TELELOGIC

SA/ERP Metadata Explorer

# SA/ERP Cube

# Wizard User Guide

# SA/ERP Cube Wizard User Guide

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# 1

# Introduction

*Introduces the SA/ERP Cube Wizard and explains how it works*

Welcome to the SA/ERP Cube Wizard, the add-on to the SA/ERP metadata exploration tool, that enables exploration of SAP BW (Business Warehouse) InfoCubes and ODS (Operational Data Store) data structures.

This manual describes how to install the Cube Wizard, how it interacts with the main SA/ERP product and describes the product features in detail.

## What is the SA/ERP Cube Wizard?

The SA/ERP Cube Wizard is an optional add-on to the SA/ERP metadata exploration tool. The Cube Wizard uses the metadata in SA/ERP previously extracted form a BW instance and applies a series of transformations to that metadata to make the extracted metadata easier understood using the standard SA/ERP interface. The Cube Wizard organises the BW metadata into InfoCubes and ODS tables. These features are described in more detail in the following sections.

The transformations performed by the Cube Wizard reorganise the metadata to allow a more 'Logical' representation of the BW metadata to be viewed in the standard SA/ERP interface. The transformations take place entirely within the metadata already extracted by SA/ERP and no additional metadata is extracted from the BW system.

The aim of the Cube Wizard is to allow representation of a BW InfoCube as a star-schema. This requires some decisions to be made as to how to represent some of the internal features of an InfoCube. In particular, the representation of the SID tables which connect the Dimension tables to the Master tables. If all the tables that make up an InfoCube are used to represent a Star schema, the resulting diagram can be very complex. For example, the DECU demo cube provided by SAP is made up of around 60 physical tables. Including all 60 tables in a star schema model is not practical – and this is a simple cube.

The general principle of the fixes is to exclude the SID tables and make relationships directly between the Master tables and the Dimensions.

The /BIx/F tables are treated as the Fact table

The /BIx/D tables are treated as the Dimension tables

The /BIx/P tables are treated as Master tables and related directly to the appropriate attributes in the Dimension tables (thus bypassing the SID tables)

The Cube Wizard carries out a number of other changes which are too detailed for the scope of this document.  The diagram below shows the result of running the 'wizard' against an existing SA/ERP repository populated with BW metadata and then exporting the 'DECU' cube to System Architect.
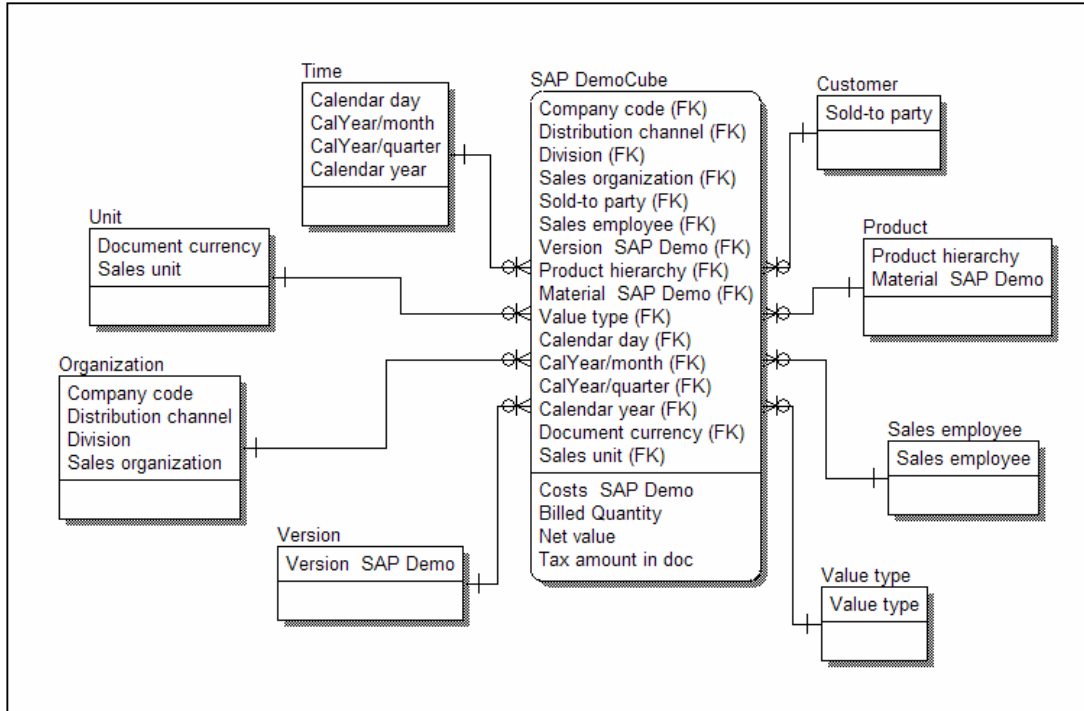


InfoCube represented in logical data model after export from SA/ERP

## Versions of SAP BW supported

The Cube Wizard supports SAP BW version from 2.2 onwards.

<div align="right">

**Chapter**

# 2

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# Installation

*Describes how to install and configure the software*

Before you can use SA/ERP Cube Wizard, the SA/ERP product proper must be installed and configured, and an extraction performed against the SAP BW instance where the desired metadata resides.

The Cube Wizard should be installed on the same computer as SA/ERP itself.

If SA/ERP is not already installed, or the BW metadata has not already been extracted, please see the 'SA/ERP Getting Started Guide' for details of how to achieve these tasks.

The two main steps to be performed with SA/ERP are:

- Extract the metadata from the SAP BW system using SA/ERP. Use SA/ERP (version 4.5 or higher). Use the normal SA/ERP extraction method (via ABAP/RCF or Direct SQL) to populate the SA/ERP repository with 'raw' BW metadata.

- When the extraction has completed, export the repository contents using the 'Export Repository' feature under the 'File' menu. This step needs to be performed in order to be able to restore the SA/ERP repository contents in the event of the Cube Wizard program failing during the repository reorganisation.

## Cube Wizard system requirements

Before installing, ensure the computer where the Cube Wizard is being installed meets the minimum requirements: -

- 256 Megabytes of RAM

- 2 Megabytes of hard disk space for the Cube Wizard Software

## Installing the Cube Wizard

The Cube Wizard Set-up program (SETUP.EXE) controls the installation process. The other installation steps described below must be completed before running the Cube Wizard.

### To install Cube Wizard

Locate the Cube Wizard setup.exe file and run this program.

Follow the instructions of the setup program through installation.

## Configuring the Cube Wizard

Having installed the Cube Wizard software, the next step is to configure the software to allow communication with the SA/ERP repository where the extracted BW metadata is stored.

When the Cube Wizard application is started, the following form is displayed.
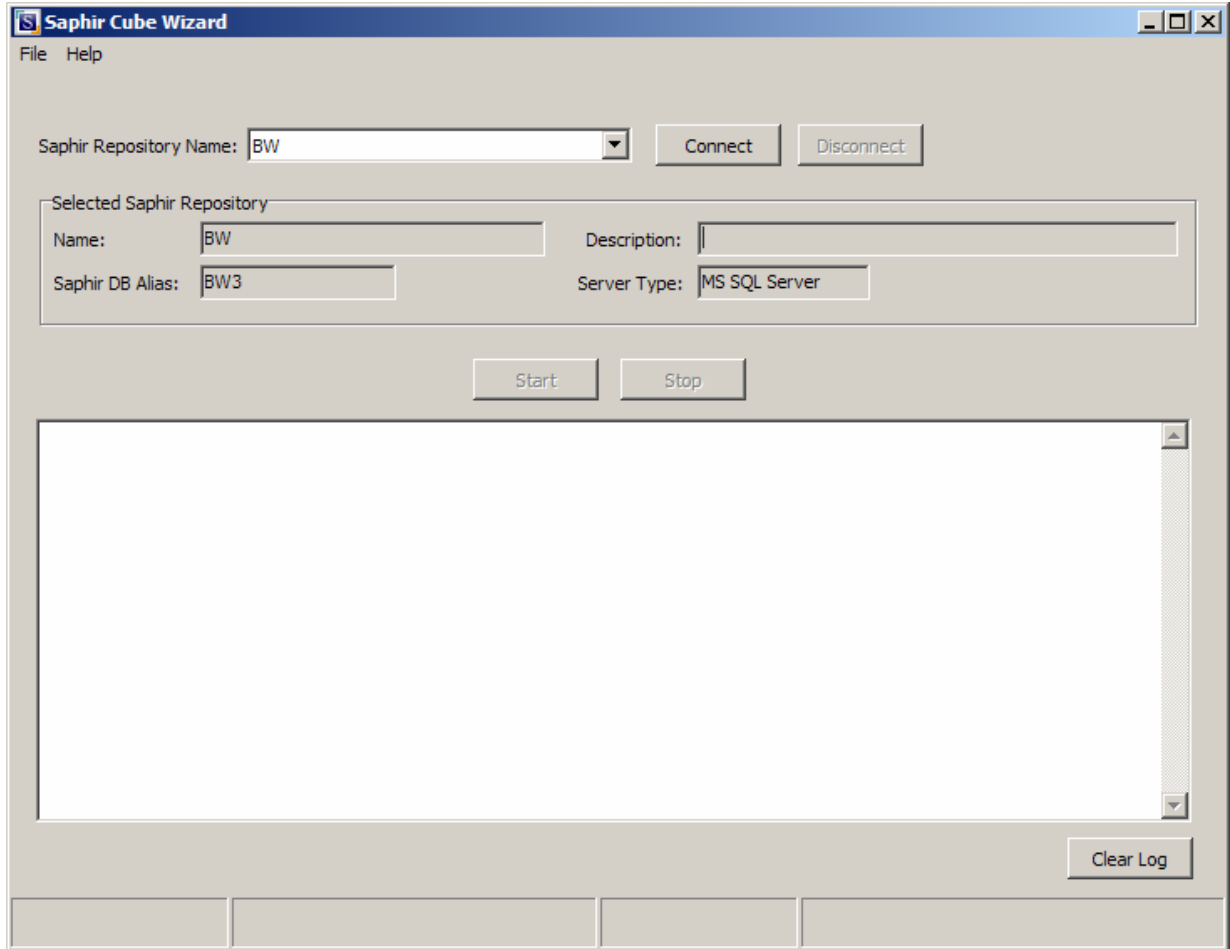


Cube Wizard form

The first step is to establish a connection with the SA/ERP repository where the extracted BW metadata is stored.

*Note: Be sure to perform an 'Export Repository' from SA/ERP before starting the Cube Wizard.*

## To connect to the SA/ERP Repository

1. Use the SA/ERP Repository drop down list to choose the location of the SA/ERP repository where the BW metadata is located.  Details of the selected Repository will then be displayed in the 'Selected SA/ERP Repository' area.

2. Click the 'Connect' button to connect to the chosen system.  You may be prompted to enter the SA/ERP Repository database user-id and/or password.

## To run the Cube Wizard reorganisation process

1. Click the 'Start' button to begin the reorganisation process.

2. A series of status messages are then displayed in the 'log' area of the Cube Wizard screen.   The final message, 'Process Complete', shows that the transformations performed by the Cube Wizard have finished.

3. Close down the Cube Wizard and start SA/ERP in order to view the results of the Cube Wizard.

**Chapter**

# 3

# Using SA/ERP to show BW metadata

*Explains how to use SA/ERP to explore the BW metadata*

The Cube Wizard manipulates the contents of the SA/ERP Repository to organise the SAP BW metadata in a form that allows for easier understanding.

Once the Cube Wizard process is complete, the application can be closed. SA/ERP is then the vehicle for browsing the results. This chapter describes how to view the BW metadata in SA/ERP and how to export to System Architect. Whilst this chapter is concerned with using SA/ERP to explore BW metadata, it is not a detailed description of the SA/ERP functionality. See the 'SA/ERP User Guide' for full details of the features outlined here.

## Viewing BW metadata in SA/ERP

The easiest way to understand and browse SAP BW metadata in SA/ERP is via the Application Hierarchy. This is accessed from the SA/ERP View menu (Application Hierarchy) or from the SA/ERP toolbar (Show Application Hierarchy).

The Cube Wizard organizes the Hierarchy into two main nodes; Cubes and ODS. These represent the InfoCube and Operational Data Store (ODS) areas respectively within BW. Each node has two sub-nodes of 'Customized' and 'Standard'. The 'Customized' node records those InfoCubes or ODS tables created by the user, whilst the 'Standard' node represents the content delivered by SAP.
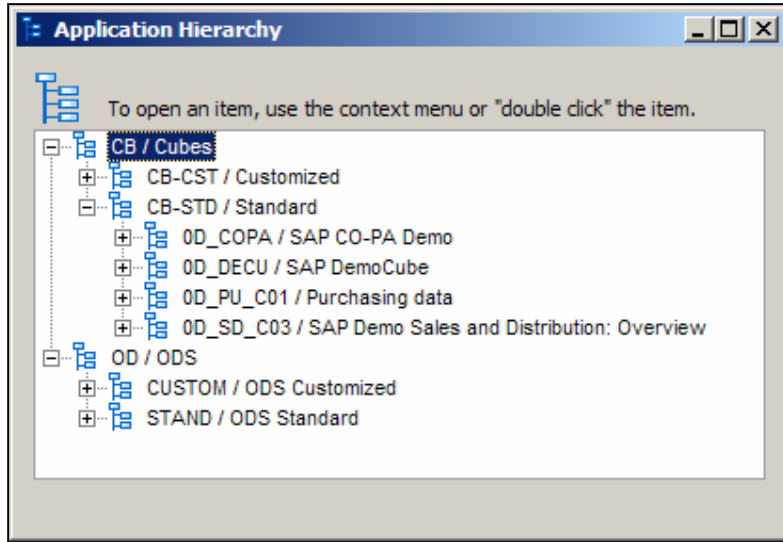
*Application Hierarchy showing Cube and ODS nodes*

The next level of hierarchy within the Cube nodes represents the BW InfoCubes themselves. Each node shows the 'technical' (e.g. 0D_DECU) and 'descriptive' (e.g. SAP DemoCube) name for each InfoCube. Opening an InfoCube node reveals the Fact and Dimension tables making up the InfoCube.
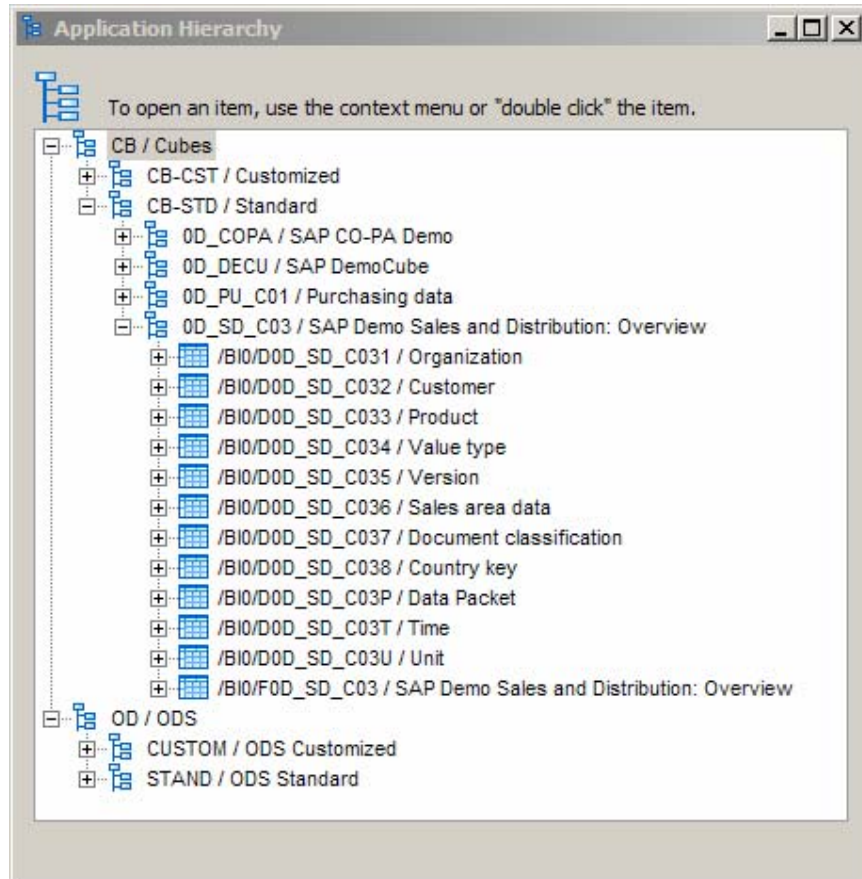


*Hierarchy showing the DemoCube Fact and Dimension tables*

The SAP BW naming convention gives the Dimension tables a technical name with a prefix of the form:

/BIx/D where 'x' can be '0' for Standard content, or 'C' for Customized.

Fact tables have a technical name with a prefix of the form:

/BIx/F where 'x' can be '0' for Standard content, or 'C' for Customized.

The ODS Customized and Standard nodes can be opened to show the customer developed and SAP delivered ODS tables respectively.
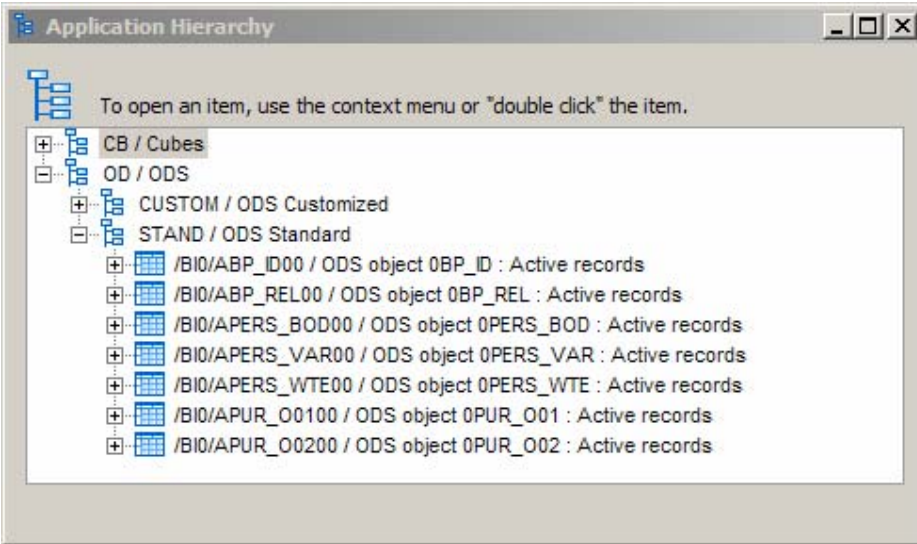


*Hierarchy shows Standard ODS tables*

As with the Cube nodes, the ODS tables have technical names of the form:

/BIx/A where 'x' can be '0' for Standard content, or 'C' for Customized.

The normal SA/ERP features for drilling into a table structure, showing related tables, searching for tables or fields and building subject areas work exactly the same as for a standard non-BW SAP system.  Please see the 'SA/ERP User Guide' for full details of these features.

## Exporting BW metadata from SA/ERP

Exporting BW metadata from SA/ERP is achieved in exactly the same manner as for any other set of SA/ERP metadata, by using the subject area concept to export groups of tables to System Architect. Please see the 'SA/ERP User Guide' for full details of how to export metadata.

## Building a Star Schema of an InfoCube

Perhaps the best way to represent the tables in an InfoCube is as a Star Schema.

To build a start schema using one of SA/ERP's case interfaces, it will be necessary to populate a SA/ERP Subject Area with the Fact and Dimension tables that represent the InfoCube.

### To build a Star Schema of an InfoCube

1. Create a subject area (or use an empty, existing subject area) and populate the subject area with the Fact and Dimension tables of the InfoCube. The easiest way to achieve this is to drag and drop the relevant InfoCube node from the Application Hierarchy into a subject area.

2. Using the 'Export Data Model Wizard', choose the above subject area for export to your chosen interface.

3. Select the appropriate 'Export to' radio button to choose the target environment for the export

4. Set the 'Follow Parent Relationships' option as follows:

   Set the 'Identifying Relationships…' to '0' to create a Star Schema which shows only the Fact and Dimension tables

   Set the 'Identifying Relationships…' to '1'to include the BW 'Characteristic' tables (tables of the form /BIx/P) in the Star Schema

5. Click the 'Start Export' button and following the subsequent instructions to create the Star Schema export.
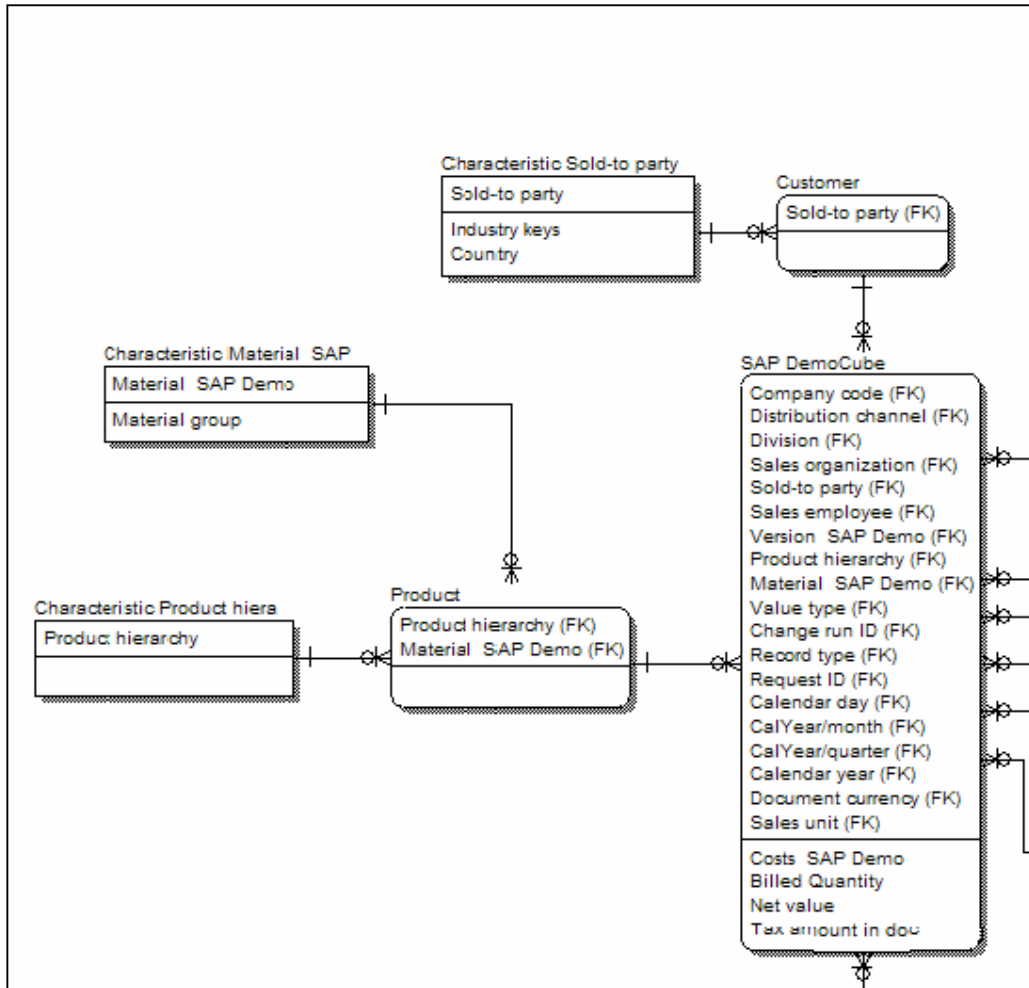
Part of an InfoCube data model showing 'Characteristic' tables included

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