

Summary

The Cross Application Classification System stores additional data against master data objects in R/3. Since this system is configured to suit each implementation, there is no predefined standard business content. Instead, it is possible to generate delta-capable master data extractors in R/3 and to connect these to generated InfoObjects in BW. This article describes the prerequisites and the steps to follow to extract this R/3 classification data and is applicable to BW 3.x and BI7.

The R/3 Classification System

R/3 supports many ways for those customising it to store additional data fields. For example, many tables support customer defined additions, but there is also the Cross Application Classification System. The Classification System allows R/3 to hold many varied additional fields against many different sorts of R/3 "object", for example it might allow you to store a colour against a material. Here is some terminology:

Object - a predefined business entity such as vendor, material, equipment or customer.

Class - a grouping of characteristics. To view a class definition use transaction CL03.

Characteristic - a property of an object, this is the new field being added. For example a new characteristic might be the colour a material.

Characteristic value - the actual value of the characteristic, for example a material might be coloured blue.

The Classification System also supports entering multiple single values, ranges, free text, and values from pre-defined lists or other tables. It is very flexible, and it is this flexibility that makes it sometimes tricky to extract to BW. We will work through a simple end to end example in this document that considers adding some new fields to Vendor master data.

Existing Documentation and Relevant OSS Notes

There is some documentation against the appropriate nodes in SPRO, but they are a little out of date. See "Data Transfer to the SAP Business Information Warehouse -> Settings for Application Specific DataSources (PI) -> Cross-Application Components -> Classification System". There are also some supplementary documentation in OSS notes 306046 and 588184, however this document summarises all the steps necessary using either a 3.x or a BI7 system.

Prerequisites

There are two prerequisites that need to be considered.

One prerequisite is that if the characteristic value has been setup to accept multiple values, then BW cannot extract all the values without additional configuration. For example, say the characteristic "hobbies" has been setup to accept multiple values. In R/3 you could therefore store the values "Tennis", "Golf" and "Fishing" all against that single characteristic. This does not match the way BW stores data, in that a characteristic is expected to store only a single value. There are three possible workarounds described in OSS 1002105:

- 1) Configure all characteristics to accept only a single value. In the above example you could configure "hobbies1", "hobbies2" and "hobbies3" to store all the values.
- 2) Apply OSS notes 350296 and 535370 which will make BW extract only the first characteristic found. In general this is not attractive as data is lost and could be confusing.
- 3) Write a bespoke extractor that reads all the "hobbies" values and writes them to multiple characteristics in BW.

We recommend always sticking with option 1. It is the cheapest and easiest solution to understand.

The second prerequisite is that the classification definitions must be the same in all R/3 clients. For example if "hobbies" is defined as accepting only a single value in the R/3 client 100, it must be defined in the same way in R/3 client 110 and all other clients in all systems. This is because the extractor is defined cross-client.

DataSource Configuration in R/3

Once the R/3 Classification team have finished their configuration, you can generate the extractors. Use transaction **CTBW** to do this as shown in **Figure 1**. First, you must specify a Basis DataSource, which is the master data that you would like to extend. Then you select a client that the extractor will take data from. Note that although the extractor is defined cross-client, you must choose one client that the extractor will use to read the classification definition. The class type should be chosen from the dropdown list to match the master data (so 010 for Vendors).

Figure 1

Basis DataSource	Client	Class Type	Obj. table	DataSource T...	DataSource
OVENDOR_ATTR	120	010	LFA1	ATTR	1CL_OVEN001

Our example is to extend Vendor master data, but here are some other common combinations that you may wish to extract as shown in **Figure 2**.

Figure 2

Basis DataSource	Client	Class Type	Obj. table	DataSource T...	DataSource
OMATERIAL_ATTR	100	001	MARA	ATTR	1CL_OMAT001
OCUSTOMER_ATTR	100	011	KNA1	ATTR	1CL_OCUS001
OEQUIPMENT_ATTR	100	002	EQUI	ATTR	1CL_OEQU001

Once the DataSource has been entered, select the DataSource line and click on Characteristics in the left hand tree. Then click new entries to add some characteristics. Enter a Characteristic Name, and the other fields will default correctly. Once all the Characteristics have been entered, click save and generate source. The useful part here is that the necessary master data attributes get generated too, as can be seen in **Figure 3**.

Figure 3

DataSource	Characteristic Name	Item N	Maint...	Characteristic DataSource	Typ
1CL_OVEN001	VEN_LOC		N	1CL_AID_001	CHA
1CL_OVEN001	VEN_SITE	1	N		KYF
1CL_OVEN001	VEN_RATE	2	N	1CL_AID_003	CHA
1CL_OVEN001	VEN_AGE	3	N		KYF

Notice the N value indicates that a DataSource has been created. If you change a characteristic, then you must reset the status to N before regeneration. The necessary master data DataSources are prefixed by "1CL_AID". The R/3 side configuration is now complete. Use RSA3 to test the extraction, in our example we have three new DataSources, the Vendor additions in 1CL_OVEN001 and the supporting master data attributes 1CL_AID*.

Configuration in BW

Now we move to BW, where we carry out several steps.

Step 1 Replicate Data

Replicate DataSources and after completion you should see the three new DataSources. In BI7 you will be asked to choose the DataSource type during replication and you should choose 3.x if you want to take advantage of the option to automatically create metadata. This metadata is created using transaction CTBW_META and does all the work of generating InfoObjects and connecting them with transfer rules to the master data attribute DataSources.

Step 2 Generate Metadata

After replicating metadata, run transaction CTBW_META, the initial screen is shown in **Figure 4**.

Enter the R/3 source system and name of the data source you just created. Note that you can extend an existing DataSource directly, but we recommend to keep the additional characteristics as a separate DataSource and merge together in the InfoObject later. This reduces risk, as the original DataSource is left untouched. Press execute and further fields can be entered on the lower half of the screen as in **Figure 5**.

Figure 4

Generate Metadata	
Source system	R3D_110
DataSource	1CL_OVEN001
Extend InfoObject/Source	<input type="radio"/>
Create InfoObject/Source	<input checked="" type="radio"/>

Figure 5

Here we enter the new InfoSource name and also specify the InfoObject that we are extending. This allows the program to get the key correct when it generates objects. Press the green tick.

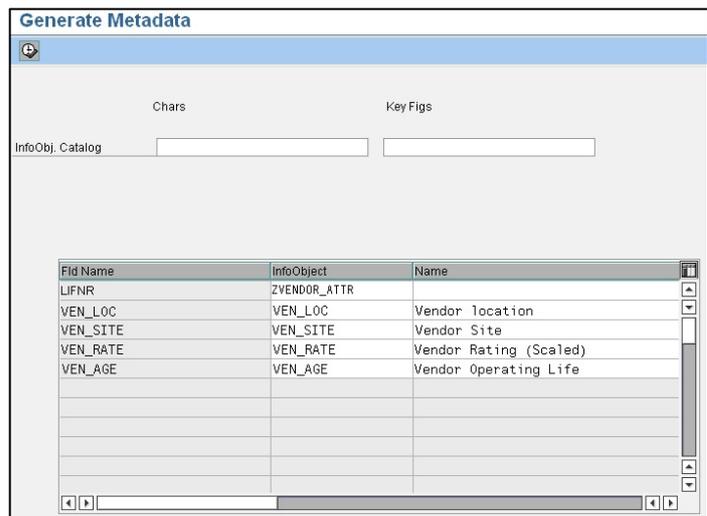
Generate Metadata	
Source system	R3D_110
DataSource	1CL_OVEN001
Extend InfoObject/Source	<input type="radio"/>
Create InfoObject/Source	<input checked="" type="radio"/>
InfoObject/Source	ZVENDOR_ATTR
Basis InfoObject/Source	OVENDOR
Application comp.	LO-I0

The next screen, shown in **Figure 6**, allows us to name the InfoObjects that will be created automatically.

Enter the InfoObject technical names and descriptions according to your naming conventions. An InfoObject catalog can also be specified.

Press execute. Now the system generates all the InfoObjects and Transfer Rules and connects them together to allow you to quickly extend the original InfoObject, in our case 0VENDOR.

Figure 6



Step 3 Extend Target InfoObject

All that remains is to connect the new DataSource to the main target InfoObject, in this case 0VENDOR. First extend 0VENDOR with the 4 new InfoObjects created for us in Step 2. Then simply connect the new InfoSource to 0VENDOR.

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