Data Source Replication and Activation of Transfer Structures

Applies to:

SAP Net Weaver BW. For more information, visit the EDW homepage

Summary

Detailed Documentation and practical implementation of Data Source Replication And Activation Of Transfer Structures.

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Table of Contents

Replication of DataSources

Use

In the SAP source system, the DataSource is the BW-relevant metaobject that makes source data available in a flat structure for transfer to BW. In the source system, a DataSource can have the SAP delivery version (D version: Object type R3TR OSOD) or the active version (A version: Object type R3TR OSOA).

The metadata from SAP source systems is independent of BW metadata. There is no implicit assignment of objects using same names. In the source system, information is only retained if it is required for data extraction. Replication allows you to make the relevant metadata known in BW so that data can be read more quickly. The assignment of source system objects to BW objects takes place exclusively and centrally in BW.

There are two types of DataSources in BW. A DataSource can exist either as a DataSource (R3TR RSDS) or a 3.x DataSource (R3TR ISFS). Since a DataSource cannot exist simultaneously in both object types in one source system and because these objects are not differentiated in the system, you have to choose which object you want the metadata to be replicated in when you replicate the DataSource.

Integration

Replicated 3.x DataSources can be emulated in BW in order to prepare migration of the 3.x DataSources into a DataSource. As long as certain prerequisites are fulfilled, a 3.x DataSource can be restored from a migrated DataSource.

Prerequisites

You have connected the source system to BW correctly.

Features

Depending on your requirements, you can replicate into the BW system either the entire metadata of an SAP source system (application component hierarchy and DataSources), the DataSource of an application component in a source system, or individual DataSources of a source system.

In addition, you can specify whether the metadata is replicated when you create and activate an SAP source system. You can also specify on the DataSource level that an automatic replication should be performed for a data request, if the DataSource in the source system has been changed.

Replication Process Flow

In the **first step**, the **D versions** are replicated.

Here, only the DataSource header tables of BI Content DataSources are saved in BW as the D version. Replicating the header tables is a prerequisite for collecting and activating BI Content.

● If SHDS is available for the D-TLOGO object in the BW shadow content, the relevant metadata is replicated in the DataSource (R3TR RSDS).

The replication will only be performed if no A or M version of the other object type R3TR ISFS exists for the DataSource.

● If SHMP (mapping for 3.x DataSource) is available for the D-TLOGO object in the BW shadow content, the relevant metadata is replicated in the 3.x DataSource (R3TR ISFS).

The replication will only be performed if no A or M version of the other object type R3TR RSDS exists for the DataSource.

● If no BI Content exists in the D version for a DataSource (R3TR OSOD) in BW, the D version cannot be replicated because this version is only used in BW for BI Content activation.

In the **second step**, the **A versions** are replicated.

3

DataSources (R3TR RSDS) are saved in the M version in BW with all relevant metadata. In this way, you avoid generating too many DDIC objects unnecessarily as long as the DataSource is not yet being used – that is, as long as a transformation does not yet exist for the DataSource.

3.x DataSources (R3TR ISFS) are saved in BW in the A version with all the relevant metadata.

● As a basic principle, the object type of the A version follows the object type of the D version. If the DataSource already exists in BW in the A or D version, the DataSource is replicated to the existing object.

● If the DataSource does not yet exist in BW, the system performs replication according to the following logic:

       a. If the DataSource is a hierarchy or export DataSource, this determines the object type for the replication:

■ Hierarchy DataSources are replicated to 3.x DataSources.

■ Export DataSources (8*) are replicated to 3.x DataSources.

       b. If there is a D version in BW for a mapping object (R3TR ISMP), the system performs replication to 3.x DataSource (R3TR ISFS).

       c. Otherwise, the system asks the user to which object type the DataSource is to be replicated.

Make sure that you replicate the DataSource correctly: For example, if you have modeled the data flow with 3.x objects from BI Content and are thus using update and transfer rules, make sure that you replicate the DataSource to a 3.x DataSource. If you have replicated the DataSource incorrectly, you can no longer use the BI Content data model.

Deleting DataSources During Replication

DataSources are only deleted during replication if you perform replication for an entire source system or for a particular DataSource. When you replicate DataSources for a particular application component, the system does not delete any DataSources because they may have been assigned to another application component in the meantime.

If, during replication, the system determines that the D version of a DataSource in the source system or the associated BI Content (shadow objects of DataSource R3TR SHDS or shadow objects of mapping R3TR SHMP) is not or no longer available in BW, the system automatically deletes the D version in BW.

If, during replication, the system determines that the A version of a DataSource in the source system is not or no longer available, the BW system asks whether you want to delete the DataSource in BW. If you confirm that you want to delete the DataSource, the system also deletes all dependent objects, the PSA, InfoPackage, transformation, data transfer process (where applicable), and, in the case of 3.x DataSource, the mapping and transfer structure – if these exist.

Automatic Replication During Data Request

You can use a setting in the InfoPackage maintenance under Extras ® Synchronize Metadata to define that, whenever there is a data request, automatic synchronization of the metadata in BW with the metadata in the source system takes place. If this indicator is set, the DataSource is automatically replicated from BW upon each data request – that is, if the DataSource has changed in the source system.

This function ensures that requests are not refused in the source system because of the default time stamp comparison even though the DataSource has not really changed.

With replication, a distinction must be made between DataSource types and the types of changes in the source system.

DataSource (R3TR RSDS)

When a request is created in the InfoPackage, the DataSource is refreshed in BW if the DataSource in the source system has a more recent time stamp than the DataSource replicate in BW. In addition, the DataSource is activated in BW (including transfer structure generation in the source system) if it is older than the DataSource in the source system. However, it is only activated if the object status is "active" after replication.

This is not the case if changes have been made in the source system to the field property (name, length, type) or if a field has been excluded from the transfer (because, for example, the Hide Fieldindicator is set in the field list of the DataSource or the field property has been changed in the extraction structure). In these cases, the DataSource is deactivated in BW.

If the DataSource is not active after replication, the system produces an error message. The DataSource must be activated manually.

Step-By Step Procedure

Go to RSDS transaction. You will see the following screen.

DataSource Repository

DataSource	
Source system	

Give the name of the Datasource to be replicated in the BW system and also give the name of the associated source system

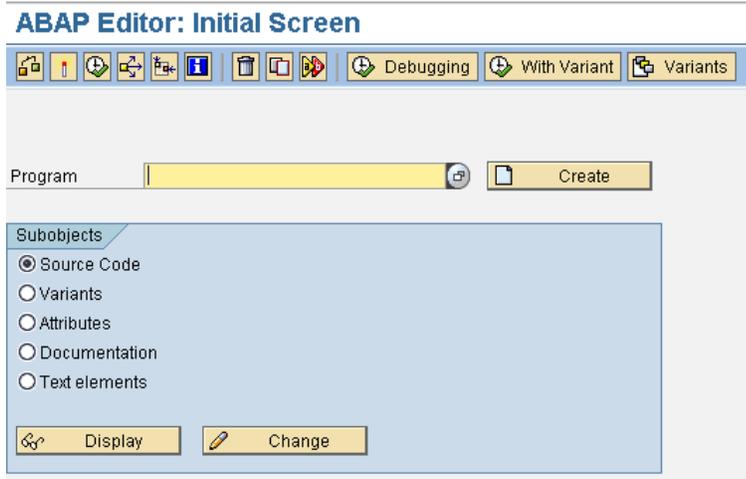**DataSource Repository**

DataSource	0CUST_GROUP_TEXT
Source system	EC2CLNT400

Select the DataSource->replicate DataSource

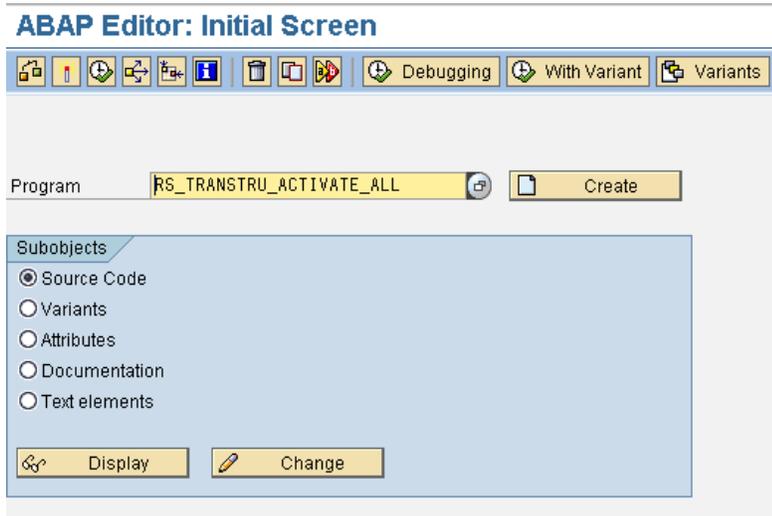| DataSource	Edit	Goto	System	Help		
Display DataSource					F7	
Change DataSource					F6	
Create DataSource					F5	
Delete DataSource					Shift+F2	
Copy DataSource					Ctrl+Shift+F5	
Replicate DataSource					Ctrl+Shift+F2	
Migrate 3.x DataSource -> DataSource					Ctrl+Shift+F3	
Restore 3.x DataSource					Ctrl+Shift+F4	
Exit					F3	
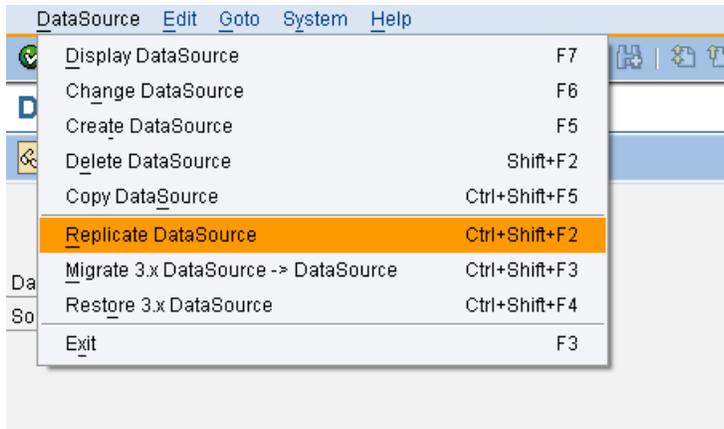
The DataSource has been successfully replicated.

Now we have to activate the associated Transfer Structures.

To do this, go to SE38 Transaction. You will see the following screen.

ABAP Editor: Initial Screen

Program [   ] Create

Subobjects
- ⦿ Source Code
- ◯ Variants
- ◯ Attributes
- ◯ Documentation
- ◯ Text elements

Display   Change

Enter the standard program name RS_TRANSTRU_ACTIVATE_ALL and press execute.

ABAP Editor: Initial Screen

Program [RS_TRANSTRU_ACTIVATE_ALL] Create

Subobjects
- ⦿ Source Code
- ◯ Variants
- ◯ Attributes
- ◯ Documentation
- ◯ Text elements

Display   Change

You will see the following screen.

Activate all active transfer structures for a source system

Source System	
InfoSource (* gen)	
☐ LOCK	
☐ Only Inactive	

Enter the Source System name and the name of the associated Datasource.

Activate all active transfer structures for a source system

Source System	EC2CLNT400
InfoSource (* gen)	0CUST_GROUP_TEXT
☐ LOCK	
☐ Only Inactive	

Now Press Execute.

You will see the following screen.

The transfer structures have been successfully activated as shown below.

Display logs

Date/Time/User	Numb	External ID	Object txt	Sub-object text	Tran	Program	Mode	Log number	
▽ ■ 25.04.2011 20:05:37 BITDEV02	1	Activate transfer structures	Business Infor...	Business Infor...	SE38	SAPLRSAL	Dialog pro...	00000000000003588738	
■ Problem class important	1								
▽ ■ 25.04.2011 20:07:11 BITDEV02	1	Activate transfer structures	Business Infor...	Business Infor...	SE38	SAPLRSAL	Dialog pro...	00000000000003588739	
■ Problem class important	1								
▷ ■ 25.04.2011 20:12:02 BITDEV02	1	Activate transfer structures	Business Infor...	Business Infor...	SE38	SAPLRSAL	Dialog pro...	00000000000003588741	

Ty	Message Text

Related Content

[Replication of DataSources](#)

http://www.sdn.sap.com/irj/scn/thread?threadID=187644

http://forums.sdn.sap.com/thread.jspa?threadID=1930002&tstart=0

For more information, visit the [EDW homepage](#)

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