

Explore Data Sources in BW 7.0 - Part I



Applies to:

SAP BW 3.x & SAP BI Net Weaver 2004s. For more information, visit the [Business Intelligence homepage](#)..

Summary

This document will give the reader detailed information with respect to what new features are available in BW 7.0 data sources and how to use them.

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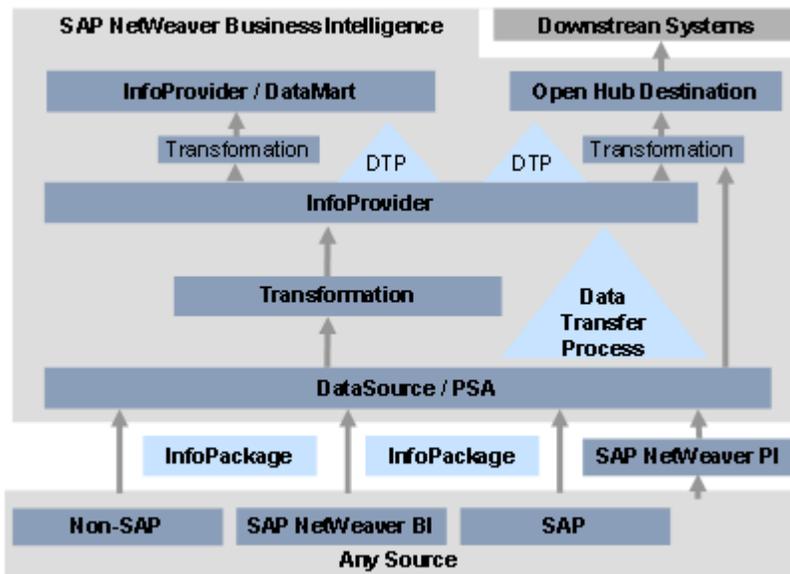
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Introduction

A DataSource is a combination of fields that provide the data into the BW system. It contains a logical group of fields.



Data is loaded to the data target using an info package.

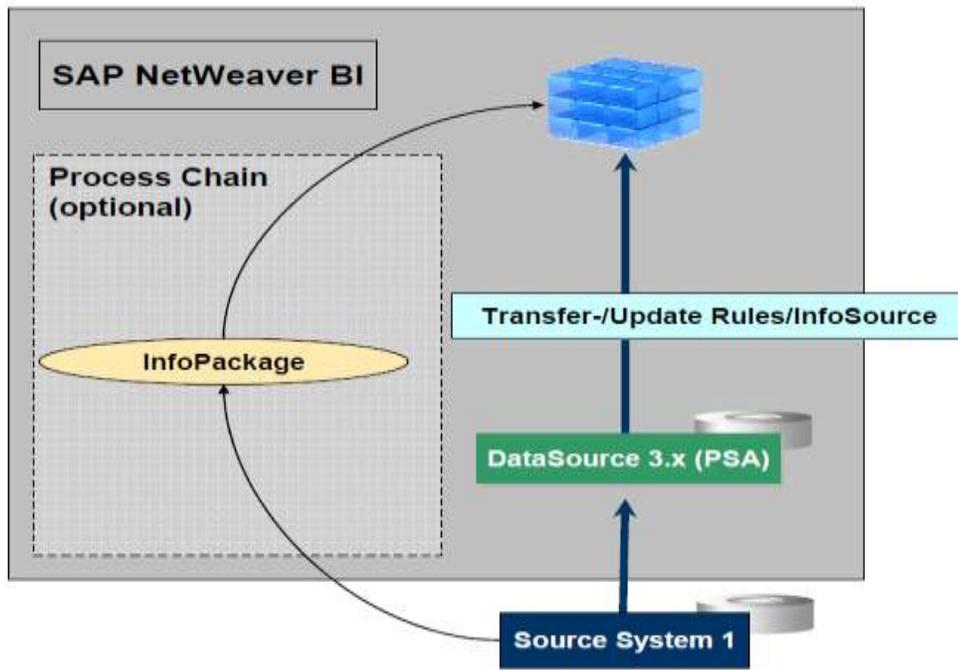
There are basically two types of DataSources:

- DataSource for transaction data
- DataSource for master data
 - DataSource for attributes
 - DataSource for texts
 - DataSource for hierarchies

Data sources are used to get data into the BW system.

3.x DataSource

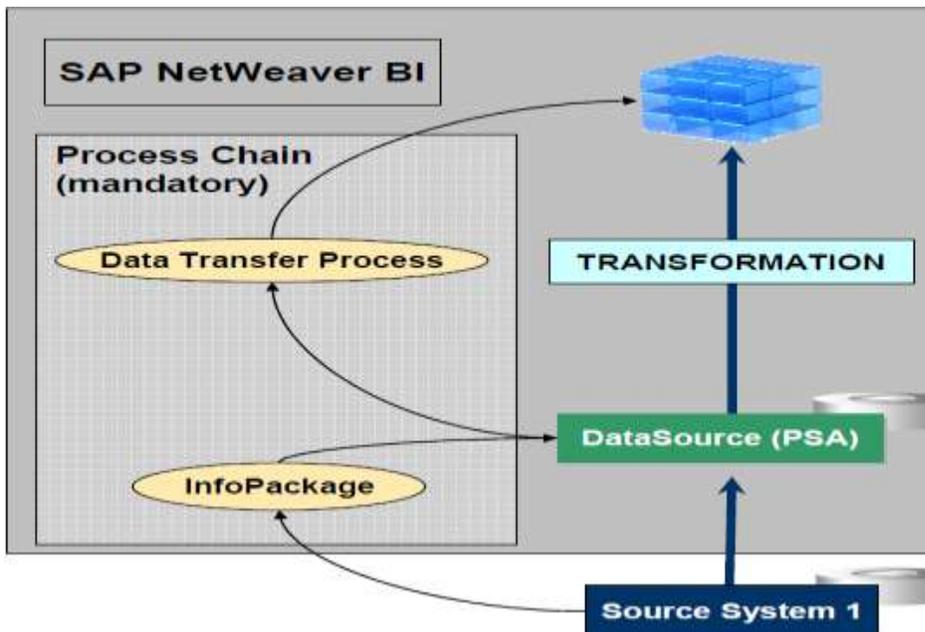
DataSources have been known in the BI system under the object type R3TR ISFS; in the case of SAP source systems, they are DataSource replicates. The transfer of data from this type of DataSource (referred to as **3.x DataSources** below) is only possible if the 3.x DataSource is assigned to a 3.x InfoSource and the fields of the 3.x DataSource are assigned to 3.x InfoSource InfoObjects in transfer structure maintenance.



A PSA table is generated when the 3.x transfer rules are activated, thus activating the 3.x transfer structure. Data can be loaded into this PSA table.

7.0 DataSource

As of SAP NetWeaver 7.0, a new object concept is available for DataSources. It is used in conjunction with the changed objects concepts in data flow and process design (transformation, InfoPackage for loading to the PSA, data transfer process for data distribution within BI). The object type for a DataSource in the new concept - called **DataSource** in the following - is R3TR RSDS.



DataSources for transferring data from SAP source systems are defined in the source system; the relevant information of the DataSources is copied to the BI system by replication. In this case one speaks of DataSource replication in the BI system. DataSources for transferring data from other sources are defined directly.

A unified maintenance UI in the BI system, the DataSource maintenance, enables you to display and edit the DataSources of all the permitted types of source system. In DataSource maintenance you specify which DataSource fields contain the decision-relevant information for a business process and should therefore be transferred.

When you activate the DataSource, the system generates a PSA table in the entry layer of BI. You can then load data into the PSA. You use an InfoPackage to specify the selection parameters for loading data into the PSA. In the transformation, you determine how the fields of the are assigned to the BI InfoObjects. Data transfer processes facilitate the further distribution of data from the PSA to other targets. The rules that you set in the transformation are applied here.

Key Highlights of 7.0 Data Sources:

- Unique look and feel
- Mandatory PSA
- Direct/Remote Access option
- Conversion Automation
- Infopackages to write only to PSA

These data sources cannot be used in the below scenarios:

- ✓ External external systems (metadata and data transfer using staging BAPIs)
- ✓ Hierarchies
- ✓ Using the IDoc transfer method.

The data source basically has 5 tabs:

- ✓ General Information
- ✓ Extraction
- ✓ Proposal
- ✓ Fields
- ✓ Preview

Lets explore the General Information tab in this article.

Exploring Data Source – General Information

There are multiple new features in the data sources, let's explore those with the help of these articles.

Description

The screenshot displays the SAP Data Source configuration interface. At the top, the 'DataSource' is 'ZEXPLORE', the 'Source System' is 'PC_FILE', and the 'Version' is 'new'. The 'Active Version' is 'Does Not Exist'. Below this, there are tabs for 'General Info.', 'Extraction', 'Proposal', 'Fields', and 'Preview'. The 'General Info.' tab is selected, showing the 'General Properties' section. This section includes fields for 'Short description', 'Medium description', and 'Long description', which are highlighted with a red box. An orange callout bubble points to these fields with the text 'Description of the data source'. Other fields include 'Application comp.', 'Last changed by', 'Changed on', and several checkboxes for 'DS for Data Reconciliation', 'PSA Not Typed', 'Opening balance', 'Data Is Language Dependent', and 'Data Is Time Dependent'. The 'Delivery of Duplicate Data Recs.' is set to 'Undefined'. Below the 'General Properties' is the 'Content Properties' section, which includes 'Content Release Type' and 'Content Version' fields.

In this section here we need to enter description of the datasource.

Application Component

DataSource	ZEXPLORE	
Source System	PC_FILE	PC Files
Version	new	Not Saved
Active Version	Does Not Exist	

General Info. | Extraction | Proposal | Fields | Preview

General Properties

Short description:

Medium description:

Long description:

Application comp.:

Last changed by: Changed on: 11.03.2010 / 23:05:13

DS for Data Reconciliation Data Is L... Dependent

PSA Not Typed Da...

Opening balance

Delivery of Duplicate Data Recs.: Undefined

Content Properties

Content Release Type: Content Version:

Here we need to enter the application component where the data source

The application component needs to be entered here.

DS for Data Reconciliation

If this indicator is set, this Data Source reconciles the data with a different Data Source and therefore should not be used *live*, that is to load data into BI .

The screenshot displays the configuration for a Data Source named 'ZEXPLORE'. The 'Source System' is 'PC_FILE' (PC Files). The 'Version' is 'new' (Not Saved). The 'Active Version' is 'Does Not Exist'. The 'General Info' tab is selected. In the 'General Properties' section, the 'DS for Data Reconciliation' checkbox is checked and highlighted with an orange box. Other checked options include 'Data Is Language Dependent' and 'Data Is Time Dependent'. The 'Changed on' field shows '11.03.2010 / 23:05:13'. The 'Delivery of Duplicate Data Recs.' is set to 'Undefined'. The 'Content Properties' section shows 'Content Release Type' and 'Content Version' fields.

During data reconciliation, the loaded data of a Data Source used live is compared with data which is directly accessed in the source system using a special data-reconciliation Data Source. A MultiProvider consolidates the data from the live DataSource with the data from the data-reconciliation DataSource. The data can then be compared using a query defined on the MultiProvider.

For DataSources used live, data-reconciliation DataSources are either delivered with BI Content, or created in accordance with the properties of the DataSource to be checked. Data-reconciliation DataSources must support direct access to source data to allow the loaded data to be compared with the application data, as it exists in the source system.

Using data reconciliation, you can check the completeness as well as the correctness of the data. If the loaded data is incomplete, there is an error in the delta processing of the data. If the loaded data is not correct in BI, there is either an error in the extractor logic of the checked DataSource, or a misinterpretation of the extractor logic.

PSA for All Segments Is Not Typed (Text)

If this indicator is set, the PSA is not generated with a typed structure, but with character-type fields of type CHAR.

The screenshot displays the configuration interface for a Data Source in SAP BW 7.0. The 'General Info' tab is selected, and the 'General Properties' section is expanded. The 'PSA Not Typed' checkbox is checked and highlighted with a red box. Other visible settings include:

- DataSource: ZEXPLORE
- Source System: PC_FILE (PC Files)
- Version: new (Not Saved)
- Active Version: Does Not Exist
- Short description: [Empty text box]
- Medium description: [Empty text box]
- Long description: [Empty text box]
- Application comp.: [Empty text box]
- Last changed by: [Empty text box]
- Changed on: 11.03.2010 / 23:05:13
- DS for Data Reconciliation
- Data Is Language Dependent
- PSA Not Typed
- Data Is Time Dependent
- Opening balance
- Delivery of Duplicate Data Recs.: Undefined

The 'Content Properties' section is also visible at the bottom, with 'Content Release Type' and 'Content Version' fields.

That settings is very important and one of the best feature in BI 7.0. No load will fail because of Special Characters etc.

If you select PSA is not typed, means all the PSA (Fields in the tables) will be created with CHAR as data types (Source may supply anything) . That means you can make sure that load till PSA will pass without any issues.

Example

The following fields are available in the field list of the Data Source:

Field	Data Type	Length	Decimal Digits
CARRID	CHAR	3	0
CONNID	NUMC	4	0
FLDATE	DATS	8	0
BOOKID	NUMC	8	0
CUSTOMID	NUMC	8	0
CUSTTYPE	CHAR	1	0
SMOKER	CHAR	1	0
LUGGWEIGHT	QUAN	8	4
WUNIT	UNIT	3	0
FORCURAM	CURR	15	2
FORCURKEY	CUKY	5	0

If the Data Source is generated with the option *PSA Untyped*, the PSA accordingly has the following fields:

Field	Data Type	Length	Decimal Digits
CARRID	CHAR	3	0
CONNID	CHAR	4	0
FLDATE	CHAR	8	0
BOOKID	CHAR	8	0
CUSTOMID	CHAR	8	0
CUSTTYPE	CHAR	1	0
SMOKER	CHAR	1	0
LUGGWEIGHT	CHAR	11	0
WUNIT	CHAR	3	0
FORCURAM	CHAR	17	0
FORCURKEY	CHAR	5	0

Opening Balance

If this indicator is set, the Data Source builds an initial non-cumulative.

The screenshot shows the configuration interface for a Data Source. At the top, the Data Source is identified as 'ZEXPLORE' from the 'PC_FILE' source system. The version is 'new' and is marked as 'Not Saved'. The active version is 'Does Not Exist'. Below this, there are tabs for 'General Info.', 'Extraction', 'Proposal', 'Fields', and 'Preview'. The 'General Info.' tab is selected, showing 'General Properties' and 'Content Properties'. In the 'General Properties' section, the 'Opening balance' checkbox is highlighted with an orange border. Other properties include 'Short description', 'Medium description', 'Long description', 'Application comp.', 'Last changed by', 'Changed on' (11.03.2010 / 23:05:13), and 'Delivery of Duplicate Data Recs.' (Undefined). The 'Content Properties' section includes 'Content Release Type' and 'Content Version'.

A non-cumulative is a non-summarizable key figure at the level of one or more objects that is always depicted in relation to time. Examples of non-cumulative include headcount, account balance, and material stock.

To supply an Info Cube that contains a non-cumulative value with data, at least two Data Sources are required:

- One Data Source builds the non-cumulative. It delivers the initial non-cumulative.
- One Data Source supplies the non-cumulative values for this non-cumulative, that is, the in and outflows.

Data Sources from SAP source systems have this property is already set.

Data Is Language Dependent

This indicator is set if the Data Source delivers language-dependent data.

DataSource	ZEXPLORE
Source System	PC_FILE PC Files
Version	new Not Saved
Active Version	Does Not Exist

General Info. Extraction Proposal Fields Preview

General Properties

Short description

Medium description

Long description

Application comp.

Last changed by

Changed on 11.03.2010 / 23:05:13

DS for Data Reconciliation

Data Is Language Dependent

PSA Not Typed

Data Is Time Dependent

Opening balance

Delivery of Duplicate Data Recs. Undefined

Content Properties

Content Release Type

Content Version

A Data Source is language dependent if it has a selection field that is defined as a language field.

Data Is Time Dependent

A Data Source is time-dependent if it has a selection field that defines either the lower or upper limit of the validity of the data.

The screenshot shows the SAP Data Source configuration interface for a data source named 'ZEXPLORE'. The 'Source System' is 'PC_FILE' (PC Files) and the 'Version' is 'new' (Not Saved). The 'Active Version' is 'Does Not Exist'. The interface has tabs for 'General Info.', 'Extraction', 'Proposal', 'Fields', and 'Preview'. The 'General Properties' section includes fields for 'Short description', 'Medium description', 'Long description', 'Application comp.', 'Last changed by', and 'Changed on' (11.03.2010 / 23:05:13). There are several checkboxes: 'DS for Data Reconciliation', 'PSA Not Typed', 'Opening balance', 'Data Is Language Dependent', and 'Data Is Time Dependent' (highlighted with an orange box). The 'Delivery of Duplicate Data Recs.' is set to 'Undefined'. The 'Content Properties' section includes 'Content Release Type' and 'Content Version'.

In the Info Package, on the *Update* tab page, you can define the validity interval in which the data to be requested must lie.

Delivery of duplicate Records

This indicator gives information on how the Data Source behaves within a request with regard to duplicate records:

The screenshot shows the configuration interface for a Data Source named 'ZEXPLORE'. The 'Source System' is 'PC_FILE' (PC Files) and the 'Version' is 'new' (Not Saved). The 'Active Version' is 'Does Not Exist'. The interface has tabs for 'General Info.', 'Extraction', 'Proposal', 'Fields', and 'Preview'. The 'General Properties' section includes fields for 'Short description', 'Medium description', 'Long description', 'Application comp.', 'Last changed by', and 'Changed on' (11.03.2010 / 23:05:13). There are checkboxes for 'DS for Data Reconciliation', 'PSA Not Typed', 'Opening balance', 'Data Is Language Dependent', and 'Data Is Time Dependent'. The 'Delivery of Duplicate Data Recs.' field is highlighted with an orange box and set to 'Undefined'. The 'Content Properties' section includes 'Content Release Type' and 'Content Version'.

' ' The status of the DataSource is unknown.

'0' The DataSource does not deliver any duplicate records within a request, with reference to its key.

'1' The DataSource can deliver duplicate records within a request, with reference to its key. However, no duplicate records are delivered in a data package.

This indicator is particularly important for delta-capable attribute tables and text tables.

For the settings '0' and '1' you also have to define a key for the DataSource. This can be either in the DDIC using the maintenance for the corresponding field property of the extract structure fields, or (alternatively or additionally) in the metadata of the Datasource. A field in the DataSource also has the additional attribute '**DataSource Key Field**', which transferor corrects the DDIC property where necessary.

DataSources can, for a key, transfer time-independent master data or time-independent texts from multiple data requests in one request to BW. If data records within a request are transferred to the BW more than once, in some circumstances this can be explained as application relevant and is therefore not considered to be an error. BW provides functionalities for handling duplicate data records that can handle such an ambiguity.

Content Release Type

The Content release type describes the Content version type.

DataSource	ZEXPLORE	
Source System	PC_FILE	PC Files
Version	new	Not Saved
Active Version	Does Not Exist	

General Info. | Extraction | Proposal | Fields | Preview

General Properties

Short description

Medium description

Long description

Application comp.

Last changed by Changed on 11.03.2010 / 23:05:13

DS for Data Reconciliation Data Is Language Dependent

PSA Not Typed Data Is Time Dependent

Opening balance

Delivery of Duplicate Data Recs.

Content Properties

Content Release Type Content Version

There are three types of Content release types:

- R/3
- SAP
- Other

Content Version of DataSource

The content version defines, in combination with the content release type, the relevance or usability of the content object for a particular source system, or the affiliation of the object to a particular release- dependent content scenario.

DataSource	ZEXPLORE	
Source System	PC_FILE	PC Files
Version	new	Not Saved
Active Version	Does Not Exist	

General Info.	Extraction	Proposal	Fields	Preview
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General Properties	
Short description	<input type="text"/>
Medium description	<input type="text"/>
Long description	<input type="text"/>
Application comp.	<input type="text"/>
Last changed by	<input type="text"/> Changed on 11.03.2010 / 23:05:13
<input type="checkbox"/> DS for Data Reconciliation	<input type="checkbox"/> Data Is Language Dependent
<input type="checkbox"/> PSA Not Typed	<input type="checkbox"/> Data Is Time Dependent
<input type="checkbox"/> Opening balance	
Delivery of Duplicate Data Recs.	Undefined <input type="text"/>

Content Properties	
Content Release Type	<input type="text"/>
Content Version	<input type="text"/>

Content Data Source and the applicable content transformations are assigned to each other and to the source system using the content release type and the content version.

Related Content

www.help.sap.com

For more information, visit the [Business Intelligence homepage](#).

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