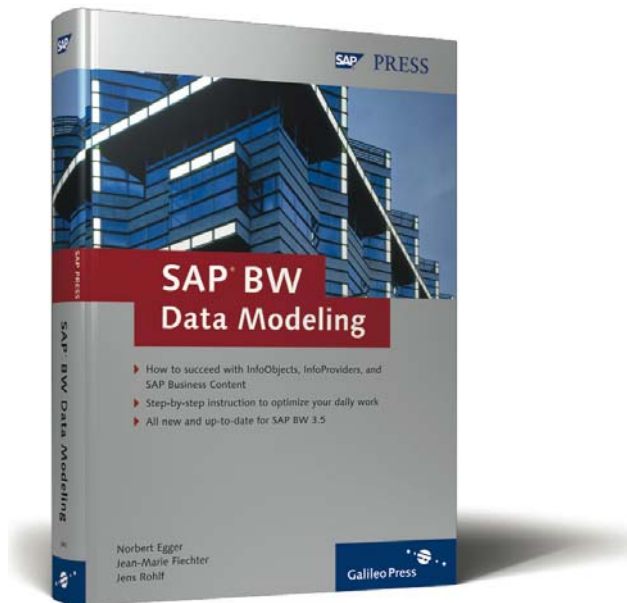


Norbert Egger, Jean-Marie R. Fiechter, Jens Rohlf

SAP BW Data Modeling



SAP PRESS

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Preface

It is with pleasure that I have accepted a request from Norbert Egger to write a preface for this book, *SAP BW Data Modeling*. This book will substantially contribute to the success of SAP BW projects in many companies.

Many customers already use SAP BW as a strategic tool for companywide control of important processes. The implementation teams at customer sites fulfill the requirements of countless projects and thus serve numerous users. During the past few years, more and more "casual users"—those who generally query prepared information—have joined the analysts and power users previously served by the teams.

All these users must access a swiftly increasing volume of data. Just a few years ago, SAP BW systems larger than one terabyte were usually considered an exception. In many companies, such systems are now the rule or will be in the near future.

Projects based on such systems require accurate data modeling. By "accurate," we mean more than just the ability to handle existing volumes. Accuracy is urgently needed in preparing the systems for future requirements and in keeping them flexible enough to meet the changing requirements of business intelligence systems, which ultimately reflect business changes in general.

Norbert Egger and his co-authors combine their rich experience from many successful implementations of SAP BW with their profound knowledge of SAP BW 3.5, particularly its new features. This marriage of experience and knowledge yields tips and suggestions that this book provides in an easily readable form.

I hope that all readers learn from this book and enjoy reading it. And I'm sure that, as readers, you'll be able to implement many suggestions from the book in your projects.

Walldorf, April 2005

Heinz Häfner

Vice President Business Intelligence: SAP AG

Foreword

When Wiebke Hübner, then an editor at SAP PRESS, asked me in December 2002 if I wanted to write a book on SAP BW, I waved her off. Such a book would have to consist of too many pages to offer an adequate presentation, I thought. I also believed that a viable market for such a book would not exist, so the effort would be of no value. Luckily, she remained insistent, which resulted in our first book on SAP Business Information Warehouse, *SAP BW Professional*. I paid particular attention to the rapid development of the reporting functionality in SAP BW 3.x and other topics in that book.

Background

Besides the fact that writing the book proved enjoyable to me, the general interest that this work generated afterwards surprised me a great deal. That's why I'm so pleased to thank you, the readers, at the very beginning of this book for your great interest and the wonderful feedback that you've provided. You should note that a second edition of the first book has already been published in several languages.

Thanks to readers

I hope to contribute to companies being able to meet the challenges of adequately mining and using information. That includes the successful use of business intelligence tools. In SAP BW, SAP has offered a very powerful tool for several years now. However, implementations often fail to reach an appropriate standard, so that the question often arises regarding the ability of such a product to function in real life. Therefore, my hope is to increase knowledge about the options and functionality of business intelligence tools so that future implementations and the operation of these solutions are more successful and useful.

My vision

Based on the great interest shown in the first book, the rapid development of SAP Business Intelligence components, and the welcome growth of our company, the management of the CubeServ Group decided to approach the topic even more consistently in collaboration with SAP PRESS. Gradually, we happened upon the idea of offering a comprehensive compendium—a compendium that would describe the functionality of SAP BW in even greater detail.

The idea of a compendium

It became readily apparent that one book and one individual involved in the life of a project could not complete such a monumental task: The functionality (luckily) is too vast and such a book would be too comprehensive. We therefore needed to create a multivolume work that would focus on specific aspects, such as data modeling, extraction, transforma-

The SAP BW Library

tion, and loading (ETL) processes, reporting, or planning. The notion of a new series, the *SAP BW Library*, began to take shape.

Because our wonderful CubeServ team consists of many highly motivated co-workers, we were quickly able to create a team of authors that was willing to split up the work and produce a book on each topic.

I'm very pleased to be able to present our readers with the first volume of the *SAP BW Library*. Because several authors are already working on the forthcoming volumes, I'm confident that, step by step, this series will offer you a comprehensive description of the functionality of SAP BW. If interest continues to remain high, additional books will appear after the first group of four volumes and address SAP Business Intelligence tools in even more detail.

Jona, Switzerland—April 2005 **Norbert Egger**

Introduction and Overview

The ability to mine and use information adequately is increasingly becoming a global key competency of companies. In addition to good management methods and an appropriate organization, successful implementation of data-warehouse processes is the fundamental precondition for companies to react to new opportunities and risks in a timely and appropriate manner.

Introduction

This book is the first volume of a new series, the *SAP BW Library*; all its authors are considered experts in business intelligence and work at the CubeServ Group.¹ This volume addresses the fundamentals of *data modeling*; the forthcoming volumes of the *SAP BW Library* deal with other topics—first the basics are introduced and then the topic itself is addressed in more detail. The topics include *data retrieval, reporting, analysis, planning, and simulation*.

**Volume 1 of the
SAP BW Library**

To enable easy access to the complex subject matter of SAP Business Information Warehouse (SAP BW), we've decided to work as close to the actual implementation and with as many examples as possible in all volumes of the *SAP BW Library*. Therefore, the foundation for our books is a uniform case study developed by the authors: a virtual company (CubeServ Engines). The case study will be used to present and communicate all the important requirements of business intelligence applications in a manner that reflects real life experiences.

**Comprehensive
case study**

The first goal of this book is to introduce the basic concepts (data warehouse and so on) of SAP BW. A second goal is to present the steps involved in implementing a data model in SAP BW systematically and step by step. Our case study should serve as an unbroken thread as you go through the material.

Goal of this book

The detailed description of the components and implementation steps will enable the various groups within a company that deal with SAP BW to comprehend the material even if they have no deeper understanding of IT. We hope to use this procedure to make SAP BW projects more successful so that employees of user and IT departments, application

¹ See Appendix L for an overview of the forthcoming volumes of the *SAP BW Library*.

experts, and consultants can gain a profound understanding and find a common basis of knowledge and language.

Structure of the Book

Four topic areas This book can be divided into four essential areas:

1. Background and theoretical basics of SAP BW data modeling (Chapters 1–3)
2. Presentation of the case study (Chapter 4)
3. Detailed presentation of three major topic areas: InfoObjects, InfoProviders, and SAP Business Content (Chapters 5–7)
4. Additional supporting information (Appendices)

Chapter 1
Data warehousing concepts Chapter 1 gives you an overview of the basic concepts and architecture of data warehouse systems. The chapter examines the theoretical and historical background and the basic modeling schema.

Chapter 2
Overview of components Chapter 2 provides a general overview of the architecture and functionality of SAP BW. This chapter presents all the important innovations, enhancements, and improvements of SAP BW 3.5

Chapter 3
Data modeling Chapter 3 provides an overview of the basic concepts of data modeling. The quality of data modeling and the power of the underlying systems determine the performance and successful use of a data warehouse.

Chapter 4
Sample scenario Chapter 4 offers you an overview of the basic elements of the case study used in all volumes of the SAP BW Library. In light of the topic of this book, the chapter then looks at specific aspects of *data modeling* in detail.

Chapter 5
InfoObjects As InfoObjects, characteristics and key figures form the foundation of the data model in SAP BW. Chapter 5 shows you how to use and configure the InfoObjects of SAP Business Content and how to define your own InfoObjects.

Chapter 6
InfoProviders Chapter 6 sets up the InfoProviders of our case study step by step. It also examines the individual types of InfoProviders in detail. The chapter uses examples to show you how to create InfoProviders and explains the distinctive features that you must consider.

Chapter 7
SAP Business Content Chapter 7 describes the preconfigured solution, SAP Business Content, which SAP delivers with SAP BW. In particular, it addresses the solution's strengths and weaknesses and recommends how you can best use SAP Business Content for your own purposes.

The appendices provide additional assistance for your daily work: overviews, documentation on various data models, and, in particular, a comprehensive glossary.

**Appendices:
Overviews and
glossary**

Working with This Book

As noted, the goal of this book is to offer users of SAP BW from various areas and differing levels of knowledge a strong foundation for modeling data with SAP BW.

Readers with various levels of knowledge and individual needs for information can easily use this book.

**What do you want
to know?**

- ▶ Readers who wish to study SAP Business Information Warehouse starting from its conceptual design should begin by reading the theoretical approach in Chapter 1, *Data Warehousing Concepts*.
- ▶ Readers primarily interested in a quick overview of SAP BW and the enhancements in SAP BW 3.5 should begin with Chapter 2, *SAP Business Information Warehouse—Overview of Components*, and then read the details in the following chapters if they wish.
- ▶ Chapter 1 (*Data Warehousing Concepts*), Chapter 2 (*SAP Business Information Warehouse—Overview of Components*), and Chapter 7 (*SAP Business Content*) are especially appropriate for readers who want an overview of the topic.
- ▶ Readers interested in individual aspects, such as integration of source systems, profitability key figures, use of Operational Data Source (ODS) objects, and so on, can and should use this book as reference material. They can find information on specific topics with the table of contents, the index, and the glossary.

To make it even easier for you to use this book, we have adopted special symbols to indicate information that might be particularly important to you.

Special symbols

▶ Step by step

An important component of this book is to introduce complex work with SAP BW step by step and explain it to you exactly. This icon refers you to the beginning of a step-by-step explanation.



▶ Note

Sections of text with this icon offer you helpful hints and detailed information to accelerate and simplify your work.





► **Recommendations**

This book offers tips and recommendations that have been proven successful in our daily consulting work. This icon indicates our practical suggestions.



► **Caution**

Particular attention is required when you see this icon. The accompanying text tells you why this is the case.

After You've Read the Book ...

Even after you've read the book, we'd like to continue to assist you with advice and help. We offer the following options.

► **SAP BW Forum**

Under the motto of "Meet the Experts," you can use an Internet forum to send additional questions to the authors and share them with the business intelligence community. Stop by for a visit:
www.bw-forum.com.

► **Email to CubeServ**

If you have additional questions, you're invited to send them to the authors directly by email. See Appendix K, *Authors*, for their email addresses.

► **Information on the CubeServ Web site**

You can also receive additional information from the CubeServ Group by email. You can register for this service by sending an email that contains your personal registration code for this book to
bw-books@cubeserv.com.

Acknowledgements

Books are never produced without the support and collaboration of many. That's why we'd like to express our special thanks to the following people for their collaboration, help, and patience.

Norbert Egger

Because various co-workers on our CubeServ team are creating the SAP BW Library, I'd like to thank all the authors sincerely for their participation. Without them, work on this book would have been impossible because it requires comprehensive and specialized knowledge. I also wish to thank all the employees of the CubeServ Group. I'd like to thank SAP, especially Dr. Heinz Häfner, and the publisher for their cooperation and

patience with me. Above all, I thank my family, especially my beloved wife. Despite all my writing efforts, we were married last year. She supported me during this work by taking over all the tasks of managing the family and with a great deal of patience and care.

Jean-Marie R. Fiechter

I wish to thank Wiebke Hübner for all her help. But I'd especially like to thank my wife, Karin, and my two children, Patrick and Olivier, for the patience and understanding they showed me as I wrote my sections of this book. I wish to dedicate my work to all three of them.

Jens Rohlf

Without the support of and feedback from all employees at the CubeServ Group, the creation of this book would have been impossible—many thanks.

I'd especially like to thank my wife, Claudia, for the time and space she gave me as I worked on the book.

Jona, Switzerland and Flörsheim am Main, Germany—April 2005

Norbert Egger

Jean-Marie R. Fiechter

Jens Rohlf

5 InfoObjects of SAP BW

InfoObjects, characteristics and key figures form the foundation of the data model in SAP Business Information Warehouse. This chapter shows you how to use and modify the InfoObjects of SAP Business Content and how to define your own InfoObjects.

5.1 InfoAreas and InfoObjectCatalogs

5.1.1 Creating Structures and Hierarchies

InfoObjects are always stored in folders; the folders are called *InfoObjectCatalogs*. Note the distinction between InfoObjectCatalogs for characteristics and those for key figures (see Figure 5.1). SAP Business Information Warehouse (SAP BW) automatically assigns InfoObjects that have not been explicitly assigned to an InfoObjectCatalog to a default InfoObjectCatalog. The following default InfoObjectCatalogs are available:

- ▶ Unassigned units
- ▶ Unassigned key figures
- ▶ Unassigned characteristics
- ▶ Unassigned time characteristics

Using InfoObjectCatalogs systematically

Other than organizing InfoObjects, InfoObjectCatalogs have no other function. Nevertheless, we recommend the creation and use of logically grouped InfoObjectCatalogs. Doing so simplifies work with data modeling and data retrieval because it shortens the system response time during these activities.



Classification with InfoObjectCatalogs

InfoObjectCatalogs are also stored in folders. These folders are called *InfoAreas* (see Figure 5.1). All InfoObjectCatalogs that are not explicitly assigned to an InfoArea are stored in the **Unassigned Nodes** InfoArea.

Classification with InfoAreas

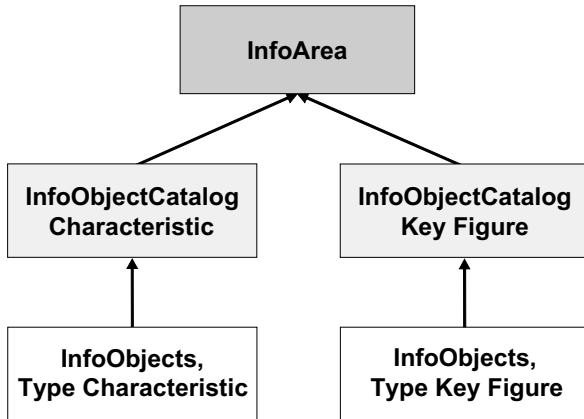


Figure 5.1 Classification Within InfoAreas

Hierarchical classification of InfoAreas

You can also classify InfoAreas hierarchically. In this manner, you can classify business-intelligence applications into various logical components.

Our model company, CubeServ Engines, uses the following levels of classification (see Figure 5.2):

- ▶ The highest level for all the analytical applications (here: "CubeServ Engines Business Intelligence Applications").
- ▶ A subordinate level for the application areas Finance & Accounting and Sales.
- ▶ If needed, another level for the individual analytical applications (Financials—General Ledger and Profitability Analysis) beneath the related application area (Finance & Accounting in the example).

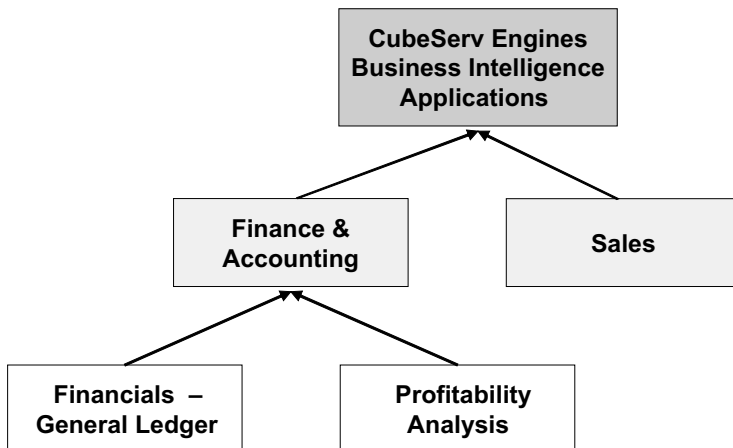


Figure 5.2 Classification of InfoAreas

Using InfoAreas systematically

Other than the classification of InfoObjectCatalogs and the grouping of subordinate InfoAreas, InfoAreas have no other function. Nevertheless, we recommend the creation and use of logically grouped InfoAreas. Doing so simplifies work with data modeling, data retrieval, and with the Business Explorer (BEx) because it's easier to find objects. This approach also shortens system response time during these activities.



In the Administrator Workbench of SAP BW, InfoAreas are used in the **InfoProvider** and **InfoObjects** views, where they are the highest node of the hierarchy, corresponding to the view of the **InfoProvider** or **InfoObjects** nodes (see Figure 5.8).

InfoAreas in the Administrator Workbench

An InfoObjectCatalog is a grouping of InfoObjects according to application-specific viewpoints. There are two types of InfoObjectCatalogs: characteristic and key figure. InfoAreas help classify the InfoArea, InfoProvider, and InfoObjectCatalog metaobjects in SAP Business Information Warehouse.



5.1.2 Setting Up InfoAreas

The following example sets up InfoAreas in the **InfoObjects** view of the Administrator Workbench. You can open this view from the role menu or with Transaction RSA14 (see Figure 5.3).

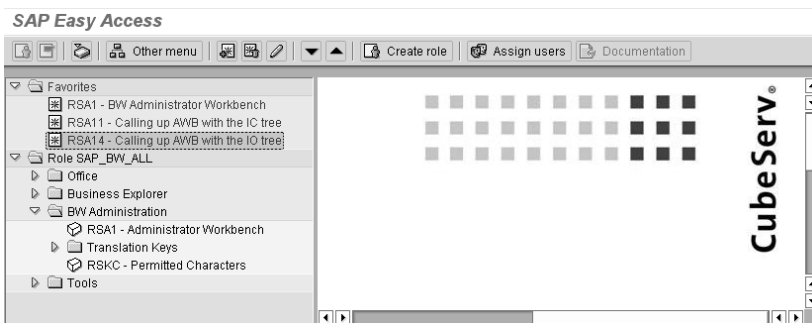


Figure 5.3 Opening the Administrator Workbench, InfoObjects View

Creating the Top-Level InfoArea

- ▶ To create InfoAreas, highlight the uppermost node of the **InfoObjects** hierarchy node in the **InfoObjects** view of the Administrator Workbench. Right-click to open the context menu.



- ▶ In the context menu, select the entry **Create InfoArea** (see Figure 5.4, Step 1).
- ▶ Enter the technical name and a description of the InfoArea in the **Create InfoArea** popup (Step 2).
- ▶ Click **Next (Enter)** to create the InfoArea (Step 3).

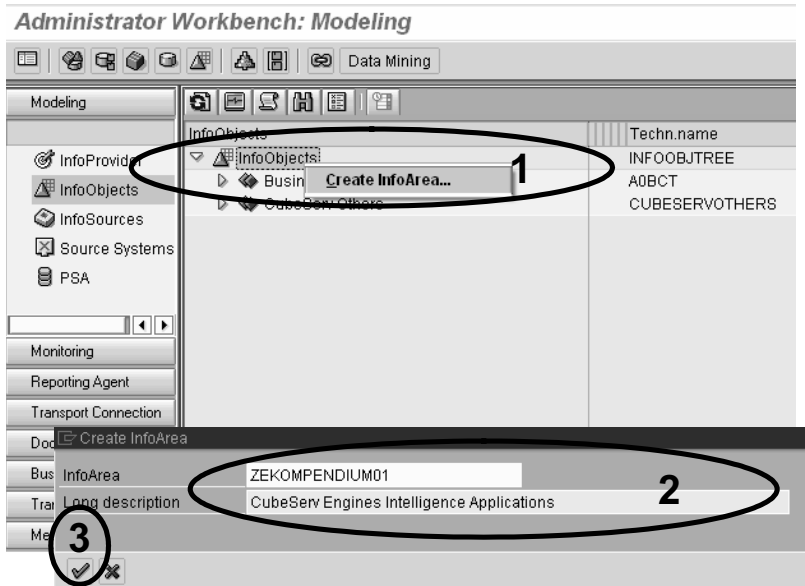


Figure 5.4 Creating the Top-Level InfoArea

Repositioning an InfoArea

The InfoArea you just created is shown last in the display. You can position the InfoArea to your liking by using Drag&Drop:

- ▶ To do so, highlight the InfoArea to be moved with the mouse, keep the mouse button pressed, and simply drag the InfoArea to the highest hierarchy node, **InfoObjects** (see Figure 5.5, Step 1).
- ▶ The object is then positioned according to the Drag&Drop settings (see Figure 5.5, Step 2).

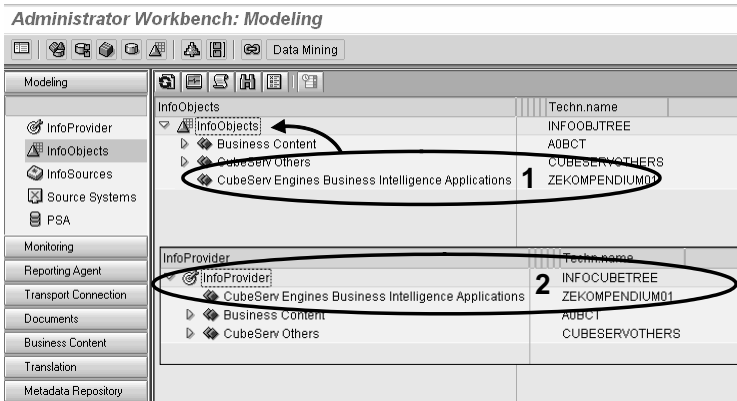


Figure 5.5 Placing or Moving an InfoArea

Activating Drag&Drop

In some cases, the **Drag&Drop** function might be switched off. If it is and you attempt to move an object, an **Information** popup appears (see Figure 5.6, Step 1); confirm the popup with the **Next (Enter)** button (see Figure 5.6, Step 2). If you want to permit the function, proceed as indicated by the popup information:

- ▶ Use Transaction SM30 to start maintenance of the table view for table RSADMINSV.
- ▶ Deactivate the **Drag&Drop off** option (see Figure 5.6, Step 3).
- ▶ Save this setting (Figure 5.6, Step 4).
- ▶ When you restart the Administrator Workbench of SAP BW, the **Drag&Drop** function will be active.

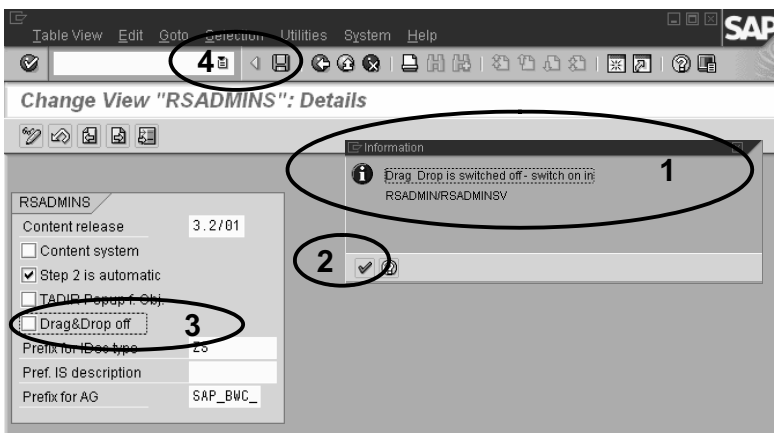


Figure 5.6 Activating Drag&Drop for the Administrator Workbench

Setting Up Subordinate InfoAreas



- ▶ You can set up additional InfoAreas by highlighting the uppermost InfoArea and right-clicking to open the context menu.
- ▶ In the context menu, first select **Create...** (see Figure 5.7, Step 1).
- ▶ Then enter the technical name and a description in the **Create InfoArea popup** (see Figure 5.7, Step 2).
- ▶ Confirm your entries with the **Next (Enter)** button (see Figure 5.7, Step 3).

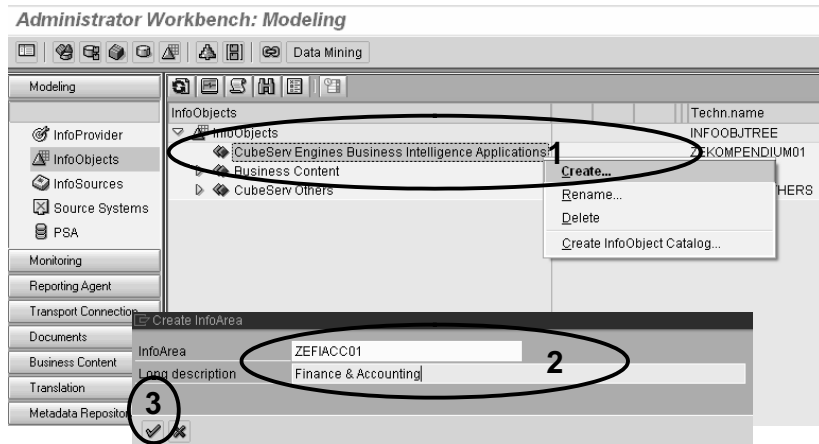


Figure 5.7 Creating Subordinate InfoAreas

Proceed similarly until you have created the desired InfoArea hierarchy (see Figure 5.8).

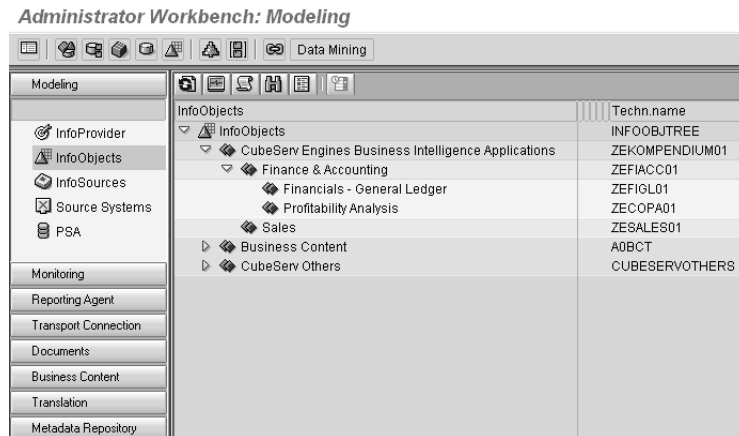


Figure 5.8 InfoArea Hierarchy

5.1.3 Setting Up InfoObjectCatalogs

Based on the InfoArea hierarchy, you set up the required InfoObjectCatalogs in the **InfoObjects** view of the Administrator Workbench of SAP BW.

Setting Up an InfoObjectCatalog for Characteristics



- ▶ To create an InfoObjectCatalog, select the InfoArea to be assigned to the catalog in the **InfoObjects** view of the Administrator Workbench (see Figure 5.9, Step 1).
- ▶ Right-click to open the context menu. Then click to select the menu entry **Create InfoObjectCatalog...** (see Figure 5.9, Step 2).
- ▶ In the **Edit InfoObjectCatalog** popup, enter the name and a description of the InfoObjectCatalog (see Figure 5.10, Step 1).
- ▶ You can retain the default setting **Characteristic** (see Figure 5.10, Step 2).
- ▶ Click on the **Create** button to create the InfoObjectCatalog (see Figure 5.10, Step 3).

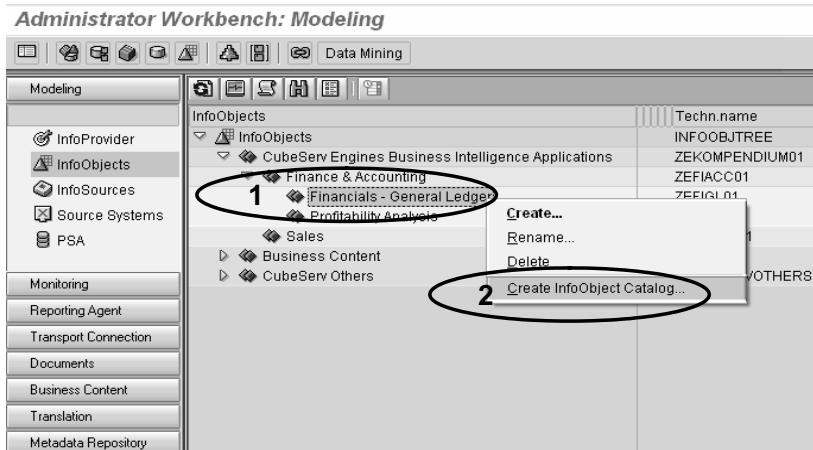


Figure 5.9 Creating an InfoObjectCatalog

- ▶ You can activate the object in the **Edit InfoObjectCatalog** dialog (see Figure 5.11, Step 1).
- ▶ Return to the **InfoObjects** view of the SAP BW Administrator Workbench with the **Back** button (see Figure 5.11, Step 2), which will display the catalog beneath the InfoArea (see Figure 5.11, Step 3).

Activating the object

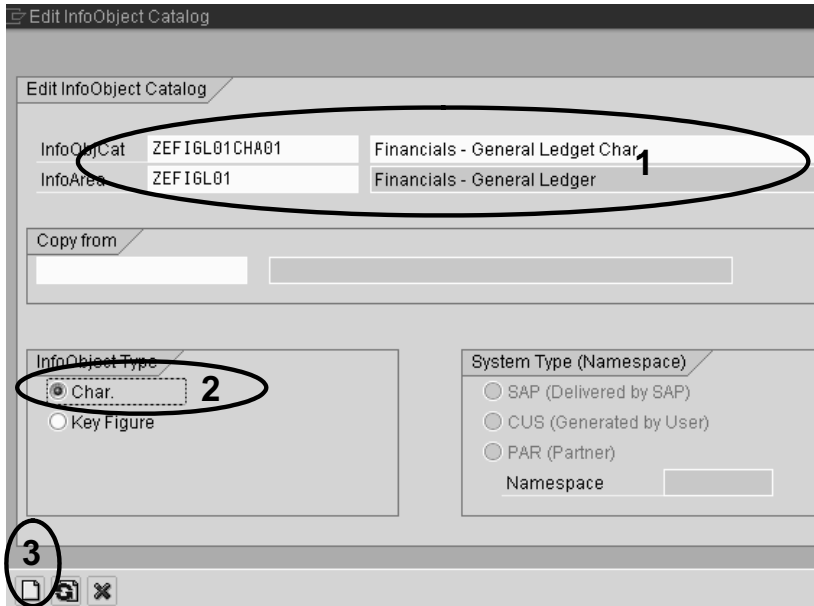


Figure 5.10 Entering the Technical Name, Description, and the "Characteristic" Type

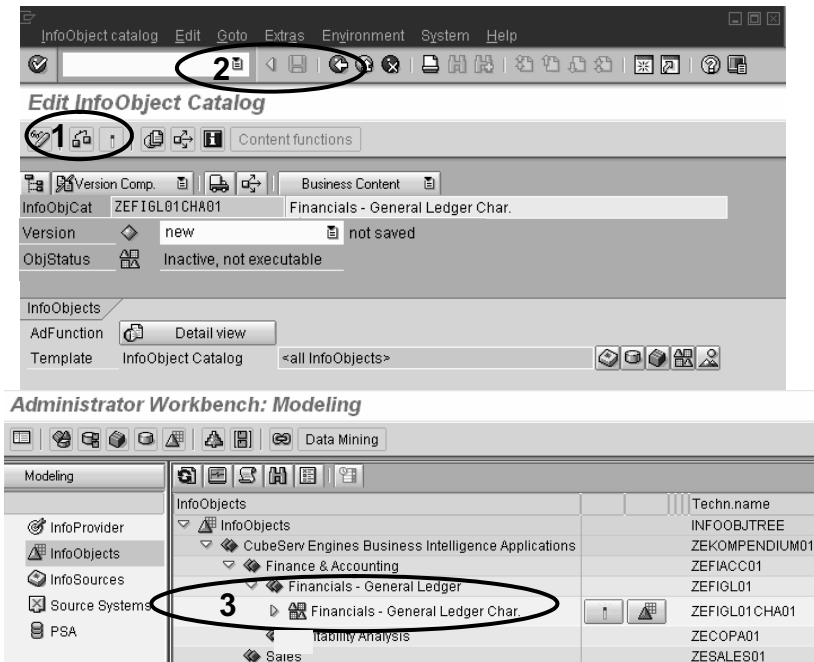


Figure 5.11 Activating the Characteristics InfoObjectCatalog and Display in the InfoObjects View of the Administrator Workbench

Setting up an InfoObjectCatalog for Key Figures

The creation of an InfoObjectCatalog for key figures is similar to the creation of InfoObjectCatalogs for characteristics (see Figure 5.12, Step 1 and Step 2). The only modification is the selection of the **Key Figure** type in the **Edit InfoObjectCatalog** popup (see Figure 5.12, Step 2).

Proceed accordingly until you have created all the required InfoObjectCatalogs for the desired InfoAreas (see Figure 5.13).

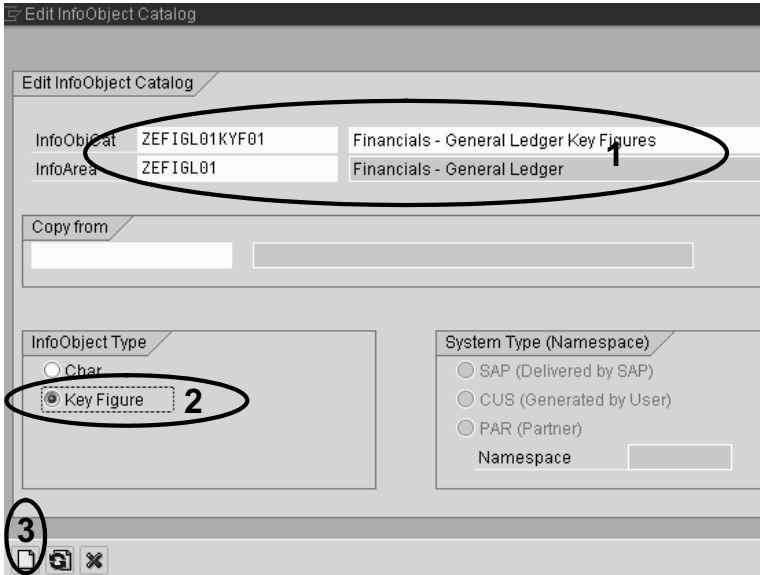


Figure 5.12 Entering the Technical Name, Description, and the "Key Figure" Type

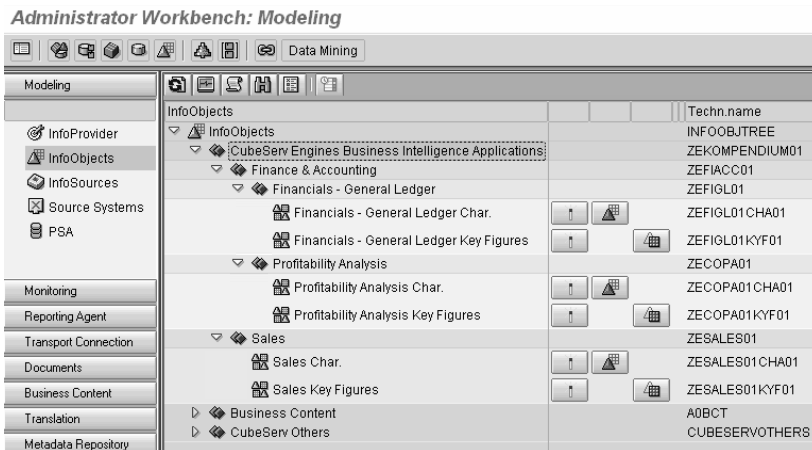


Figure 5.13 InfoAreas and InfoObjectCatalogs

5.2 InfoObjects of SAP Business Content

Object versions SAP Business Content provides objects for direct use. As explained extensively in Section 2.7, SAP Business Content involves preconfigured, role- and task-related information models based on consistent metadata in SAP BW. SAP Business Content contains all the components necessary for an analytical application.¹

Excursus

Activating the objects of SAP Business Content

The objects provided in SAP Business Content are available in a D(elivery) version. Activation of these objects converts them into an A(ctive) version (see Table 5.1). Note that SAP also generates an intermediate M(odified) version that remains in the event of a termination.

If you want to activate SAP Business Content, you should note that its objects are changed from the D version to an M version and then to the A version (see Figure 5.14).

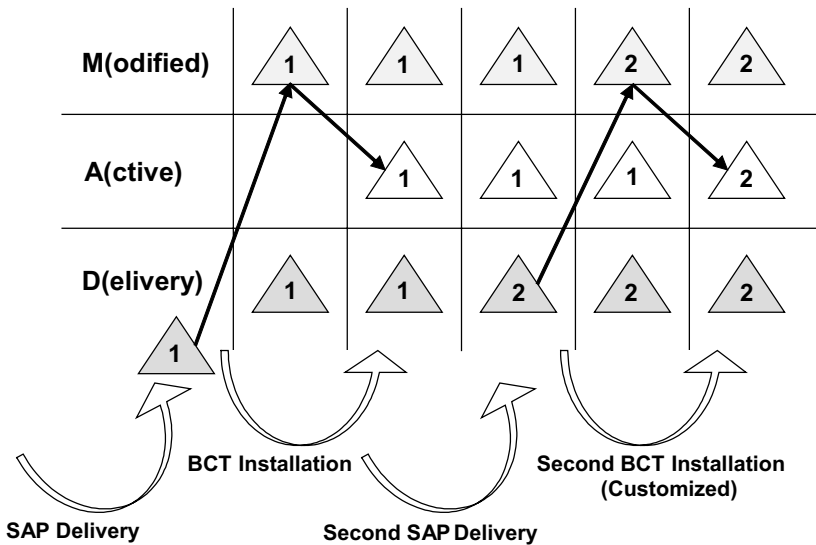


Figure 5.14 Object Versions During the Activation of SAP Business Content (Source: <http://help.sap.com>)

¹ See Chapter 7 for additional notes and suggestions on using and working with SAP Business Content.

5.2.1 Activating an Individual InfoObject of SAP Business Content

The InfoObjects of SAP Business Content that can be used are made available by selective or comprehensive activation of SAP Business Content. The following sections examine both variants in more detail.

Grouping with SAP Business Content Activation

- ▶ First change to the **Business Content** view of the Administrator Workbench (Transaction RSA1: see Figure 5.17, Step 1).
- ▶ Ensure that the grouping setting corresponds to the proper procedure. You can use the **Grouping** button to choose among the following variants (see Figure 5.17, Step 2):
 - ▶ **Only Necessary Objects**
This variant activates only the dependent objects of SAP Business Content required for successful activation of the selected objects.
 - ▶ **In Data Flow Before**
This variant activates all the dependent objects of SAP Business Content required for successful activation of the selected objects and those that deliver data to a collected object (see Figure 5.15).

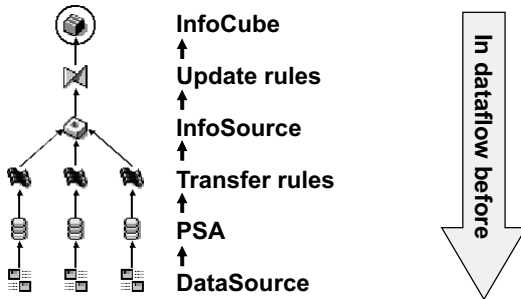


Figure 5.15 In Data Flow Before (Source: <http://help.sap.com>)

- ▶ **In Data Flow Afterwards**
This variant activates all the dependent objects of SAP Business Content required for successful activation of the selected objects and those received from a collected object (see Figure 5.16).

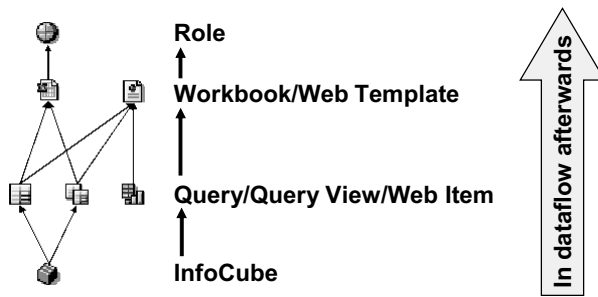


Figure 5.16 In Data Flow Afterwards (Source: <http://help.sap.com>)

► **In Data Flow Before and Afterwards**

This variant activates all the dependent objects of SAP Business Content required for successful activation of the selected objects, those that deliver data to a collected object, and objects that receive data from a collected object.



- For a minimal activation, select the **Only Necessary Objects** group-when activating SAP Business Content.
- A selective activation (characteristics with their data retrieval, for example) ideally occurs with the **In Data Flow Before** option.
- You can use **In Data Flow Before and Afterwards** for comprehensive activations.

Selecting InfoObjects



- After setting the desired grouping, double-click in the navigation window on the selection level (see Figure 5.17, Step 3): **Object Types** in our example.
- **All Objects According to Type** is available for selection in the central frame (Step 4).
- Open the **InfoObject** folder in this frame. The **Select Objects** entry is displayed (if SAP Business Content has been activated and the objects are inserted in your personal list of values, InfoObjects might be listed under the **Select Objects** entry).
- You can then double-click on the **Select Objects** entry to begin the selection (Step 5).
- The **Input Help for Metadata** provides the InfoObjects for selection, sorted alphabetically by technical name (Step 6).

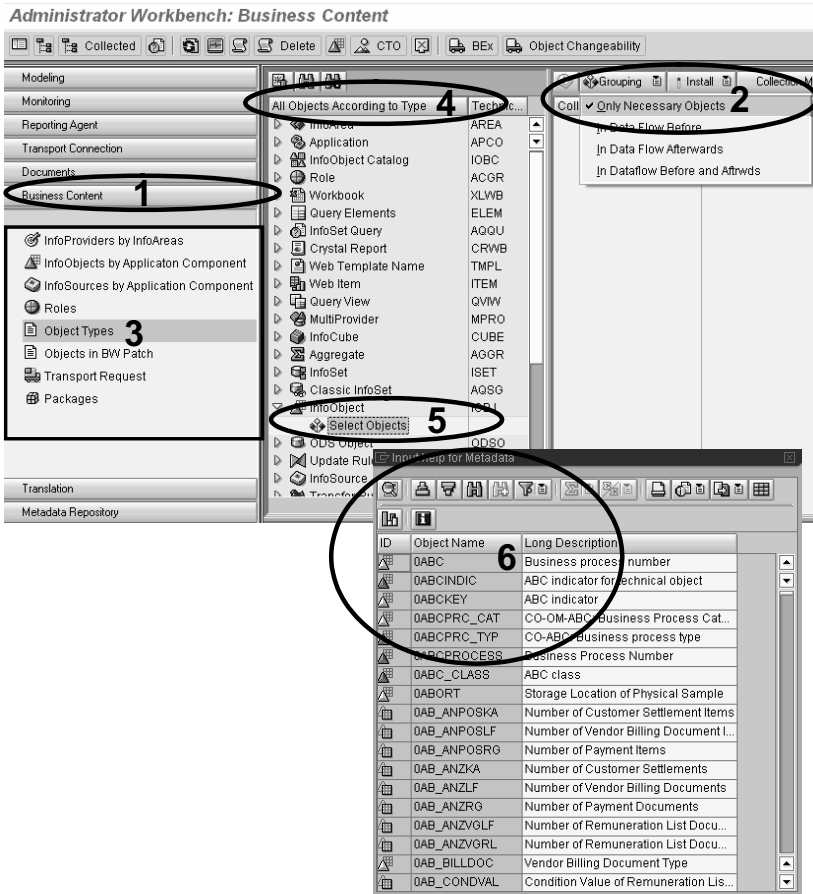


Figure 5.17 Selecting SAP Business Content InfoObjects, Part 1

- ▶ To make a specific selection, simply select the **Object Name** column in the popup (see Figure 5.18, Step 1) and click on the **Filter** button (see Figure 5.18, Step 2).
- ▶ In the **Determine Values for Filter Criteria** popup, you can specify your desired selection (one or more InfoObjects, generic selection, or lists of InfoObjects): in our example the InfoObject 0VERSION is specified (Step 3).
- ▶ After you confirm your selection (Step 4), the InfoObject you selected is displayed in the **Determine Values for Filter Criteria** popup.
- ▶ When you click to mark an object in the corresponding line of the list of values (Step 5) and select the **Copy Selection** button (Step 6), the process of collecting the required objects begins according to the grouping option.

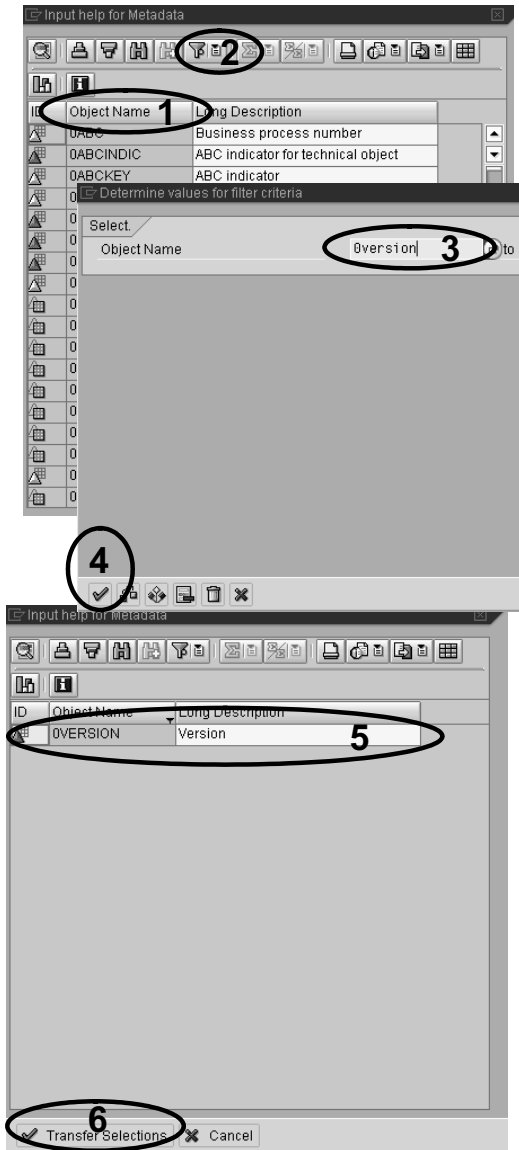


Figure 5.18 Selecting SAP Business Content InfoObjects, Part 2

Activating Objects of SAP Business Content



- ▶ At the end of the collection process (our example uses the grouping option **Only Necessary Objects**), the collected objects are displayed in the **Collected Objects** frame (see Figure 5.19, Step 1).
- ▶ The activation process begins when you click on the **Install** button (see Figure 5.19, Step 2).

Administrator Workbench: Business Content

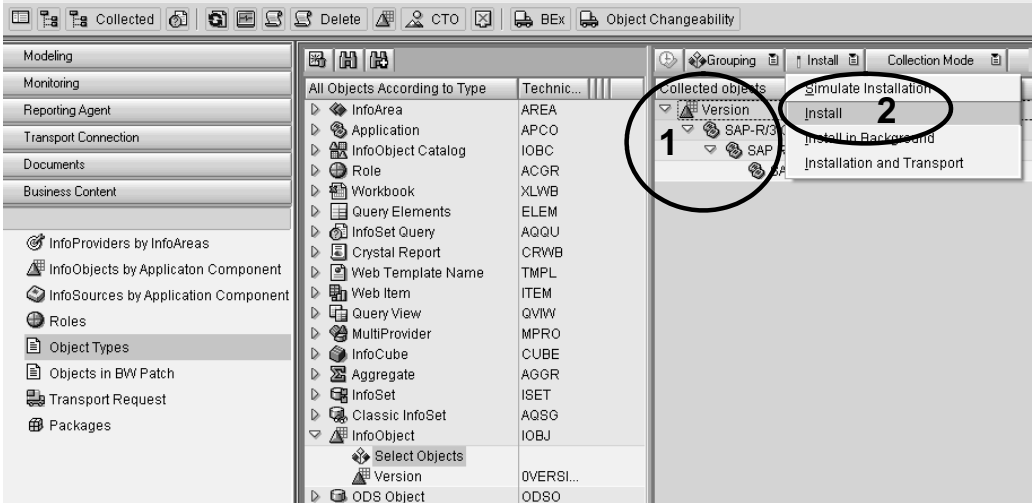


Figure 5.19 Activating SAP Business Content InfoObjects

When the activation ends, two frames display a log of the results (see Figure 5.20). If the log entries have a green information icon, no further steps are necessary. The InfoObject is available for work with SAP BW.

Administrator Workbench: Business Content

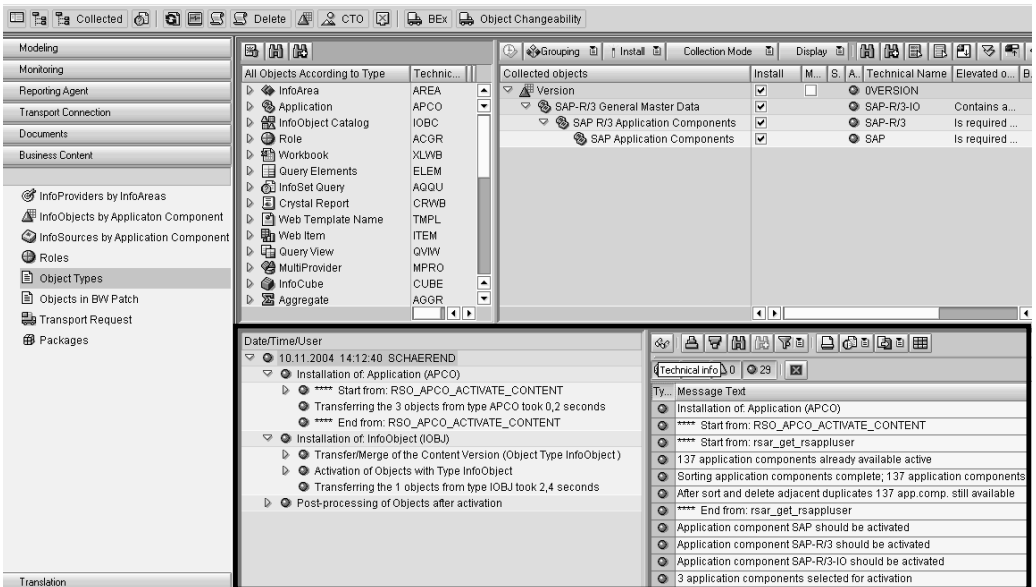


Figure 5.20 Results Log of SAP Business Content Activation

5.2.2 Transferring an SAP Business Content InfoObject into an InfoObjectCatalog

Activated InfoObjects are available in the **InfoObjects** view of the SAP BW **Administrator Workbench**. As noted earlier, you should group the InfoObjects into InfoObjectCatalogs.

Editing InfoObjectCatalogs



- ▶ To do so, open the InfoObjectCatalog for modifications by double-clicking on it (see Figure 5.21). Alternatively, you can open the context menu with a right-click and select the **Change** entry.
- ▶ You can search for the desired object in the **Edit InfoObjectCatalog** dialog (or by using the **Search** button: see Figure 5.22, Step 1).

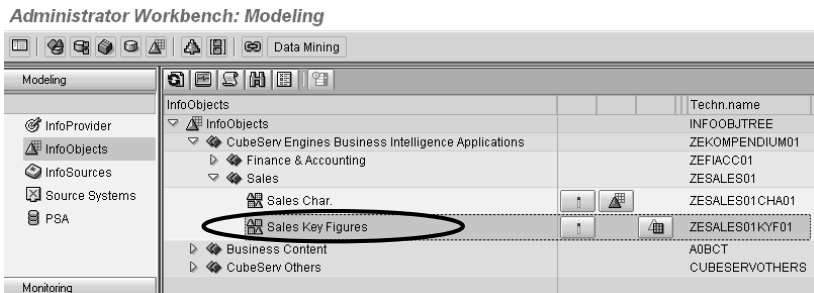


Figure 5.21 Selecting an InfoObjectCatalog for Editing

Transferring an InfoObject into an InfoObjectCatalog



- ▶ After you have highlighted the desired object (see Figure 5.22, Step 2), it is included in the InfoObjectCatalog when you click on the **Transfer Fields** button (see Figure 5.22, Step 3).
- ▶ The transferred object is highlighted in color and listed in the **Structure** (see Figure 5.23, Step 1 and Step 2).
- ▶ After activation (see Figure 5.23, Step 3), the InfoObject is displayed in the Administrator Workbench as a component of the InfoObjectCatalog (see Figure 5.23, Step 4).

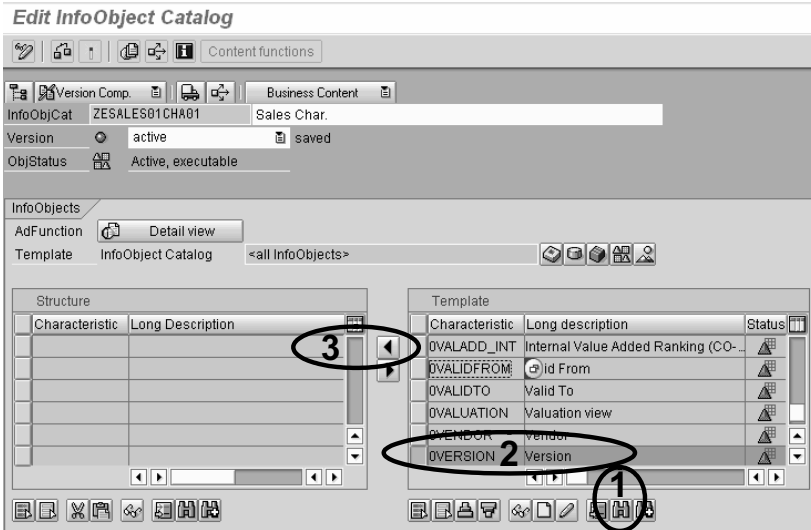


Figure 5.22 Selecting an InfoObject for Transfer into the InfoObjectCatalog

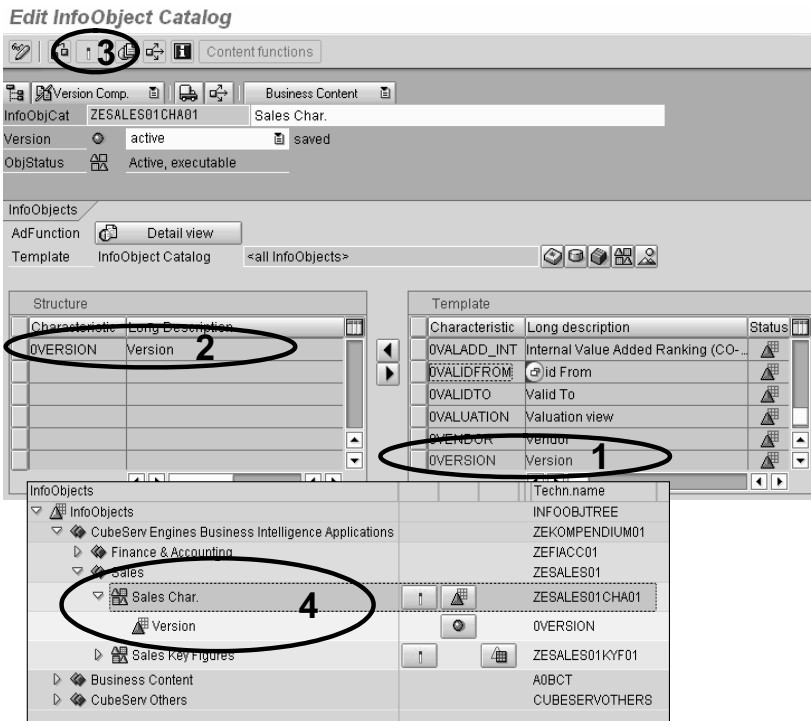


Figure 5.23 Results of the Transfer and Activation of the InfoObject in the InfoObject-Catalog

5.2.3 Transferring an SAP Business Content InfoObject In Data Flow Before

SAP Business Content offers more than ample coverage for InfoObjects (characteristics and key figures). It also meets most requirements for data retrieval (master data, texts, and hierarchies) for characteristics. That's why we recommend that you also activate **In Data Flow Before** when you transfer characteristics.

Procedure and Results of the In Data Flow Before Activation



- ▶ To activate SAP Business Content In Data Flow Before, first set the groupingGgrouping option to **In Data Flow Before** (see Figure 5.24, Step 1).
- ▶ Then select (as indicated above: see Figures 5.17 and 5.18) the SAP Business Content InfoObjects to be activated (see Figure 5.24, Step 2).
- ▶ For the selected objects, the related and required objects (compoundings and attributes, for example) and the elements of the upstream ETL (Extraction, Transfer, and Loading) process (transfer structures, transfer rules, InfoPackages, and so on) are then collected.
- ▶ After you click on the **Install** button (see Figure 5.19 and the related comments), all objects are available for further work in SAP BW provided they were activated without errors.

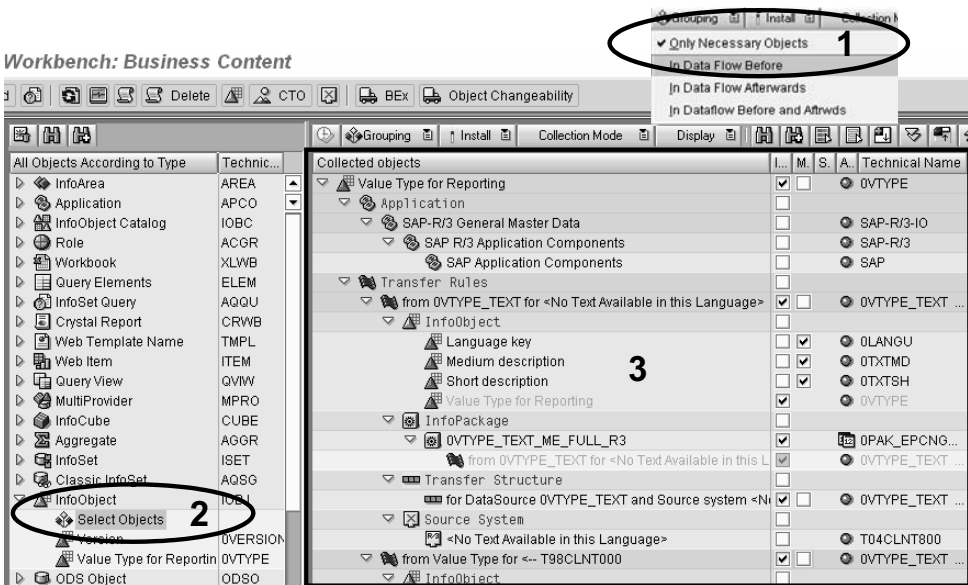


Figure 5.24 Collecting Objects In Data Flow Before

If errors occurred during the activation of SAP Business Content (see Figure 5.25, Steps 1 and 2), you must deal with them systematically. In our example, the key field is missing in the transfer structure.²

Errors when activating SAP Business Content

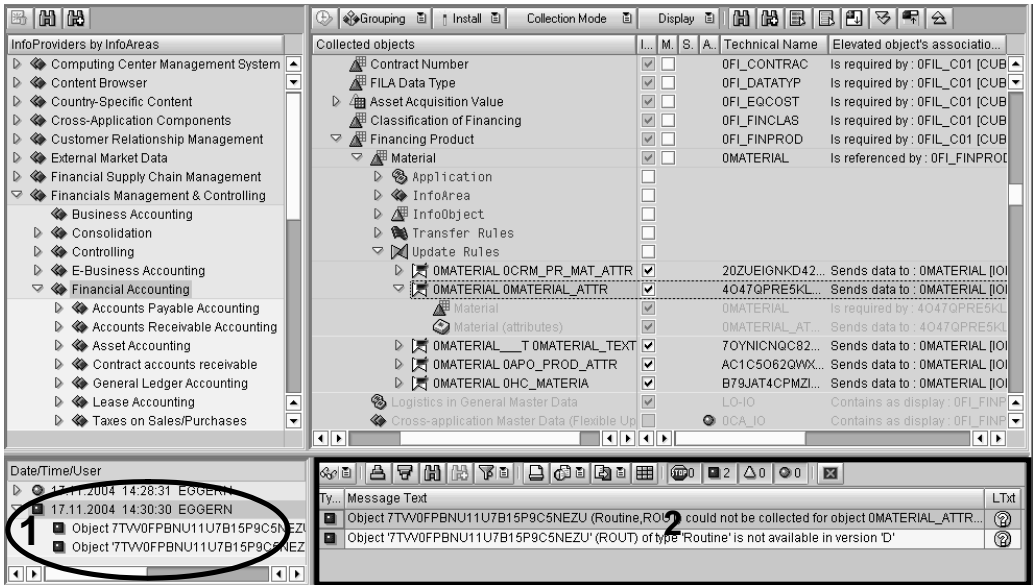


Figure 5.25 Errors When Activating SAP Business Content

5.2.4 Transferring SAP Business Content InfoObjects by Selecting InfoCubes In Data Flow Before

In general, the effort involved in step-by-step activation is too great. That's why you can analyze SAP Business Content and activate targeted InfoCubes with the grouping option **In Data Flow Before** to make the InfoObjects available to an analytical application. In our model company, CubeServ Engines, we want to implement Financial Reporting (general ledger with profitability analysis and balance sheet). To do so, we select InfoCubes OFIGL_*.

Activation to collect Info Objects

Selecting SAP Business Content InfoCubes

- ▶ To do so, proceed as you did with the selection of InfoObjects. Simply select the InfoCubes that you want in the InfoCube folder of the **All Objects According to Type** frame by opening the InfoCube folder with



² See Volume 2 of the SAP BW Library (forthcoming). Egger et al.: *SAP BW Data Retrieval*. SAP PRESS, 2005.

a click. Double-click on the **Select Objects** entry to start the selection (see Figure 5.26, Step 1).

- ▶ Select the InfoCubes in the **Input Help for Metadata** popup. You can also use filtering to simplify the selection (see Figures 5.17 and 5.18).

Selecting Multiple Entries from the Input Help

You can use one of two methods to select multiple entries from the Input Help:



- ▶ In **option 1**, to select several separate entries, click on the first entry, hold the **Ctrl** key, and then click on all the other entries you want.
- ▶ In **option 2**, to select a coherent interval of entries, click on the first entry of the interval, hold the **Shift** and **Ctrl** keys, and then select the last entry of the interval. The example selects the interval of all InfoCubes from OFIGL_C01 to OFIGL_VC2 (see Figure 5.26, Step 2).

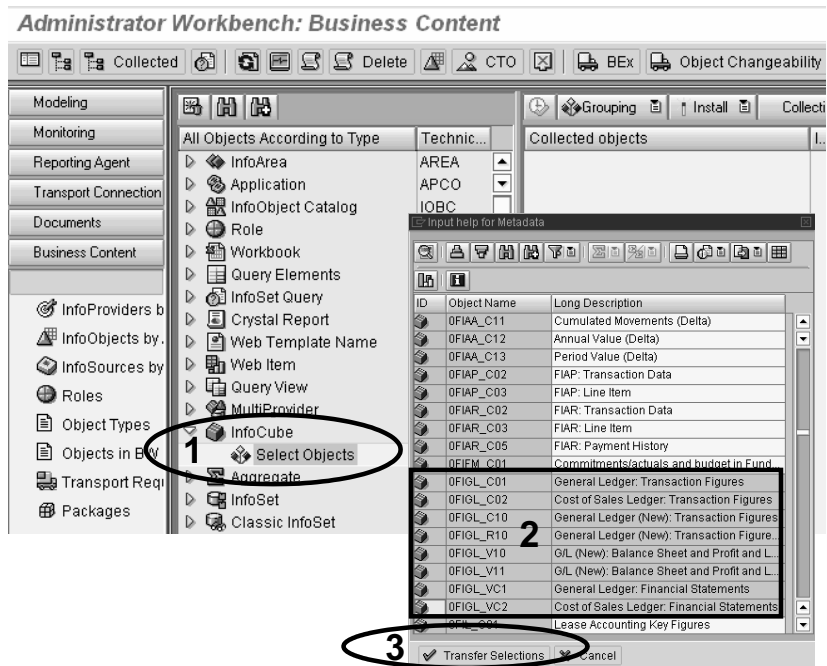


Figure 5.26 Collecting InfoObjects via InfoCubes

- ▶ After you click the **Transfer Selections** button (Step 3), SAP BW starts to collect all the related InfoObjects and ETL components. See the comments above on the activation of individual InfoObjects **In Data Flow Before**.

Merging the Active Version and the Content Version

In some circumstances, portions of the SAP Business Content that you want to activate are already active. In this case, the system merges the active version with the content version.

- ▶ In our example, the system first requests confirmation to overwrite the transfer routine for InfoObject OSOURSYSTEM.
- ▶ After you confirm the query (see Figure 5.27, Step 1), a **Merge InfoObject...** dialog offers you an option to overwrite all transfer routines with the Content version without further queries. To do so, simply click on the **Transfer All Without Dialog** button (Step 2).

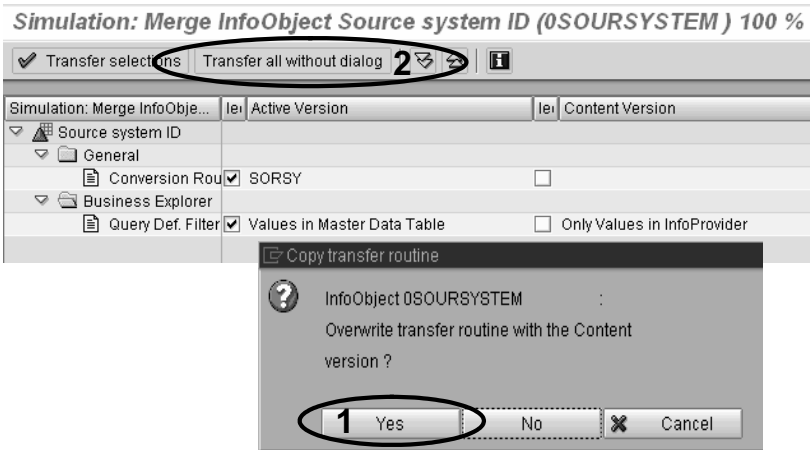


Figure 5.27 Query: Overwrite the Active Version with the SAP Business Content Version

With the initial activation of SAP Business Content in several steps, the option to overwrite the active versions without dialog (i.e., without further queries) is usually doable. However, if you've made customizing settings (and especially if productive analytical applications already exist in SAP BW), you should use this option only with great caution.



5.2.5 Simultaneous Transfer of Several SAP Business Content InfoObjects into an InfoObjectCatalog

After you've activated the InfoCubes and the related InfoObjects, you can assign several InfoObjects to an InfoObjectCatalog in one step. To do so, open an InfoObjectCatalog in the **InfoObjects** view of the **Adminis-**

trator Workbench with a double click (or use the right mouse button and select the **Modify** entry in the context menu of an InfoObjectCatalog) to edit it.

Selecting a Template



- ▶ In the **Edit InfoObjectCatalog** dialog, you can select one of the following buttons to select the type of template:
 - ▶ InfoSource
 - ▶ ODS object
 - ▶ InfoCube
 - ▶ InfoObjectCatalog
 - ▶ All InfoObjects
- ▶ In our example that transfers the InfoObjects available for the model company, CubeServ Engines, select the **InfoCube** type of template by clicking the button with the appropriate icon (see Figure 5.28).

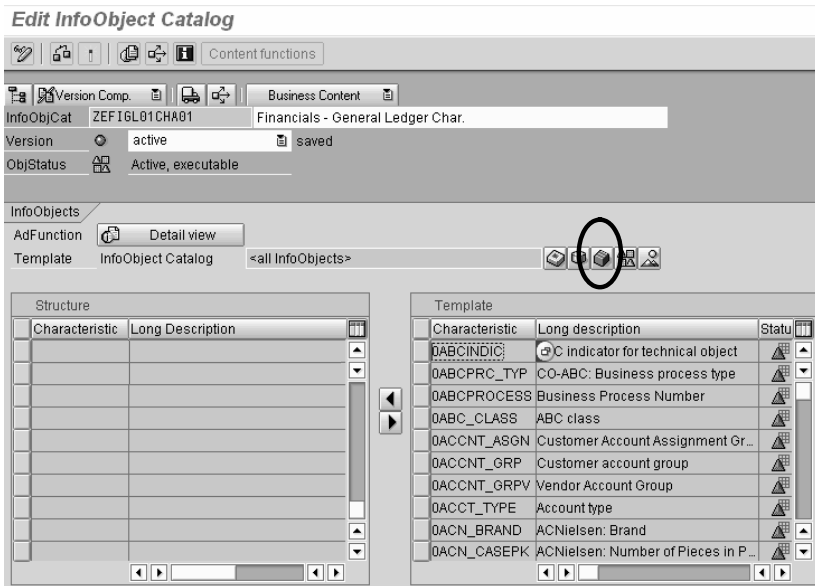


Figure 5.28 Selection of the InfoCube Type of Template to Transfer InfoObjects into the InfoObjectCatalog

- ▶ When you select the InfoCube type of template that you want, the **Select InfoCube** popup appears. Click the **All InfoCubes** button to display a list of all active InfoCubes (see Figure 5.29, Step 1).

- ▶ Double-click (or use a single click and confirm the selection with the **Next (Enter)** button) to make the InfoObjects of the selected InfoCubes available as a template (Step 2). The **Transfer Fields Automatically** popup prompts you to transfer all the InfoObjects of the corresponding catalog type (characteristics or key figures).

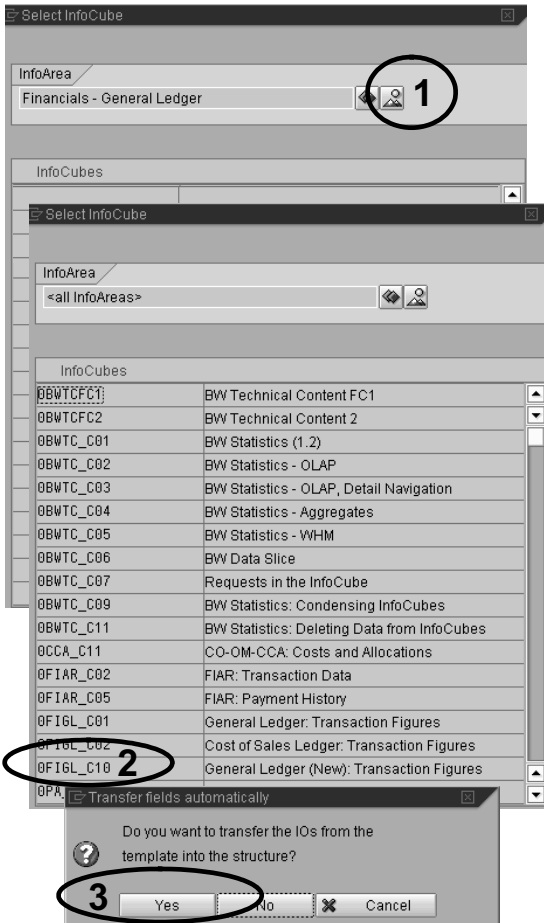


Figure 5.29 Selection of an InfoCube as a Template to Transfer InfoObjects into the InfoObjectCatalog

- ▶ Confirm this option (see Figure 5.29, Step 3) to include all the InfoObjects of the corresponding type in the InfoObjectCatalog automatically (see Figure 5.30, Step 1).
- ▶ If you don't accept this option, you can only transfer the InfoObjects in the **Edit InfoObjectCatalog** dialog into the template (Step 2).
- ▶ Then activate the InfoObjectCatalog (Step 3).

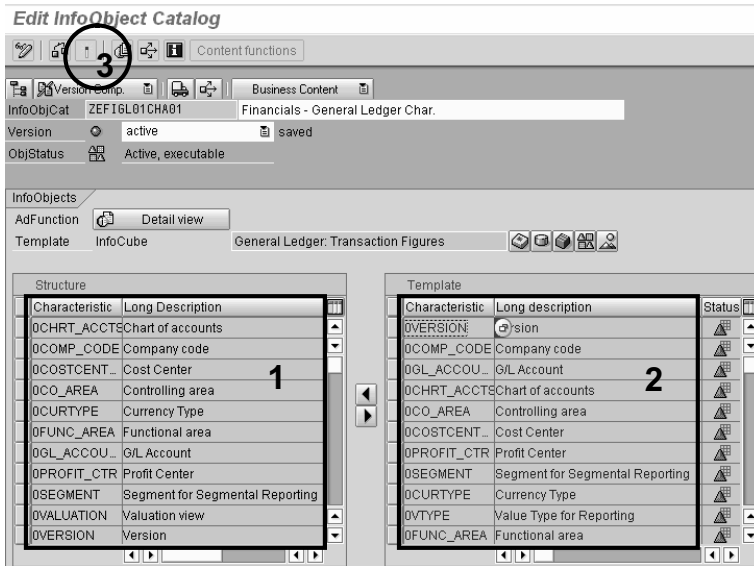


Figure 5.30 Results of the Copy and Activation of the InfoObject

Characteristics and key figures

You can proceed in the same manner for characteristics and key figures (see Figures 5.29 and 5.30). With this procedure, all characteristics are transferred into a characteristics InfoObjectCatalog and all key figures are transferred into a key figures InfoObjectCatalog. Figure 5.31 illustrates the results.

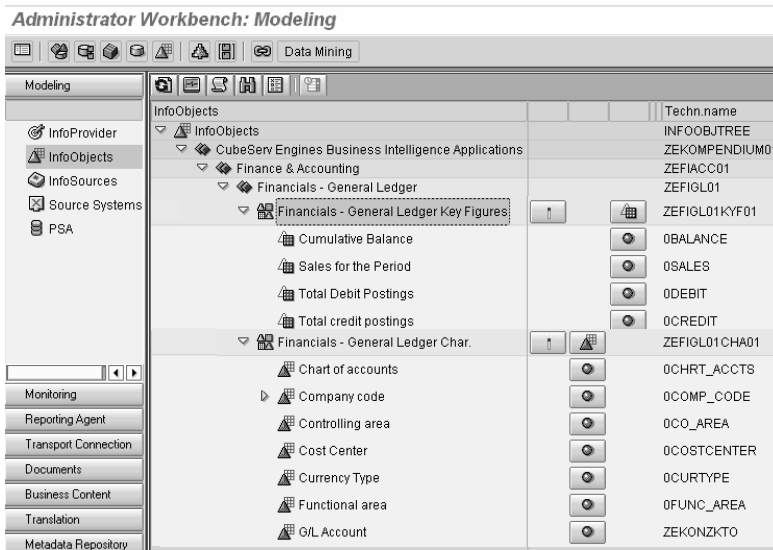


Figure 5.31 InfoObjectCatalogs for Characteristics and Key Figures

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