K4	EA
0031004764	100683				2010007	K4	EA
0031004764	100200				2010007	K4	EA

When data is displayed the modified data is shown. The current data is shown directly from the source. This feature is possible only through VirtualProvider.

Related Content

[Virtual Providers](#)

[Virtual Providers based on Data Transfer Process](#)

[Creating DTP for Direct Access](#)

For more information, visit [EDW Homepage](#)

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