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Open Hub Service

3rd Party Integration (SAP NetWeaver BW 7.3)

Documentation

History

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1 Introduction

Open Hub Destination enables integration with 3rd party to extract and exchange of InfoProvider data between SAP NetWeaver BW 7.3 and 3rd party applications (e.g. an ETL tool). The following are benefits of integration:

- Openness of SAP NetWeaver BW 7.3
- Standard process to distribute data out of SAP NetWeaver BW 7.3 to target system
- Applicable for mass data extraction
- Full automatized distribution and monitoring without user interaction

Note: This interface documentation is released initially for release SAP BW 7.3 but is still valid for the releases SAP BW 7.4 and 7.5.

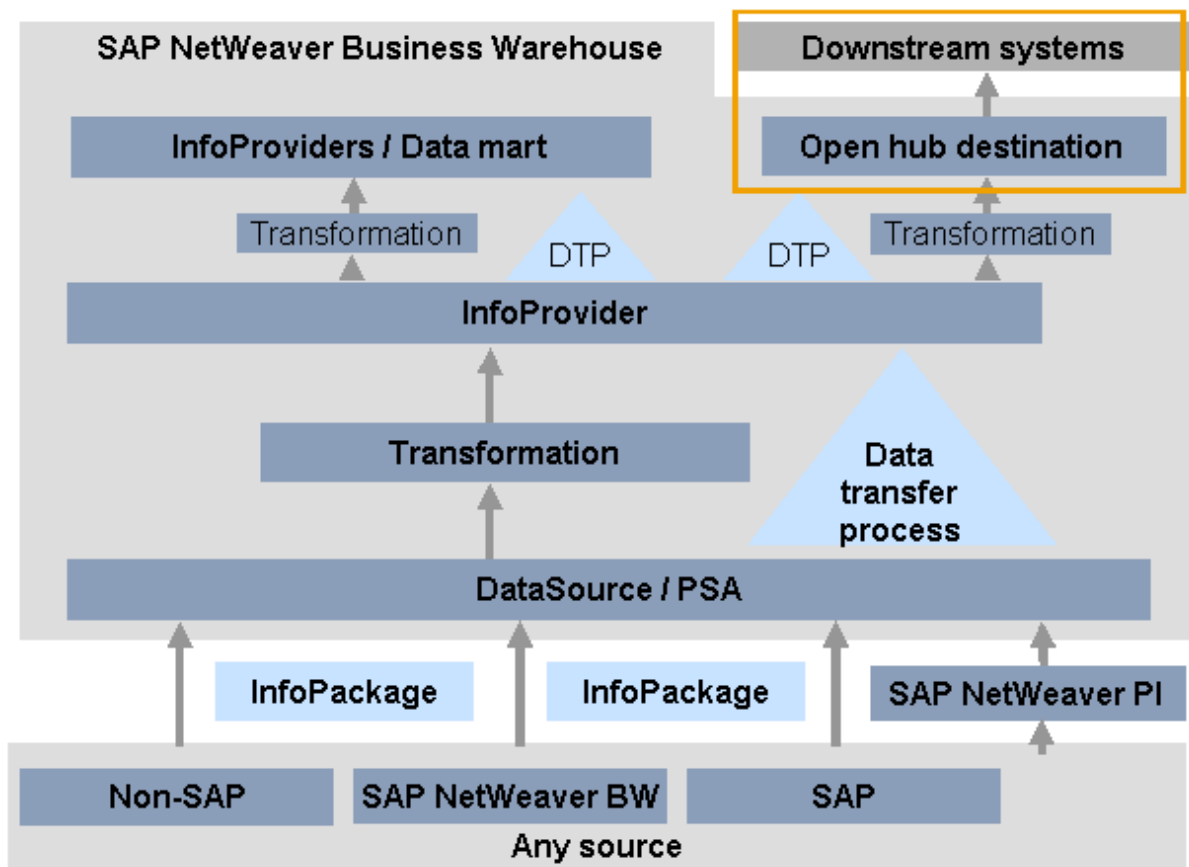
1.1 Distributing data from SAP BW system

The open hub destination allows you to distribute data from a BW system to non-SAP data marts, analytical applications, and other applications. It allows you to ensure controlled distribution across several systems.

The open hub destination defines the target to which the data is relayed.

BW objects such as InfoCubes, DataStore objects, or InfoObjects (attributes or texts) and InfoSets can function as open hub data sources. Note that DataSources may not be used as the source.

The following figure outlines how the open hub destination is integrated into the data flow:



Database tables (in the database for the BW system) and flat files can act as open hub destinations. You can extract the data from a database to non-SAP systems using APIs and a third-party tool.

An Open Hub Destination can be marked as 3rd party destination. It's possible to display the 3rd party owned parameters in the user interface, if the destination is a 3rd party destination.

NOTE: In earlier releases, Open hub destination was part of the InfoSpoke. It is now an independent object that provides more options as a result of its integration into the data flow. The open hub service previously provided with the InfoSpoke can still be used. We recommend, however, that you use the new technology to define new objects.

1.2 Description of Necessary APIs

The communication between the 3rd party tool and SAP BW will occur with corresponding APIs.

1.2.1 Open Hub Destination APIs

1.2.1.1 RSB_API_OHS_DEST_GETLIST

Get list of destinations.

Parameters:

Import	OHDEST	RSOHDEST	Name of open hub destination
	DESTTYPE	RSDESTTYPE	Type of destination: 'TAB' – database table 'TAB3' – 3 rd party destination 'FILE' – file destination
Export	RETURN	BAPIRET2	
Tables	DEST_TAB	RSBOHDESTS	List of open hub destinations

The import parameters used for search with "contain pattern" (matching).

The table DEST_TAB contains all destinations, which match the Import parameter provided.

1.2.1.2 RSB_API_OHS_DEST_GETDETAIL

Read the required Meta data of Open Hub destination in the BW system.

The target system receives structure and table with the Meta data. The record contains the type of Meta data as key and the value of this data. The structure contains the structure of data base table

The API will be used for design and run time

Parameters:

Import	OHDEST	RSOHDEST	Name of open hub destination
	SKIP_TECKEY	RS_BOOL	Skip technical keys in the output structure
Export	RFCINFOSPOKE	RSINFOSPOKE	Name of info spoke <i>Obsolete for NW2004s</i>
	RFCUPDATERMETHOD	RSBUPDMODE	Extraction mode of info spoke <i>Obsolete for NW2004s</i>
	RFCDATASETABLENAME	RSBTABNAME	Name of data base table
	RFCPROCESSCHAIN	RSPC_CHAIN	Process chain For NW2004s only filled is only one process chain will be used the DTP which fill the Destination
	RFCDESTTYPE	RSDESTTYPE	Type of Open Hub Destination
	RFCLOGOSRC	RSTLOGOSRC	TLOGO type of data source <i>At the moment not filled for NW2004s</i>
	RETURN	BAPIRET2	
Tables	DBTAB_STRUCTURE	BAPI6118DALO	Structure of data base table of open hub destination
	PARAMETERS	BAPI6107PA	Parameter table from 3 rd party system
	T_MESSAGES	BAPIRETTAB	Messages
	RFCDTPT	RSBDTPT	Get all DTP's which fill this Open Hub Destination

	RFCPROCESSCHAIN	RSBCHAIN	Get all process chains which used the DTP's which fill Open Hub Destination
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1.2.1.3 RSB_API_OHS_DEST_SETPARAMS

Write the 3rd party parameters (e.g. the job name) into the BW system and store them according to the open hub destination.

Parameters

Import	OHDEST	RSOHDEST	Name of open hub destination
	3RDPARTYSYSTEM	LOGSYS	3 rd party system (logical system)
	EXTEND	RS_BOOL	Parameter extend
Export	RETURN	BAPIRET2	
Tables	PARAMETERS	BAPI6107PA	Parameter table

EXTEND: If the value 'true', the new parameters will append to the old. If the value set 'false' the old parameters will be deleted and the new parameters will be inserted. The default is 'false'.

The table PARAMETERS contains all necessary parameters for the 3rd party system and stores these parameters into the Meta data of open hub destination.

These parameters will be sent to the 3rd party system (3RDPARTYSYSTEM) after the extraction is completed in the API RSB_API_OHS_DEST_SEND_NOTIFICATION.

1.2.1.4 RSB_API_OHS_DEST_READ_DATA_RAW

This API reads data from the database table in the BW system. Unlike API RSB_API_OHS_DEST_READ_DATA, you do not need to ensure that the same code pages are used. You can specify the code page using the ENCODING parameter. The data transfer is binary (in raw format).

RECOMMENDATION: use the new API instead of RSB_API_OHS_DEST_READ_DATA, because the new API can be used with different code pages.

Parameters

Import	OHDEST	RSOHDEST	Name of open hub destination
	REQUESTID	RSBREQUIDOUT	Request ID
	PACKETID	I	Number of data package, which will read
	SKIP_TECKEY	RS_BOOL	Skip technical keys in the output (layout) structure
	ENQUEUE_LOOP_COUNT		Counter for lock loop, one loop will wait for 5 seconds before next try
	ENCODING	ABAP_ENCOD	Identifier for the character format (UTF-8, UCS-2 etc.)
Export	NUMROWS	BAPI6116XX- NUMROWS	Number of rows
	LINES_PER_RECORD	BAPI6116XX- NUMROWS	Number
	NUMB_OF_PACKETS	I	Number of different packets for this request in the data base table, if this is initial (or '0') then all packages will be read
	RETURN	BAPIRET2	
Tables	DATALAYOUT	BAPI6118DALO	Layout of record



	RESULTDATA	BAPI6116DA	Data records with follow flag
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For use of this API the user needs appropriate authorization for the data reading of the concerned data provider.

1.2.2 Other Open Hub Service APIs

1.2.2.1 RSB_API_OHS_3RDPARTY_NOTIFY

Send the notification if all data's extracted and saved in the data base table. The target system can now select the data from this data base table.

Receiver module should be implemented by 3rd party tool.

Parameters

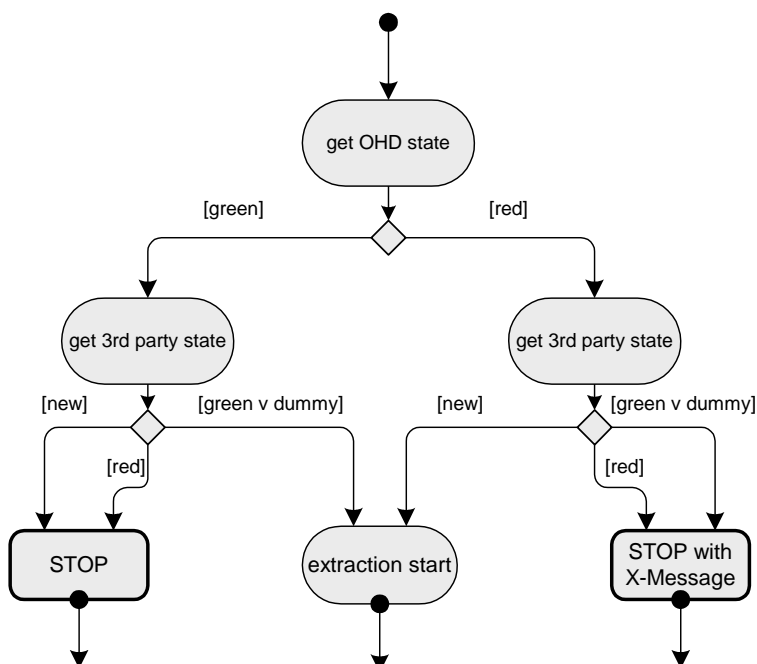
Import	OHDEST	RSOHDEST	Name of open hub destination
	REQUESTID	RSBREQUIDOUT	Request ID
	NUMB_OF_PACKETS	I	Number of extracted packets
	DBTABNAME	RSBTABNAME	Name of the data base table
	DBRECORDS	SYTABIX	Number of extracted records
	TIMESTAMP	BAPIBP_TIMESTAMP	Timestamp of extraction (request)
Export	RETURN	BAPIRET2	
Tables	PARAMETERS	BAPI6107PA	Parameter table
Exceptions	COMMUNICATION_FAILURE		
	SYSTEM_FAILURE		

1.2.2.2 RSB_API_OHS_REQUEST_SETSTATUS

Set the monitor status in the BW system. The target system sends the status to the BW system and this will write a monitor entry. The status will be examined before the next extraction.

The 3rd party tool can set the status 'G' (green) or 'R' (red). It is expected that the 3rd party tool will set the status to 'R' (red) if an extraction or processing error of the 3rd party tool occurs. With this status change to 'R' (red), we are sure that BW doesn't overwrite the actual data while the user of the 3rd party tool is dealing with the error.

The status is set in the 3rd party status table 'RSBREQUID3RD'. The handling of the status entries is described in the follow activity diagram.



The OHD-State means the state of extraction in the BW system. It's in depended from 3rd party state. This state must set by the 3rd party system.

STOP means that request will not be started. There is still data in the data base table from the last request. The BW system will wait until the 3rd party state is reset to green before the next extraction is started.

Parameters:

Import	REQUESTID	RSBREQUIDOUT	Request ID
	STATUS	RSBSTAT3RD	Status of process in the 3 rd party tool ('G' – green; 'R' – red)
	MESSAGE	BAPI_MSG	Message for monitor. This text can contain 220 characters but only 200 will display in the monitor.
Export	RETURN	BAPIRET2	

1.2.3 Using Process Chain APIs

The following APIs for Process Chains can be used along with the Open Hub destinations. The handlings for these API's are not part of this document.

1.2.3.1 RSPC_API_GET_CHAINS

With this API, you are able to obtain a list of the process chains in the system. A dialogue is processed if requested. You are able to select chains by indicator and by name.

1.2.3.2 RSPC_API_CHAIN_START

With this module you are able to start a process chain.

The process chain will start, even if the start conditions entered in process chain maintenance claim differently.

1.2.3.3 RSPC_API_CHAIN_GET_LOG

With this API, you are able to obtain a process chain log as a list of T100 messages.

You can put a T100 Message into short, or if necessary, long text using the BAPI_MESSAGE_GETDETAIL module.

2 Appendix

2.1 Documentation links

Release Notes

http://help.sap.com/saphelp_nw73/helpdata/en/a2/fc644eb17e43b3a6442c5c522ad55e/frameset.htm

SAP NetWeaver BW 7.0

http://help.sap.com/saphelp_nw73/helpdata/en/46/8c635be4c70ad3e10000000a11466f/frameset.htm

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