BusinessObjects XI Integration for SAP Solutions Installation and Administration Guide

2008-12-02

Contents

Chapter 1 Introduction 11

About this guide....12
Who should read this guide....13

Chapter 2 What's new in BusinessObjects XI Integration for SAP Solutions 15

Extending platform and language support....16
Mass distribution of personalized SAP Crystal and Web Intelligence reports....17

Chapter 3 Components and Features 19

Overview....20
Add-Ons....20
Integrated architecture....22
Reporting with BusinessObjects XI Integration for SAP Solutions....24
Authenticating SAP users....24
Reporting off BW queries, InfoSets, Operational Data Stores, and MDX cubes....25
Reporting off other SAP data sources....26
Publishing from BW to BusinessObjects Enterprise....27
Distributing information over the Web....30

Chapter 4 Installing BusinessObjects XI Integration for SAP Solutions 31

Installation overview....32
SAP requirements for both Unix and Windows....33
Installing on UNIX....33
System requirements....34

Installing the UNIX components....35
Deploying web applications using wdeploy....41
Installing on Windows....51
System requirements....51
Recommended initial installation....53
Deploying the web applications using wdeploy....61
Distributed installation....70
Installing components on BusinessObjects Enterprise machines....71
Separating BusinessObjects Enterprise from your web server....72
Distributing the BW Publisher installation....72
Adding servers to BusinessObjects Enterprise....73
Uninstalling BusinessObjects XI Integration for SAP Solutions....73
To uninstall BusinessObjects XI Integration for SAP Solutions....74

Chapter 5 Configuring SAP authentication 77

Configuration overview....78
Configuring SAP authentication for BusinessObjects Enterprise....79
Creating a user account for BusinessObjects Enterprise....79
Connecting to SAP entitlement systems....81
Setting SAP Authentication options....83
Importing SAP roles to BusinessObjects Enterprise....87
Configuring Data Access....90
Configuring SAP Logon for the Data Access 90

Chapter 6 Configuring SAP Server-Side Trust 93

SAP Server-Side Trust Overview....94
Configuring SAP for server-side trust....96
To configure SAP for server-side trust....96
Configuring BusinessObjects Enterprise for server-side trust....101
To set up the environment....101

To generate a PSE....102
To configure BusinessObjects Enterprise servers....105
To configure PSE access....105
To configure SAP authentication SNC settings....107
Using server groups....108
Configuring multi-pass publications....109

Chapter 7 Integrating BusinessObjects Enterprise and BW 111

Configuration overview....112
About BW Publisher Service....112
Understanding the default folder security patterns....112
Setting up folders and security in BusinessObjects Enterprise....114
Configuring the BW Publisher....116
Configuring the BW Publisher as a service....116
Configuring the BW Publisher with a local SAP Gateway....122
Configuring publishing in the Content Administration Workbench....125
Users who can access the Content Administration Workbench....126
Creating roles in BW for designated content publishers 126
Configuring access to the Content Administration Workbench....127
Defining a BusinessObjects Enterprise system....130
Publishing reports using the Content Administration Workbench....133
Maintaining reports....139
Configuring the SAP http request handler....141

Chapter 8 Managing the SAP Enterprise Portal 143

SAP Enterprise Portal overview....144
Single sign-on requirements....144
Using sample iViews....145
iView Template....146
Alert iView....147

Thumbnail iView....147
How to configure imported content....148
Importing SAP Enterprise Portal business packages....148
To import business packages....148
To import BusinessObjects Enterprise master iView par file....149
Configuring the BusinessObjects Enterprise server entry point....150
To configure the BusinessObjects Enterprise server....150
Using URL iViews....151
To configure a URL iView to access a report....151
To configure a URL iView to access InfoView....152

Chapter 9 Configuring KMC 155

Configuring the BusinessObjects Enterprise repository for Knowledge Management and Collaboration (KMC)....156
Quick reference: configuring the BusinessObjects Enterprise repository for SAP EP....156
To install the BusinessObjects Enterprise repository....157
Configuring the BusinessObjects Enterprise repository....157
To configure SAP BW for BusinessObjects Enterprise repository....158
To configure BusinessObjects Enterprise for SAP EP....158
To configure the client....159
To configure SAP EP for BusinessObjects Enterprise repository....160
To configure the BusinessObjects Enterprise layout....163
Configuring collaboration....163
Configuring subscription....164
To maintain BusinessObjecets Enterprise repository instances....164
Using the BusinessObjects Enterprise Knowledge Management and Collaboration (KMC) solution....165
Logging on and off....165
Navigation....165
To change navigation settings....166

Performing common tasks....166
To create a document....168
To copy or move documents....169
To delete a document....169
Performing advanced tasks....170
Search....170
Subscribe....170
Collaboration....171

Chapter 10 Defining Security for the Open SQL driver 173

Security Definition Editor overview....174
Migrating your existing security model....175
Choosing your table-level security model....175
Customizing authorizations for specific tables....178
Customizing authorizations for specific functions....184
Defining table authorizations by group....184
Applying row-level security....185
Securing rows using authorization objects....186
Securing rows using custom security exits....188

Chapter 11 Firewalls Configuration for BusinessObjects XI Integration for SAP Solutions 193

Understanding communication between BusinessObjects Enterprise components....194
Guidelines for communication with BusinessObjects XI Integration for SAP Solutions....194
Detailed port requirements for the BusinessObjects Integration for SAP Solutions....195
Example: BusinessObjects Enterprise servers separated from SAP by a firewall....197

Chapter 12 Troubleshooting 201

Locating and generating log files....202
Disabling SAP entitlement systems in the CMC....202
Reports, tables, and functions....203
Errors when connecting to SAP....203
Viewing document and reports....203
To run the partnercafinstall command....204

Chapter 13 Transport Files 205

Overview....206
Open SQL Connectivity transport....206
InfoSet Connectivity transport....209
Row-level Security Definition transport....210
Cluster Definition transport....211
Authentication Helpers transport....212
Content Administration Workbench....213
ODS connectivity transport....217
BW Query parameter personalization transport....217
BW MDX connectivity transport....218
Configuring transports....220
Types of transports....221
Selecting which transports to import....223
Checking for conflicts....224
Importing the transport files....225

Chapter 14 Authorizations 227

Authorizations overview....228
Creating and applying authorizations....228
Actions in BW....229

From within Crystal Reports....229
From within InfoView....238
Actions in R/3 and mySAP ERP....244
From within Crystal Reports using the Open SQL driver....244
From within Crystal Reports using the InfoSet driver, reporting off InfoSet....247
From within Crystal Reports using the InfoSet driver, reporting off an ABAP query....249
From within BusinessObjects Enterprise....251
Crystal entitlement system....253

Appendix A Get More Help 255

Index 259

Contents

Introduction

chapter 1

BusinessObjects XI Integration for SAP Solutions provides support for specific BusinessObjects products and delivers improvements in the areas of usability, implementation, and administration.

This section's focus is to provide a high level overview of the key new features and enhancements that are specific to BusinessObjects XI Integration for SAP Solutions.

For more information on what's new in Crystal Reports 2008, see the “What's New in Crystal Reports 2008” chapter of the *Crystal Reports User's Guide*. For more information on what's new in BusinessObjects Enterprise, see the “What's New in BusinessObjects Enterprise” chapter of the *BusinessObjects Enterprise Administrator's Guide*.

Related Topics

- *About this guide* on page 12
- *What's new in BusinessObjects XI Integration for SAP Solutions* on page 15

About this guide

The BusinessObjects XI Integration for SAP Solutions provides you, the SAP user, with the ability to extract the business intelligence contained within your SAP systems. BusinessObjects EnterpriseInfoView allows you to share your reports over the Web, and SAP Authentication enables Single Sign On between your SAP system and BusinessObjects Enterprise.

BusinessObjects XI Integration for SAP Solutions consists of several main components: Crystal Reports is the report-design tool that allows you to report off your SAP data; BusinessObjects Enterprise provides the framework for managing, scheduling, and distributing reports over the Web; Web Intelligence enables you to create queries and documents quickly; and Voyager allows you to analyze and report off the multidimensional data that is stored in the Info Cubes of your SAP Business Information Warehouse.

BusinessObjects XI Integration for SAP Solutions provides the database drivers and other features for reporting off SAP. This guide documents the SAP report-design features that are available once you install on top of Crystal Reports or Voyager. It also shows how to publish and view these reports in a BusinessObjects Enterprise environment.

Who should read this guide

This guide is intended for SAP and BusinessObjects Enterprise administrators who want to install and configure the core Business Objects products with BusinessObjects XI Integration for SAP Solutions. Familiarity with your SAP system and BusinessObjects Enterprise is required to use this guide.

What's new in BusinessObjects XI Integration for SAP Solutions

chapter 2

This section gives a high-level overview of the key new features provided in BusinessObjects XI Integration for SAP Solutions.

BusinessObjects XI Integration for SAP Solutions delivers the strongest business intelligence solution for SAP customers, with new capabilities aimed at adding value to SAP products while lowering the total cost of ownership and providing an SAP-familiar user experience, especially for end-user self-service in ad-hoc query, reporting, and analysis.

Extending platform and language support

BusinessObjects XI Integration for SAP Solutions provides additional platform support for SAP integration.

Support for HP Itanium platform

BusinessObjects Enterprise server components used for SAP integration can now be installed and used on 64-bit HP-UX IA platforms. Administrators and users can now configure and use native 64-bit components of SAP integration on 64-bit HP-UX Itanium. HPUX includes:

- Server side workflows for Crystal Reports, Web Intelligence and Voyager.
- First release to include OLAP BAPI support (Webi workflows).

Support for 32-bit Windows Vista SP1

SAP integration is now available for Business Objects client components running on 32-bit Windows Vista SP1.

Support for 64-bit Windows Vista SP1

SAP integration is now available for Business Objects client components running on 64-bit Windows Vista SP1.

Additional language support

BusinessObjects XI provides enhanced language support for SAP integration. SAP integration is now available in the following languages:

- Russian
- Polish
- Danish

- Norwegian
- Thai
- Finish

Support for multilingual data access and display for all BusinessObjects Enterprise client and server components is available in these languages.

Note:
SAP server side tools will not be translated into Thai.

Mass distribution of personalized SAP Crystal and Web Intelligence reports

Report publishing capabilities in BusinessObjects XI provide the ability to broadcast personalized SAP Crystal and Web Intelligence reports to a large user population based on SAP user role definitions. With these new capabilities there is no need to replicate SAP data access authorization settings in BusinessObjects Enterprise. For more information about Publications, see the *BusinessObjects Enterprise XI Publishing Guide*, which can be accessed from our customer support site: *http://support.businessobjects.com/documentation/default.asp*

Components and Features

chapter 3

This section introduces the various reporting components that make up BusinessObjects XI Integration for SAP Solutions. The section then provides information on the overall product architecture and describes features provided by various components.

Overview

BusinessObjects XI Integration for SAP Solutions provides you with powerful report-design tools and a framework for managing, scheduling, and distributing your reports over the Web. As such, it enables you to extract additional value from your SAP Business Information Warehouse (BW) and R/3 data and share it with users across the enterprise.

BusinessObjects XI Integration for SAP Solutions includes four major products—BusinessObjects Enterprise Professional, Crystal Reports Professional, Web Intelligence, and Voyager—along with components that integrate the Business Objects reporting technologies with your existing SAP systems.

Add-Ons

The Add-Ons distribution contains the setup program and additional documentation for the components that integrate with your SAP system. The setup program determines which Business Objects products are already installed, and then installs the add-on components as required.

The add-on components are:

- Data Access

  This component provides database drivers that are designed specifically for reporting off SAP data. Crystal Reports drivers are included for OpenSQL, Infoset, BW Query, BW MDX and ODS. Crystal Reports drivers need to be installed on the machines that host the Crystal Reports servers. The MDA SAP driver needs to be installed on the machines that host the Voyager server, Universe designer, Offline Web Intelligence designer and Web Intelligence Processing Server.

- Crystal Reports SAP Toolbar

Integrated within Crystal Reports, the SAP Tools toolbar facilitates tasks associated with reporting off BW queries. It allows you to log on to BW and work with its data sources, save reports to BW, and publish reports immediately to BusinessObjects Enterprise via BW.

For details on using the toolbar, see the *BusinessObjects XI Integration for SAP Solutions User's Guide*.

- SAP Authentication

  This component allows you to map your existing SAP roles and users to BusinessObjects Enterprise. It also enables BusinessObjects Enterprise to authenticate users against the SAP system, thereby providing Single Sign On to your SAP users. As a result, once SAP users are logged on to the SAP system, they are recognized by BusinessObjects Enterprise as authenticated users.

- BW Publisher

  This component allows you to publish reports individually or in batches from BW to BusinessObjects Enterprise.

- Web content

  This component includes BusinessObjects EnterpriseInfoView. InfoView allows users to organize and view their Crystal reports in multiple languages over the Web.

- Transport files

  The transport files are included in the transports directory of the installation CD. You must import these transports and configure a number of authorization objects in order for users to connect to SAP through Crystal Reports and BusinessObjects Enterprise.

- BW Content Administration Workbench

  This feature allows you to manage report publishing from with BW. You can identify roles in your BW with specific BusinessObjects Enterprise systems, publish reports, and synchronize between BW and a BusinessObjects Enterprise system.

- Sample reports

  The sample reports demonstrate a variety of ways in which you can extract value from SAP data using different database drivers.

- Sample iViews

Sample iViews illustrate how BusinessObjects Enterprise SAP Edition can be implemented with SAP Enterprise Portal version 6 and later. These iViews demonstrate sample functionality for alerts, and thumbnail views inside SAP Enterprise Portal.

- Knowledge Management

  Knowledge Management (KMC)

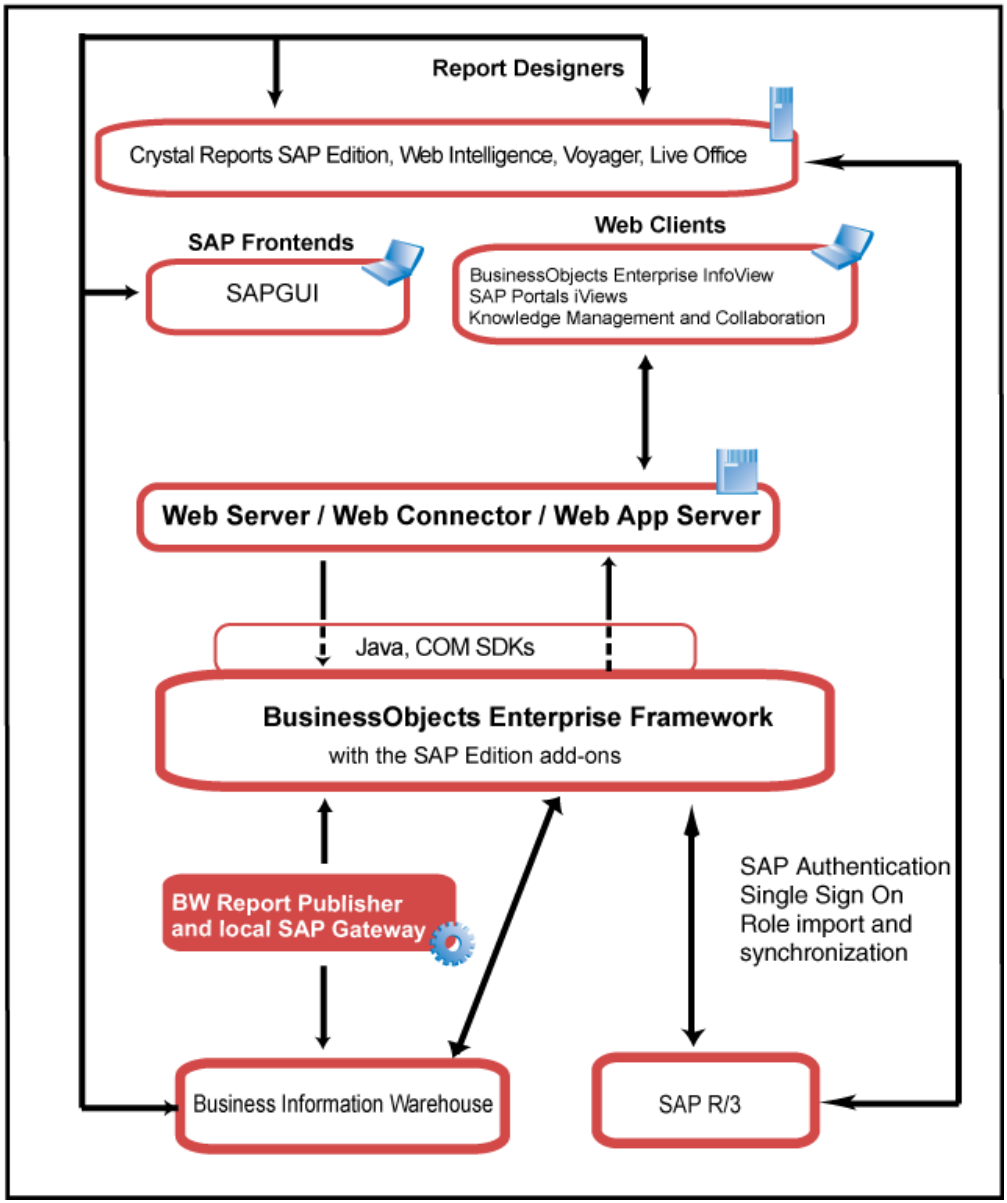
  The Knowledge Management interface enables third-parties to integrate any repository into the SAP Enterprise Portal. The KMC allows users to integrate BusinessObjects Enterprise into the SAP Enterprise Portal, When the BusinessObjects Enterprise repository is integrated into the KMC framework, the objects in the repository are accessible for different work flows like the collaboration features of the SAP Enterprise Portal.

Related Topics

- *Reporting off BW queries, InfoSets, Operational Data Stores, and MDX cubes* on page 25
- *Reporting off other SAP data sources* on page 26
- *Authenticating SAP users* on page 24
- *Publishing from BW to BusinessObjects Enterprise* on page 27
- *Configuring transports* on page 220

Integrated architecture

The following diagram illustrates how each of the BusinessObjects XI Integration for SAP Solutions components expand upon the multi-tier framework of BusinessObjects Enterprise.



If you are new to BusinessObjects Enterprise, see its documentation for a more detailed explanation of its framework, its components, and the general tasks that each component performs.

Reporting with BusinessObjects XI Integration for SAP Solutions

This section describes the key features provided by BusinessObjects XI Integration for SAP Solutions.

Authenticating SAP users

Security plug-ins expand and customize the ways in which BusinessObjects Enterprise authenticates users. The SAP Authentication feature includes an SAP security plug-in (`secSAPR3.dll`) for the Central Management Server (CMS) component of BusinessObjects Enterprise. This SAP security plug-in offers several key benefits:

- It acts as an authentication provider that verifies user credentials against your SAP system on behalf of the CMS. When users log on to BusinessObjects Enterprise directly, they can choose SAP Authentication and provide their usual SAP user name and password. BusinessObjects Enterprise can also validate Enterprise Portal logon tickets against SAP systems.
- It facilitates account creation by allowing you to map roles from SAP to BusinessObjects Enterprise user groups, and it facilitates account management by allowing you to assign rights to users and groups in a consistent manner within BusinessObjects Enterprise.
- It dynamically maintains SAP role listings. So, once you map an SAP role to BusinessObjects Enterprise, all users who belong to that role can log on to BusinessObjects Enterprise. When you make subsequent changes to the SAP role membership, you need not update or refresh the listing in BusinessObjects Enterprise.
- The SAP Authentication component includes a web application for configuring the plug-in. You can access this application in the "Authentication" area of the Central Management Console (CMC).

Related Topics

- *Configuring SAP authentication for BusinessObjects Enterprise* on page 79

Reporting off BW queries, InfoSets, Operational Data Stores, and MDX cubes

BusinessObjects XI Integration for SAP Solutions provides connectivity to your SAP data through four database drivers—the BW Query driver, the InfoSet driver, the ODS driver, and the MDX driver:

- The BW Query driver is integrated directly within the Crystal Reports interface. The SAP Tools toolbar works with the BW Query driver to allow you to report off your BW queries from within Crystal Reports. The toolbar also allows you to save reports to BW and publish them directly to BusinessObjects Enterprise.
- The InfoSet driver provides Crystal Reports with another means of accessing SAP data sources: this driver can access R/3 InfoSets (previously known as Functional Areas) and ABAP Queries. You access this driver through the Data Explorer in Crystal Reports.
- The Operational Data Store (ODS) driver allows you to use existing ODS objects from your BW Data Warehouse as a data source in Crystal Reports.
- The SAP BW MDX Query driver introduces new flexibility when reporting off BW cubes and queries. By writing reports with the MDX Query driver, you gain direct access to BW cubes, display attributes, and multiple structures.

One advantage of these drivers is that they allow business users to report off predefined views of your SAP data. Tables and fields are first logically grouped by an SAP content expert into queries, InfoSets, and so on. You then make these data sources accessible to users who are designing reports with Crystal Reports.

These same four drivers are also included in the add-ons for BusinessObjects Enterprise (the Data Access feature), so the BusinessObjects Enterprise processing servers can successfully run the reports you design against your SAP systems. These drivers allow you to work with Crystal Reports. Additionally, the Data Access feature includes the MDA SAP driver, which lets you work with Voyager and Web Intelligence data sources. For more information about using Voyager and Web Intelligence, see these guides:

- *BusinessObjects Voyager User's Guide*
- *Web Intelligence Online Help*

Note:
Before you can design or process reports with the InfoSet or OpenSQL drivers, you must install the corresponding transport file on the SAP system.

For instruction on creating Crystal reports with these drivers, consult the *BusinessObjects XI Integration for SAP Solutions User's Guide* available online.

Related Topics

- *Configuring transports* on page 220
- *Add-Ons* on page 20
- *http://support.businessobjects.com/documentation/product_guides/default.asp*

Reporting off other SAP data sources

In addition to the previously mentioned drivers, BusinessObjects XI Integration for SAP Solutions also includes the Open SQL driver, which allows you to report off additional SAP data sources from within Crystal Reports, BusinessObjects Enterprise, and Voyager.

Related Topics

- *Add-Ons* on page 20

Reporting off tables, views, clusters, and functions

The Open SQL driver is the most powerful of the drivers due to the flexibility it provides for accessing data in SAP. This flexibility, however, results in a higher level of complexity than with the InfoSet driver.

When you create reports that use the Open SQL driver, you gain easy access to SAP's transparent tables, pool tables, cluster tables, and views. Users who are currently involved with the production of ABAP reports will find it easy to build reports quickly with this driver.

Advanced functionality in the driver also allows reporting against ABAP functions and ABAP data clusters. ABAP developers can use these features to perform advanced tasks such as reporting against data clusters in HR.

Reporting off multidimensional data in BW

The BW Voyager has been specially designed to integrate the Online Analytical Processing (OLAP) viewing capabilities of Voyager and Crystal Reports with your SAP Business Information Warehouse (BW) system. Users can connect to multidimensional BW Info Cubes and generate reports that incorporate complex data analysis.

For additional information on OLAP analysis and reporting, refer to your Voyager and/or Crystal Reports documentation.

Publishing from BW to BusinessObjects Enterprise

The BW Publisher allows you to publish Crystal reports (.rpt files) individually or in batches from BW to BusinessObjects Enterprise.

Reports are published from BW to BusinessObjects Enterprise in several ways: users who design Crystal reports can simultaneously save reports to their roles in BW and publish them to BusinessObjects Enterprise, provided they have sufficient rights. Users with the appropriate rights within BW and BusinessObjects Enterprise can also publish reports individually or in batches using the Content Administration Workbench.

Details of the publishing process depend upon the publisher configuration that you select.

Related Topics

- *Publishing reports using the Content Administration Workbench* on page 133
- *Add-Ons* on page 20

Selecting your BW Publisher configuration

You can configure the BW Publisher in one of two ways:

- Install the BW Publisher as a service on a BusinessObjects Enterprise machine. The BW Publisher service will start instances of the BW Publisher as required.
- Install a local SAP Gateway to create instances as needed.

Select the configuration method based on the requirements of your site, after considering the advantages and disadvantages of each configuration.

BW Publisher service

Advantages:

- It is simpler to install than a local SAP Gateway.
- It is scalable because new publisher instances are created automatically in response to increased publishing load.

Disadvantages:

- It is more difficult to administer than a local SAP Gateway because changes to the BW Publisher service require you to edit the registry.
- It makes less efficient use of computing resources than a local SAP Gateway because Publisher Instances are not stopped automatically when they are no longer needed.

Local SAP Gateway

Advantages:

- It uses system resources more efficiently than a BW Publisher service for Windows installations of BusinessObjects Enterprise.

Disadvantages

- It is more complex to install and configure than the BW Publisher service.

Note:
For UNIX installations of BusinessObjects Enterprise, install BW Publisher as a service.

For UNIX installations of BusinessObjects Enterprise, follow the instructions for installing the BW Publisher as a service. However, your system configuration will vary slightly as you must manually start the required number of BW Publisher instances.

To return to the Windows installation procedure, go to *Recommended initial installation* on page 53.

Publishing Reports

Whether you choose to configure the BW Publisher service with or without a local SAP Gateway, the same basic publishing process occurs.

Note:
Before beginning to publish, you must configure SAP authentication in BusinessObjects Enterprise, define a folder structure for your content, and import SAP roles. See *Configuring SAP authentication for BusinessObjects Enterprise* on page 79 for complete instructions.

When a user attempts to publish one or more Crystal reports, BW looks for a Remote Function Call (RFC) destination (of type TCP/IP) that is configured to connect to this BW Publisher. The TCP/IP destination provides BW with the name and port number of the SAP Gateway that the BW Publisher is registered with.

BW then communicates over TCP/IP with the BW Publisher, and sends the following information across the network:

- The appropriate Crystal Reports file(s), with any required translated report strings.

  Tip:
  For more on translated reports, see the *Integration for SAP Solutions User's Guide*.

- The name of the appropriate Central Management Server (CMS).

The SAP Gateway responds by executing the publishing command, thereby invoking the BW Publisher. The BW Publisher logs on to the specified CMS as the user, and checks to see if the user has the appropriate permissions in BusinessObjects Enterprise to publish reports. If the user's rights are sufficient, the CMS allows the reports to be added to the system.

The main difference between the two configuration types is that if you do not install a local SAP Gateway, the BW Publisher service registers as a server program with the SAP Gateway running on your application host, using the name you specify as its Program ID string. This SAP Gateway may be installed on your single BW server, or on your central instance of BW if you have a BW cluster.

To return to the installation procedure, go to *Recommended initial installation* on page 53.

Distributing information over the Web

SAP functionality is integrated with your version of InfoView. These features are designed especially for SAP users:

- Users whose roles you import can log on to InfoView with their usual SAP credentials.
- Users can browse a hierarchy of My Groups folders that correspond to the structure of the imported roles whose content you publish from BW to BusinessObjects Enterprise. In these folders, users can locate, view, and refresh Crystal reports that have been saved in their BW roles.
- Users can schedule translated reports in specific languages and view report titles and on-demand reports.

  Tip:
  These features require that you translate the reports within BW, before you publish the reports to BusinessObjects Enterprise. For more information, see the *BusinessObjects XI Integration for SAP Solutions User's Guide*.

- Administrators can divide report processing by language across server groups. This ensures that reports created or translated in a specific language are always processed by servers that can handle data in that language.

In addition, you are able to report off of a variety of other SAP data sources from within Crystal Reports, Voyager, and BusinessObjects Enterprise.

Related Topics

- *Reporting with BusinessObjects XI Integration for SAP Solutions* on page 24

Installing BusinessObjects XI Integration for SAP Solutions

chapter 4

This section describes the steps for installing BusinessObjects XI Integration for SAP Solutions. It also provides instructions on the main installation and configuration stages.

Installation overview

To set up BusinessObjects XI Integration for SAP Solutions, you must complete the main installation and configuration stages in this order:

1. Check the system requirements and perform the installation procedures that correspond to your operating environment.

   See *Installing on UNIX* on page 33 or *Installing on Windows* on page 51.

2. Complete the required base administrative tasks within SAP necessary to configure your systems to work with BusinessObjects XI Integration for SAP. Required tasks include importing transport files and setting up authorizations in SAP, configuring SAP authentication in BusinessObjects Enterprise, and configuring Data Access for SAP.

   For complete details, see *Configuring SAP authentication* on page 77.

3. If you have BW, complete the following additional configuration steps:
   - *Setting up folders and security in BusinessObjects Enterprise* on page 114
   - *Configuring the BW Publisher* on page 116
   - *Configuring publishing in the Content Administration Workbench* on page 125
   - *Configuring the SAP http request handler* on page 141

   For complete information, see *Configuring the BW Publisher* on page 116.

A number of installation tasks require the skills and security privileges of an SAP BASIS administrator.

Note:
The Web Application Container Server (WACS) is not a supported application server for the Business Objects XI Integration for SAP Solutions. To use .NET InfoView on IIS together with BusinessObjects XI Integration for SAP Solutions, you are still required to install backend applications such as CMC or Web Services on a supported Java application server.

Once you have completed the main installation and configuration stages, you may need to complete additional tasks, depending on the features that you want to enable. For details, consult the remaining sections of this help.

Note:
Throughout this guide, *businessobjects_root* refers to *BusinessObjects Enterprise root installation directory*/BusinessObjects.

SAP requirements for both Unix and Windows

Before you can enable ticket based Single Sign On between SAP and BusinessObjects Enterprise, you must set up SAP to accept and create logon tickets. This involves setting two related profile parameters on your SAP server:

- login/accept_sso2_ticket
- login/create_sso2_ticket

The parameter values that you set depend upon whether or not the server's certificate is self-signed or signed by the SAP CA. For complete details on these profile parameters and configuring BW to accept and create logon tickets, see the **SAP Library** > **SAP Web Application Server** > **Security** > **SAP Web Application Server Security** > **User Authentication** > **Using Logon Tickets**.

Note:
You must re-start the SAP system to activate your changes.

Installing on UNIX

UNIX versions of the following BusinessObjects Enterprise add-on components are provided for environments where BusinessObjects Enterprise is running on UNIX:

- SAP Authentication
- BW Publisher
- Data Access
- Web Content

When installing BusinessObjects XI Integration for SAP Solutions on UNIX, consider the following:

- You install the BusinessObjects Enterprise add-on components by running the `install.sh` script.
- You can expand your deployment by distributing the BusinessObjects Enterprise servers across multiple machines.

Related Topics

- *Installing the UNIX components* on page 35
- *Distributed installation* on page 70

System requirements

Before installing any of the BusinessObjects XI Integration for SAP Solutions components, ensure that your environment meets the following requirements:

- BusinessObjects Enterprise must be installed and configured correctly on UNIX before you install the BusinessObjects XI Integration for SAP Solutions components. Complete this installation and configuration in accordance with the *BusinessObjects Enterprise Installation Guide*.
- The following entry must appear in the Services file on the BusinessObjects Enterprise machine (found in `/etc`):

  `sapms`*`SIDport`*`/tcp`

  Replace *`SID`* with the system ID of your SAP system, and replace *`port`* with the port number of the message server that BusinessObjects Enterprise will log onto (for example, `sapmsQR6 3600/tcp`). This standard setting allows BusinessObjects Enterprise to log on to SAP with load balancing.
- If a BusinessObjects Enterprise component requires an SAP router to connect to an SAP system, you can configure the component using the SAP router string. For example, when configuring an SAP entitlement system to import roles and users, the SAP router string can be substituted for the application server□?s name. This insures that the CMS will communicate with the SAP system through the SAP router.

Note:
The BW Publishing service installed by BusinessObjects XI Integration for SAP Solutions cannot be configured to use an SAP router.

SAP Java Connector

BusinessObjects XI Integration for SAP Solutions web applications (including InfoView), and the BusinessObjects XI Integration for SAP Solutions Java SDK require the SAP Java Connector. The SAP Java Connector is available from *http://service.sap.com/connectors/*

Please see the SAP MarketPlace for information on licensing SAP Java Connector for use in your development environment.

After you have installed BusinessObjects Enterprise, you must unpack the archive file containing the SAP Java Connector.

Then you must do one of the following things:

- Copy the `librfccm` library and the `libsapjcorfc` library to *businessobjects_root*`/enterprise120/`*PLATFORM_PATH*, where *businessobjects_root* is the full path to your `businessobjects` directory, and *PLATFORM_PATH* is your platform. For example, *PLATFORM_PATH* is `solaris_sparc` for an installation on Solaris.
- Use symbolic links for the location of the `librfccm` library and the `libsapjcorfc` library.
- Add the location of the `librfccm` library and the `libsapjcorfc` library to the library path.

After you have installed BusinessObjects Enterprise, you must make `sapjco.jar` available to your Java application server as a shared resource either by placing `sapjco.jar` in the application server's shared `lib` directory, or by adding `sapjco.jar` to the class. See *Distributed installation* on page 70 or consult your application server documentation for details.

Consult the documentation included with the SAP Java Connector for more information.

Installing the UNIX components

Once you have set up BusinessObjects Enterprise on UNIX, and have installed the SAP Java Connector, you can install BusinessObjects XI Integration for SAP Solutions. Ensure that BusinessObjects Enterprise is running before you begin the installation. The installation script needs to log on to your Central Management Server.

For a list of SAP components, go to *Add-Ons* on page 20.

To install BusinessObjects Integration for SAP Solutions on UNIX

1. Log on to your UNIX system under the BusinessObjects user account you created for *`BusinessObjects Enterprise root installation directory`*.

   Note:
   You may also use another account that has permission to read and write files in *`businessobjects_root`* and its subdirectories.

2. Ensure that you are working in your `businessobjects` directory: `cd` *`BusinessObjects Enterprise root installation directory`*
3. Run the installation script from the location to which you mounted the CD: *`location where CD is mounted`*/install.sh
4. Select the language for the installation setup and press Enter to continue.
5. Read the software license agreement, and type Y to agree to the terms and continue with the setup program.

   The installer prompts you to enter the product keycode.

6. Enter the product keycode and press Enter.

   The installer prompts you for the absolute path of the installation directory.

7. Press Enter to accept the default, which is your current directory.
8. Select or deselect the language packs that you want to install by pressing X; press Enter when you are finished.
9. Select the Server installation type, and press Enter.
10. Ensure the CMS name, port, and administrator password are correct, and then press Enter.
11. Ensure the SAP Java Connector has been installed, and then press Enter.
12. Choose whether to automatically deploy the web applications during installation or to manually deploy the web applications after installation, and then press Enter.

    If your WAS is WebLogic 9 or 10, WebSphere 6, or Tomcat, you can choose to automatically deploy your web applications during installation. However, if your WAS is the SAP WAS, JBoss, WebSphere CE, or Oracle, you must use wdeploy to manually deploy your web applications. For

more information, see *Deploying web applications using wdeploy* on page 41.

If you chose to automatically deploy your web applications, you are prompted to confirm information about your WAS.

13. Ensure your WAS information is correct, enter a password, and press Enter.

    For more information about configuring your WAS, see *To configure your existing web application server* on page 57.

    The installer notifies you that it has collected all of the required information, and ask you if you are ready to have the installation begin.

14. Press Enter to start the installation.

    The installer unpacks the archived installation files.

To configure your existing web application server

You must select the Use existing Java application server, deploy web applications option to view the "Select a Web Application Server to deploy to" screen.

Select the server type before configuring your web application server.

1. Select your existing web application server from one of the following options and press **Enter**.
   - **Tomcat 5.5**
   - **WebLogic 10**
   - **WebLogic 9.2**
   - **WebSphere 6.1**
   - **Oracle Application Server 10g R3**

   If your existing web application server is SAP Application Server 7.0 or JBoss 4.04, select **Use existing Java application server, do not deploy web applications**.

   Note:
   If you are installing BusinessObjects Enterprise an HPUX Itanium 64-bit operating system, **Tomcat 5.5** is the only option that is available to you.

   If you select **Other**, you can begin the installation. If you selected one of the supported servers, you can now configure the server on a separate screen.

2. Provide the requested configuration details for your web application server and press **Enter**.

   The table below summarizes the information required for each supported web application server.

Web application server	Information required for installation setup
Apache Tomcat 5.5	• **Instance to install to**: Name of the current web application server instance (for example “localhost”). • **Application server Installation directory**: The directory where the web application server is installed (for example `<INSTALLDIR>/wdeploy/appserver/Tomcat5520`).
WebLogic 9.2	• **Admin port**: Administration port of the application server - mandatory for WebLogic (for example “7001”). • **Admin login**: User name with administration rights to the application server - mandatory for WebLogic. • **Admin password**: Password for account with administration rights to the application server - mandatory for WebLogic. • **Instance to install to**: Name of the current web application server instance (for example “mserver1”). • **Application server domain root directory**: The WebLogic domain root directory (for example `/bea/user_projects/domains/base_domain`).
WebLogic 10	• **Admin port**: Administration port of the application server - mandatory for WebLogic (for example “7001”). • **Admin login**: User name with administration rights to the application server - mandatory for WebLogic. • **Admin password**: Password for account with administration rights to the application server - mandatory for WebLogic. • **Instance to install to**: Name of the current web application server instance (for example “mserver1”). • **Application server domain root directory**: The WebLogic domain root directory (for example `/bea/weblogic10/user_projects/domains/base_domain`).
WebSphere 6.1	

Web application server	Information required for installation setup
	• **SOAP port**: The SOAP Connector Port of the application server (for example “8880”). • **Admin login**: User name with administration rights to the WebSphere application server. • **Admin password**: Password for account with administration rights to the application server. • **Instance to install to**: Name of the current web application server instance (for example “server1”). • **Virtual host**: The virtual host to which the application must be bound. • **Admin is secure?**: Select this option to enable security requiring administrative access credentials to the application. **Note:** Values for the username and password parameters must be set when *Admin is Secure* is enabled. • **Application server installation directory**: The directory where the web application server is installed (for example `/IBM/WebSphere/AppServer`).
Oracle Application Server 10g R3	

Web application server	Information required for installation setup
	• **Admin port**: Administration port of the application server - mandatory for Oracle 10g R3 (for example “6003”) .This should be the Request port of the `<notifi-cation-server>` element in the `opmn.xml` file. • **Admin login**: User name with administration rights to the application server - mandatory for Oracle 10g R3. • **Admin password**: Password for account with administration rights to the application server - mandatory for Oracle 10g R3. • **Admin is secure (y/n)**: Select this option only if you want Secure Sockets Layer (SSL) as part of the deployment. **Note:** If **Admin is secure** is not selected, you will still have to specify the username and password to access the server. • **Instance to install to**: Name of the current web application server instance (for example “home”). • **Application server Installation directory**: The directory where the web application server is installed (for example `/product/10.1.3/OracleAS_1`). • **Server Name**: Name of the target application server (for example "myserver.domain.com"). • Group Id: Name of the server group to which the target application belongs (for example "Default_group"). .

Deploying web applications using wdeploy

Note:

- The BusinessObjects Integration for SAP Solutions installation updates wdeploy in order to deploy BusinessObjects Integration for SAP Solutions web content. To deploy BusinessObjects Integration for SAP Solutions web applications after installation, you must use the `wdeploy` found in the *`installdir`*`/deployment` folder.
- Before performing this procedure, ensure that you have deployed the SAP Java Connector.

Related Topics

- *SAP Java Connector* on page 35

Deploying web applications on Tomcat

This section guides you through the process of deploying InfoView on Tomcat servers in Unix environment.

To deploy web applications on Tomcat

To deploy BusinessObjects Integration for SAP Solutions web applications after installation, you must use the `wdeploy` found in the *`installdir`*`/deployment` folder instead of the standalone `wdeploy`.

Note:
If Tomcat was installed with BusinessObjects Enterprise, the BusinessObjects Integration for SAP Solutions installation automatically deploys to the same server.

1. Shut down Tomcat if it is running, and type sh *`%CATALINA_HOME%`*/bin/shutdown.sh in a property command window.

   Note:
   `%CATALINA_HOME%` represents the root directory of the Tomcat installation.

2. Ensure that your *`CLASSPATH`* environment variable includes the `sapjco.jar` archive file.

   See *SAP Java Connector* on page 35 for details.

3. Create a new and empty file: *`%CATALINA_HOME%`*`/conf/Catalina/localhost/sap.xml`

   This file will be used as the context descriptor file for InfoView and the CMC.

4. Add the following line to `sap.xml` in a text editor such as Notepad, and save `sap.xml`: `Context docBase="$tomcat/application/SAP.war" path="/SAP" debug="0" reloadable="false" crossContext="false" trusted="false" /`

5. To manually deploy the BusinessObjects XI Integration Solutions for SAP web applications, use `wdeploy` found under *`businessobjects_root`*`/deployment`.

a. Move to `businessobjects_root/bobje/enterprise120/java/applications`, and use the following command to package the WAR files:

   businessobjects_root/bobje/jdk/bin/jar cf CmcApp.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/CmcApp .

   businessobjects_root/bobje/jdk/bin/jar cf InfoViewApp.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/InfoViewApp .

   businessobjects_root/bobje/jdk/bin/jar cf OpenDocument.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/OpenDocument .

   businessobjects_root/bobje/jdk/bin/jar cf SAP.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/SAP .

   businessobjects_root/bobje/jdk/bin/jar cf PartnerPlatformService.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/PartnerPlatformService .

   businessobjects_root/bobje/jdk/bin/jar cf dswsbobje.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/dswsbobje/.

b. Open the `config.WAS_Type` file (for example, `config.tomcat55`) located under `businessobjects_root/deployment`, set the parameters appropriate for your environment, and save the file.

   For more information about `config` file parameters, see the “Deploying applications after installation” chapter of the *Web Applications Deployment Guide*.

c. Stop Tomcat

d. Navigate to the `businessobjects_root/deployment` folder, and use the following command to undeploy BusinessObjects Enterprise web applications:

```
./wdeploy.sh tomcat55 -DAPP=CmcApp undeploy
./wdeploy.sh tomcat55 -DAPP=InfoViewApp undeploy
./wdeploy.sh tomcat55 -DAPP=OpenDocument undeploy
./wdeploy.sh tomcat55 -DAPP=dswsbobje undeploy
```

e. Restart Tomcat and navigate to the *businessobjects_root*/deployment folder, and use the following command to deploy BusinessObjects Enterprise web applications :

```
./wdeploy.sh tomcat55 -DAPP=CmcApp deploy
./wwdeploy.sh tomcat55 -DAPP=InfoViewApp deploy
./wdeploy.sh tomcat55 -DAPP=OpenDocument deploy
./wdeploy.sh tomcat55 -DAPP=dswsbobje deploy
```

f. Use the following command to deploy SAP web applications:

```
./wdeploy.sh tomcat55 -DAPP=SAP deploy
./wdeploy.sh tomcat55 -DAPP=PartnerPlatformService deploy
```

6. Create a new and empty file: *%CATALINA_HOME%*/conf/Catalina/localhost/PartnerPlatformService.xml
7. Add the following line to PartnerPlatformService.xml in a text editor such as Notepad and save PartnerPlatformService.xml: Context docBase="$tomcat/application/PartnerPlatformService.war" path="/PartnerPlatformService" debug="0" reloadable="false" crossContext="false" trusted="false" /
8. Restart Tomcat by typing *%CATALINA_HOME%*/bin/startup at the command prompt.
9. To test that the SAP authentication module is now available, open a web browser and type http://*servername*:8080/CmcApp in its address bar to launch the Central Management Console (CMC).
10. Log on to the CMC using your Administrator account and password.

    The password is set when you install BusinessObjects Enterprise.
11. Click **Authentication**, and then double-click **SAP**.

    The SAP authentication page should appear. If it does not, ensure that the librfccm and libsapjcorfc libraries are in your *businessobject_root*/enterprise120/PLATFORM directory, and restart your application server.

Deploying web applications on BEA WebLogic

This section guides you through the process of deploying InfoView on BEA WebLogic in a Unix environment.

To deploy web applications on BEA WebLogic

To deploy BusinessObjects Integration for SAP Solutions web applications after installation, you must use the `wdeploy` found in the *`installdir`*`/deployment` folder instead of the standalone `wdeploy`.

1. Ensure that your BEA WebLogic server is not running.
2. Ensure that your *`CLASSPATH`* environment variable includes the `sapjco.jar` archive file.

   See *SAP Java Connector* on page 35 for details.
3. Start your BEA WebLogic server.
4. Open a web browser, and type http://*`servername`*:7001/console in its address bar to open the BEA WebLogic Administrative Console.

   Substitute the name of the machine where you installed BEA WebLogic for *`servername`*.

   Note:
   By default, BEA WebLogic uses port 7001. If you configured your application server to use a different port number, substitute that port number in the URL.
5. To manually deploy the BusinessObjects XI Integration Solutions for SAP web applications, use `wdeploy` found under *`INSTALLDIR`*`/deployment`.
   a. Move to *`businessobjects_root`*`/bobje/enterprise120/java/applications`, and use the following command to package the WAR files:

      businessobjects_root/bobje/jdk/bin/jar cf CmcApp.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/CmcApp .

      businessobjects_root/bobje/jdk/bin/jar cf InfoViewApp.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/InfoViewApp .

      businessobjects_root/bobje/jdk/bin/jar cf OpenDocument.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/OpenDocument .

      businessobjects_root/bobje/jdk/bin/jar cf SAP.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/SAP .

businessobjects_root/bobje/jdk/bin/jar cf PartnerPlatformService.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/PartnerPlatformService .

businessobjects_root/bobje/jdk/bin/jar cf dswsbobje.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/dswsbobje .

b. Open the `config.WAS_Type` file (for example, `config.weblogic9`) located under *`INSTALLDIR`*`/deployment`, set the parameters appropriate for your environment, and save the file.

For more information about `config` file parameters, see the “Deploying applications after installation” chapter of the *Web Applications Deployment Guide*.

c. Navigate to the *`businessobjects_root`*`/deployment` folder and use the following command to redeploy related BusinessObjects Enterprise web applications:

```
./wdeploy.sh weblogic9 -DAPP=CmcApp -Das_admin_pass
word=<your password here> undeploy
./wdeploy.sh weblogic9 -DAPP=CmcApp -Das_admin_pass
word=<your password here> deploy
./wdeploy.sh weblogic9 -DAPP=InfoViewApp -Das_admin_pass
word=<your password here> undeploy
./wdeploy.sh weblogic9 -DAPP=InfoViewApp -Das_admin_pass
word=<your password here> deploy
./wdeploy.sh weblogic9 -DAPP=OpenDocument -Das_admin_pass
word=<your password here> undeploy
./wdeploy.sh weblogic9 -DAPP=OpenDocument -Das_admin_pass
word=<your password here> deploy
./wdeploy.sh weblogic9 -DAPP=dswsbobje -Das_admin_pass
word=<your password here> undeploy
./wdeploy.sh weblogic9 -DAPP=dswsbobje -Das_admin_pass
word=<your password here> deploy
```

d. Use the following command to deploy SAP web applications:

```
./wdeploy.sh weblogic9 -DAPP=SAP -Das_admin_password=<your
 password here> deploy
./wdeploy.sh weblogic9 -DAPP=PartnerPlatformService -
Das_admin_password=<your password here> deploy
```

6. To test that BusinessObjects Enterprise deploys correctly, type http://*`servername`*:7001/InfoViewApp/ in the address bar of a web browser.

7. To test that the SAP authentication module is now available, open a web browser and type http://*servername*:7001/CmcApp in its address bar to launch the Central Management Console (CMC).
8. Log on to the CMC using your Administrator account and password.

   The password is set when you first install BusinessObjects Enterprise.
9. Click **Authentication**, and then double-click **SAP**.

   The SAP authentication page should appear. If it does not, ensure that the `librfccm` and `libsapjcorfc` libraries are in your *businessobjects_root*`/enterprise120/PLATFORM` directory, and restart your Java application server.

   For more information about `wdeploy`, see the BusinessObjects Enterprise documentation.

Deploying web applications on IBM WebSphere

This section guides you through the process of deploying InfoView on IBM WebSphere in a Unix environment.

To deploy web applications on IBM WebSphere

To deploy BusinessObjects Integration for SAP Solutions web applications after installation, you must use the `wdeploy` found in the *installdir*`/deployment` folder instead of the standalone `wdeploy`.

1. Ensure that your IBM WebSphere server is not running.
2. Ensure that your *CLASSPATH* environment variable includes the `sapjco.jar` archive file.

   See *SAP Java Connector* on page 35 for details.
3. Start your IBM WebSphere Server, and launch the Administrative Console (for example, http://*servername*:9060/ibm/console).

   For *servername*, substitute the name of the machine where you installed IBM WebSphere. If you chose to use a port number other than the default value for the administrative console, substitute that value for 9060.
4. To manually deploy the BusinessObjects XI Integration for SAP Solutions web applications, use `wdeploy` found under *INSTALLDIR*`/deployment`.

a. Move to *businessobjects_root*/bobje/enterprise120/java/applications, and use the following command to package the WAR files:

businessobjects_root/bobje/jdk/bin/jar cf CmcApp.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/CmcApp .

businessobjects_root/bobje/jdk/bin/jar cf InfoViewApp.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/InfoViewApp .

businessobjects_root/bobje/jdk/bin/jar cf OpenDocument.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/OpenDocument .

businessobjects_root/bobje/jdk/bin/jar cf SAP.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/SAP .

businessobjects_root/bobje/jdk/bin/jar cf PartnerPlatformService.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/PartnerPlatformService .

businessobjects_root/bobje/jdk/bin/jar cf dswsbobje.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/dswsbobje .

b. Open the config.*WAS_Type* file (for example, config.websphere6) located in *INSTALLDIR*/deployment, set the parameters appropriate to your environment, and save the file.

For more information about config file parameters, see the “Deploying applications after installation” chapter of the *Web Applications Deployment Guide*.

c. Navigate to the *businessobjects_root*/deployment folder, and use the following command to redeploy related BusinessObjects Enterprise web applications:

```
./wdeploy.sh weblogic9 -DAPP=CmcApp -Das_admin_pass
word=<your password here> undeploy
./wdeploy.sh weblogic9 -DAPP=CmcApp -Das_admin_pass
word=<your password here> deploy
./wdeploy.sh weblogic9 -DAPP=InfoViewApp -Das_admin_pass
word=<your password here> undeploy
./wdeploy.sh weblogic9 -DAPP=InfoViewApp -Das_admin_pass
word=<your password here> deploy
./wdeploy.sh weblogic9 -DAPP=OpenDocument -Das_admin_pass
word=<your password here> undeploy
./wdeploy.sh weblogic9 -DAPP=OpenDocument -Das_admin_pass
word=<your password here> deploy
```

```
./wdeploy.sh weblogic9 -DAPP=dswsbobje -Das_admin_pass
word=<your password here> undeploy
./wdeploy.sh weblogic9 -DAPP=dswsbobje -Das_admin_pass
word=<your password here> deploy
```

d. Use the following command to deploy SAP web applications:

```
./wdeploy.sh websphere6 -DAPP=SAP -Das_admin_pass
word=<your password here> deploy
./wdeploy.sh websphere6 -DAPP=PartnerPlatformService -
Das_admin_password=<your password here> deploy
```

5. To test that InfoView deploys correctly, type http://*servername*:9080/InfoViewApp in the address bar of a web browser.
6. To test that the SAP authentication module is now available, open a web browser and type http://*servername*:9060/CmcApp in its address bar to launch the Central Management Console (CMC).
7. Log on to the CMC using your Administrator account and password.

   The password is set when you first install BusinessObjects Enterprise.
8. Click **Authentication**, and then double-click the **SAP** link.

   The SAP authentication page should appear. If it does not, ensure that the `librfccm` and `libsapjcorfc` libraries are in your *`businessobjects_root`*`/enterprise120/PLATFORM` directory, and restart your Java application server.

Deploying web applications on SAP Web Application Server

This section guides you through the process of deploying InfoView on SAP WAS in a UNIX environment.

To deploy web applications on SAP Web Application Server

1. Ensure that your SAP WAS server is not running.
2. Ensure that your *`CLASSPATH`* environment variable includes the `sapjco.jar` archive file.

   See *SAP Java Connector* on page 35 for details.
3. Start your SAP Web Application Server.
4. To manually deploy the BusinessObjects XI Integration for SAP Solutions web applications, use `wdeploy` found under *`INSTALLDIR`*`/deployment`.

a. Move to *businessobjects_root*/bobje/enterprise120/java/applications, and use the following command to package the WAR files:

businessobjects_root/bobje/jdk/bin/jar cf CmcApp.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/CmcApp .

businessobjects_root/bobje/jdk/bin/jar cf InfoViewApp.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/InfoViewApp .

businessobjects_root/bobje/jdk/bin/jar cf OpenDocument.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/OpenDocument .

businessobjects_root/bobje/jdk/bin/jar cf SAP.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/SAP .

businessobjects_root/bobje/jdk/bin/jar cf PartnerPlatformService.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/PartnerPlatformService .

businessobjects_root/bobje/jdk/bin/jar cf dswsbobje.war -C businessobjects_root/bobje/enterprise120/warfiles/WebApps/dswsbobje .

b. Open the config.*WAS_Type* file (for example, config.nw2004)located in *INSTALLDIR*/deployment, set the parameters appropriate to your environment, and save the file.

For more information about config file parameters, see the “Deploying applications after installation” chapter of the *Web Applications Deployment Guide*.

c. Navigate to the *businessobjects_root*/deployment folder, and use the following command to redeploy related BusinessObjects Enterprise web applications:

```
./wdeploy.sh nw2004 -DAPP=CmcApp -Das_admin_password=<your
 password here> undeploy
./wdeploy.sh nw2004 -DAPP=CmcApp -Das_admin_password=<your
 password here> deploy
./wdeploy.sh nw2004 -DAPP=InfoViewApp -Das_admin_pass
word=<your password here> undeploy
wdeploy.sh nw2004 -DAPP=InfoViewApp -Das_admin_pass
word=<your password here> deploy
wdeploy.sh nw2004 -DAPP=OpenDocument -Das_admin_pass
word=<your password here> undeploy
wdeploy.sh nw2004 -DAPP=OpenDocument -Das_admin_pass
word=<your password here> deploy
```

```
wdeploy.sh nw2004 -DAPP=dswsbobje -Das_admin_pass
word=<your password here> undeploy
wdeploy.sh nw2004 -DAPP=dswsbobje -Das_admin_pass
word=<your password here> deploy
```

d. Use the following command to deploy SAP web applications:

```
wdeploy.sh nw2004 -DAPP=SAP -Das_admin_password=<your
password here> deploy
wdeploy.sh nw2004 -DAPP=PartnerPlatformService -Das_ad
min_password=<your password here> deploy
```

5. To test that InfoView has deployed correctly, type http://*server name*:*port*/InfoViewApp in the address bar of a web browser.
6. To test that the SAP authentication module is now available, open a web browser and type http://*servername*:*port*/CmcApp in its address bar to launch the Central Management Console (CMC).
7. Log on to the CMC using your Administrator account and password. (By default the password is blank when you first install BusinessObjects Enterprise.)
8. Click **Authentication**, and then double-click the **SAP** link.

   The SAP authentication page should appear. If it does not, ensure that the `librfccm` and `libsapjcorfc` libraries are in your *businessobjects_root*`/enterprise120/PLATFORM` directory, and restart your Java application server.

Installing on Windows

This section outlines how to install the core Business Objects products and then how to install BusinessObjects XI Integration for SAP Solutions.

System requirements

All BusinessObjects XI Integration for SAP Solutions components are supported for use with the version XI releases of BusinessObjects Enterprise, Crystal Reports, and Voyager on Windows operating systems. For a stand-alone installation, ensure that all requirements are met on a single machine. For a distributed installation, ensure that each machine meets the requirements that correspond to the components you are installing.

Note:
For a detailed list of tested environments for BusinessObjects XI Integration for SAP Solutions, consult the platform support information available online at *http://support.businessobjects.com/documentation/supported_platforms/default.asp*.

Server requirements for BusinessObjects Enterprise

- Download the RFC SDK for your platform from the SAP Service Marketplace, or using the Installation option in your SAP program.
- The files `saplogon.ini` and `librfc32.dll` need to be installed on machines with Data Access components. The file `saplogon.ini` is required for Crystal Reports machines; the file `librfc32.dll` is required for client and server machines. Alternatively, you can add the full path to the `saplogon.ini` file to the *`SAPLOGON_INI_FILE`* environment variable.
- Supported web server software must be installed and configured correctly before you install BusinessObjects Enterprise. Consult the platform support information available online at *http://support.businessobjects.com/documentation/supported_platforms/default.asp* for a complete list.
- If you are using a load balanced logon, the following entry must appear in the Services file (found in `%windir%\system32\drivers\etc\`) on any BusinessObjects Enterprise machines running a CMS, Crystal Reports Processing Server, and/or Report Job Server:

  `sapms`*`SIDportnumber`*`/tcp`

  Replace *`SID`* with the system ID of your SAP system, and replace *`portnumber`* with the port number of the message server that BusinessObjects Enterprise will log on to (for example, `sapmsQR6 3600/tcp`). Ensure also that a blank line follows the entry. This standard setting allows BusinessObjects Enterprise to log on to SAP with load balancing.

Client requirements for Crystal Reports

If you have a BW environment, install the SAPGUI along with the BW AddOn option from the SAP Presentation CD before you install Crystal Reports and BusinessObjects XI Integration for SAP Solutions. Business Explorer version 3.x components are integrated into Crystal Reports.

For a detailed list of tested environments for Crystal Reports, consult the platform support information available online at *http://support.businessobjects.com/documentation/supported_platforms/default.asp*.

SAP Java Connector

To install InfoView automatically, you must install and configure SAP Java Connector components.

To do this, copy `librfc32.dll` and `sapjcorfc.dll` to `%windir%\system32` and copy `sapjco.jar` to the application server's shared library folder. Consult the documentation included with the SAP Java Connector for more information.

Related Topics

- *Deploying the web applications using wdeploy* on page 61

Recommended initial installation

Before beginning this installation, ensure that each machine meets the minimum requirements. See *System requirements* on page 51. Log on as an Administrator of the local machine to install any components.

Before running the installer, read *Publishing from BW to BusinessObjects Enterprise* on page 27 and select your publisher configuration.

If you choose to install the BW Publisher Service, select a custom installation, and select the BW Publisher Service component. During the installation, you will be prompted for information about your BW system. Ensure that you have selected a Program ID for the BW Publisher component, and that you know the Gateway Host and Gateway Service that you will use for publishing. See *Publishing Reports* on page 29 for details.

For a Windows installation, follow the procedures in this section in this order:

1. Install the core Business Objects products first (BusinessObjects Enterprise, Crystal Reports, and Voyager, if you purchased it).

Note:
You can install BusinessObjects Enterprise, Crystal Reports, Voyager, and BusinessObjects XI Integration for SAP Solutions on a single Windows machine; however, this is not necessary.

2. Install BusinessObjects XI Integration for SAP Solutions.

To install BusinessObjects XI Integration for SAP Solutions on Windows

Before you begin, ensure that you have these prerequisites:

- The CMS is running.
- You know the credentials for the BusinessObjects Enterprise Administrator account. You will be prompted for the Administrator logon credentials on the CMS machine.

1. On each Crystal Reports and BusinessObjects Enterprise machine, run the setup program from the installation disc.

   Tip:
   If Autoplay is disabled on your system, double-click `Setup.exe` on the CD.

2. Proceed through the Setup program's dialog boxes and follow the instructions displayed on your screen until you reach the "Choose Language Packs" dialog box.

   The Language Packs you install determine which product locales are available to users.

3. Select the Language Packs that you want to install and click **Next**.

   The "Select Installation Type" dialog box appears.

4. Select the appropriate installation type, depending on the product(s) that are already installed.
   - If only Crystal Reports or Universe Designer is installed, click **Desktop**, and click **Next** to begin the installation.
   - If only BusinessObjects Enterprise is installed, click **Server**.
   - If both BusinessObjects Enterprise and Crystal Reports or Voyager are installed, or if you want to select which components will be installed, click **Custom** and click **Next**. In the "Select Features" dialog box, choose the features that you need, and click **Next**.

- If you require the BW Report Publisher Service only, click **Custom** and ensure that the BW components are selected for installation.

If you selected a Server or Custom installation, you are prompted for your CMS logon information.

Note:
If you are performing a distributed installation of BusinessObjects Enterprise, the setup program detects which BusinessObjects Enterprise components are present and installs the appropriate features of BusinessObjects Integration for SAP Solutions.

5. Enter your CMS name, connection port number, and administrator password, and then click Next.
6. If your installation includes the BW Publisher Service, enter information about your BW system.

Field	Information required
Program ID	Type a descriptive string to identify the BW Publisher service. The Program ID can take any value, but must be 64 characters or fewer, and may not contain spaces. The Program ID is case-sensitive.
Gateway Host	Type the name of your BW server. If you have a BW cluster, enter the name of the central instance of BW.
Gateway Service	Type the port number that the Gateway Host is listening on. For example, type 33##, where ## represents the instance number of your SAP Gateway: if the instance number is 00, then the value for this field is 3300. If you have defined a symbolic name for this port (such as sapgw##), you may use this symbolic name instead.
Extra (optional)	If you plan to enforce Secure Network Communication (SNC) between SAP and BusinessObjects Enterprise, enter the appropriate switches here. For information on how to enable SNC for registered servers, consult the RFC SDK documentation for API RfcAccept. See *Configuring BusinessObjects Enterprise for server-side trust* on page 101 for more information.

Note:
Record the exact value you specify here for the Program ID. You will need this value when you configure the RFC destination on your BW system.

For more details about configuring the BW system, see *Configuring a destination for the BW Publisher service* on page 118.

The "AutoDeploy Web Applications" dialog box appears.

7. Choose whether you want to automatically or manually deploy web applications.

Option	Description
Yes, automatically deploy the web application.	The Setup program automatically deploys web applications.
No, I will manually deploy the web application at a later time.	The Setup program does not deploy web applications. Instead, you can use the wdeploy script to deploy web applications after the Setup program finishes.

If you chose **Yes, automatically deploy the web application**, the "Configure Web Application Server" dialog box appears.

8. Ensure your WAS information is correct, enter a password, and click **Next**.

   For more information about configuring your WAS, see *To configure your existing web application server* on page 57.

   Note:
   You can only configure the WAS that was specified during your BusinessObjects Enterprise installation.

9. Proceed through the Setup program's remaining dialog boxes and follow the instructions on your screen to complete the installation.

To configure your existing web application server

The "Configure Web Application Server" screen displays during installation after you specify an existing server in the "Select Web Application Server" screen. To properly install web components on your web application server, you must provide specific configuration information about your existing web application server.

1. Select your existing web application server from the drop-down list of web application server types.
2. Click **Next** to continue with the installation.

   The following table summarizes the information required for supported web application servers.

Web application server	Information required for installation
Tomcat 5.5	• **Server Instance**: Name of the current web application server instance (for example “localhost”). • **Service Name**: Name of the Windows service if the application server will be installed as a windows service (for example “Tomcat5”). • **Application Server Installation Directory**: The directory where the web application server is installed (for example `C:\wdeploy\appserver\Tomcat5520`).
WebLogic 10	• **Port**: Administration port of the application server (for example “7001”). • **Username**: User name with administration rights to the application server. • **Password**: Password for account with administration rights to the application server. • **Server Instance**: Name of the current web application server instance (for example “mserver1”). • **Application Server Domain Root Directory**: The WebLogic domain root directory (for example `C:\bea\weblogic10\user_projects\domains\base_domain`).
WebLogic 9.2	• **Port**: Administration port of the application server (for example “7001”). • **Username**: User name with administration rights to the application server. • **Password**: Password for account with administration rights to the application server. • **Server Instance**: Name of the current web application server instance (for example “mserver1”). • **Application Server Domain Root Directory**: The directory where the web application server is installed (for example `C:\bea\user_projects\domains\base_domain`).
WebSphere 6.1	

Web application server	Information required for installation
	• **SOAP Port**: The SOAP Connector Port of the application server (for example “8880”). • **Username**: User name with administration rights to the WebSphere application server. • **Password**: Password for account with administration rights to the application server. • **Server Instance**: Name of the current web application server instance (for example “server1”). • **Virtual Host**: The virtual host to which the application must be bound. • **Admin is Secure?**: Select this option to enable security requiring administrative access credentials to the application. **Note:** Values for the username and password parameters must be set when *Admin is Secure* is enabled. • **Application Server Installation Directory**: The directory where the web application server is installed (for example `C:\Program Files\IBM\WebSphere\AppServer`).
Oracle Application Server 10g R3	

Web application server	Information required for installation
	• **Admin is Secure?**: Select this option to use Secure Sockets Layer (SSL) encryption for authentication. **Note:** If **Admin is Secure?** is not selected, you will still have to specify the username and password to access the server. • **Port**: Administration port of the application server (for example “6003”). This should be the request port of the `<notification-server>` element in the `opmn.xml` file. • **Username**: User with administration rights to the application server. • **Password**: Password for account with administration rights to the application server. • **Server Instance**: Name of the Oracle Application Server application server instance (for example “home”). • Server Name: Name of the target application server (for example, “myserver.domain.com”). • Group Id: Name of the server group to which the target application belongs (for example "Default_group"). • **Application Server Installation Directory**: The directory where the web application server is installed (for example `C:\product\10.1.3\OracleAS_1`).

The "Start Installation" screen is displayed.

Remember your credentials for the web application server as they may be required to install add-ons such as ProcessTracker or additional language packs.

Deploying the web applications using wdeploy

To deploy InfoView, you must create virtual path mappings on your Java web application server.

Note:
The wdeploy tool cannot be used to deploy .NET BusinessObjects Enterprise web applications . Please use the BusinessObjects XI Integration for SAP Solutions installation to deploy all .NET applications.

Deploying web applications on Tomcat

This section guides you through the process of deploying InfoView on Tomcat servers in a Windows environment.

To deploy web applications on Tomcat

To deploy BusinessObjects Integration for SAP Solutions web applications after installation, you must use the `wdeploy` found in the *`installdir`*`\deployment` folder instead of the standalone `wdeploy`.

1. Ensure that you have deployed the SAP Java Connector as described in *SAP Java Connector* on page 53.
2. Ensure that your *`CLASSPATH`* environment variable includes the `sapjco.jar` archive file. (See *SAP Java Connector* on page 53 for details.)
3. Manually deploy the BusinessObjects XI Integration Solutions for SAP web applications using `wdeploy` found under *`installdir`*`\deployment`.
   a. Move to *`businessobjects_root`*`\BusinessObjects Enterprise 12.0\java\applications\`, and use the following command to package the WAR files:

      "businessobjects_root\javasdk\bin\jar.exe" cf CmcApp.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\CmcApp" .

      "businessobjects_root\javasdk\bin\jar.exe" cf SAP.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\SAP" .

"businessobjects_root\javasdk\bin\jar.exe" cf InfoViewApp.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\InfoViewApp" .

"businessobjects_root\javasdk\bin\jar.exe" cf OpenDocument.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\OpenDocument" .

"businessobjects_root\javasdk\bin\jar.exe" cf dswsbobje.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\dswsbobje" .

"businessobjects_root\javasdk\bin\jar.exe" cf PartnerPlatformService.war -C "businessobjects_root\ BusinessObjects Enterprise 12.0\warfiles\WebApps\PartnerPlatformService" .

b. Open `config.WAS_Type` file (for example, `config.tomcat55`) located under *`businessobjects_root`*`\deployment`, set the parameters appropriate for your environment, and save the file.

   For more information about `config` file parameters, see the “Deploying applications after installation” chapter of the *Web Applications Deployment Guide* .

c. Stop Tomcat.

d. Move to *`installdir`*`\deployment` folder, and use the following command to undeploy BusinessObjects Enterprise web applications:

```
wdeploy.bat tomcat55 -DAPP=CmcApp undeploy
wdeploy.bat tomcat55 -DAPP=InfoViewApp undeploy
wdeploy.bat tomcat55 -DAPP=OpenDocument undeploy
wdeploy.bat tomcat55 -DAPP=dswsbobje undeploy
```

e. Restart Tomcat and use the following command to deploy the following applications:

```
wdeploy.bat tomcat55 -DAPP=CmcApp deploy
wdeploy.bat tomcat55 -DAPP=InfoViewApp deploy
wdeploy.bat tomcat55 -DAPP=InfoViewApp deploy
wdeploy.bat tomcat55 -DAPP=dswsbobje deploy
```

f. Use the following command to deploy the following SAP web applications:

```
wdeploy.bat tomcat55 -DAPP=SAP deploy
wdeploy.bat tomcat55 -DAPP=PartnerPlatformService deploy
```

4. Create a new and empty file: `%CATALINA_HOME%\conf\Catalina\localhost\PartnerPlatformService.xml`
5. Add the following line to `PartnerPlatformService.xml` in a text editor such as Notepad:

```
Context docBase="C:/PROGRA~1/BUSINE~1/deployment/workdir/tomcat55/application/PartnerPlatformService.war" path="/PartnerPlatformService" debug="0" reloadable="false" crossContext="false" trusted="false"
```

6. Restart Tomcat.
   a. Go to **Start** > **Tomcat** > **Tomcat Configuration**.
   b. Click **Start**.
7. To test that the SAP authentication module is now available, open a web browser and type http://*servername*:8080/CmcApp in its address bar to launch the Central Management Console (CMC).
8. Log on to the CMC using your Administrator account and password.

   The password is set when you install BusinessObjects Enterprise.
9. Select **Authentication**, and then double-click **SAP**.

   The SAP authentication page should appear. If it does not, ensure that both the `librfc32.dll` and the `sapjcorfc.dll` are in the `%windir%\system32` directory, and restart your application server.

Deploying web applications on BEA WebLogic

This section guides you through the process of deploying InfoView on BEA WebLogic in a Windows environment.

To deploy web applications on BEA WebLogic

To deploy BusinessObjects Integration for SAP Solutions web applications after installation, you must use the `wdeploy` found in the *`installdir`*`\deployment` folder instead of the standalone `wdeploy`.

1. Ensure that you have deployed the SAP Java Connector as described in *SAP Java Connector* on page 53.
2. Ensure that your *`CLASSPATH`* environment variable includes the `sapjco.jar` archive file.

   See *SAP Java Connector* on page 53 for details.

3. Start the WebLogic Admin server. To start the admin server, open a console window, navigate to the *WebLogic installdir*\user_projects\domains\mydomain directory, then execute startWebLogic.cmd.

   Tip:
   To start the Admin server a different way, you can go to **Start** > **Programs** > **Bea WebLogic Platform** > **User Projects** > **My Domain** > **Start Server** .

4. Manually deploy the BusinessObjects XI Integration Solutions for SAP web applications, using wdeploy found under *installdir*\deployment.
   a. Move to *businessobjects_root*\BusinessObjects12.0\java\applications\, and use the following command to package the WAR files:

      "businessobjects_root\javasdk\bin\jar.exe" cf CmcApp.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\CmcApp" .

      "businessobjects_root\javasdk\bin\jar.exe" cf SAP.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\SAP" .

      "businessobjects_root\javasdk\bin\jar.exe" cf InfoViewApp.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\InfoViewApp" .

      "businessobjects_root\javasdk\bin\jar.exe" cf OpenDocument.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\OpenDocument" .

      "businessobjects_root\javasdk\bin\jar.exe" cf dswsbobje.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\dswsbobje" .

      "businessobjects_root\javasdk\bin\jar.exe" cf PartnerPlatformService.war -C "businessobjects_root\ BusinessObjects Enterprise 12.0\warfiles\WebApps\PartnerPlatformService" .

   b. Open config.*WAS_Type* file (for example, config.weblogic9) located under *installdir*\deployment , set the parameters appropriate for your environment, and save the file.

For more information about `config` file parameters, see the “Deploying applications after installation” chapter of the *Web Applications Deployment Guide*.

c. Move to *`installdir`*`\deployment` folder, and use the following command to redeploy related BusinessObjects Enterprise web applications:

```
wdeploy.bat weblogic9 -DAPP=CmcApp -Das_admin_pass
word=<your password here> undeploy
wdeploy.bat weblogic9 -DAPP=CmcApp -Das_admin_pass
word=<your password here> deploy
wdeploy.bat weblogic9 -DAPP=InfoViewApp -Das_admin_pass
word=<your password here> undeploy
wdeploy.bat weblogic9 -DAPP=InfoViewApp -Das_admin_pass
word=<your password here> deploy
wdeploy.bat weblogic9 -DAPP=OpenDocument -Das_admin_pass
word=<your password here> undeploy
wdeploy.bat weblogic9 -DAPP=OpenDocument -Das_admin_pass
word=<your password here> deploy
wdeploy.bat weblogic9 -DAPP=dswsbobje -Das_admin_pass
word=<your password here> undeploy
wdeploy.bat weblogic9 -DAPP=dswsbobje -Das_admin_pass
word=<your password here> deploy
```

d. Use the following command to deploy SAP web applications:

```
wdeploy.bat weblogic9 -DAPP=SAP -Das_admin_password=<your
 password here> deploy
wdeploy.bat weblogic9 -DAPP=PartnerPlatformService -
Das_admin_password=<your password here> deploy
```

5. To test that BusinessObjects Enterprise deploys correctly, open a web browser and type http://*`servername`*:7001/InfoViewApp in its address bar.
6. To test that the SAP authentication module is now available, open a web browser and type `http://servername:7001/CmcApp` in its address bar to launch the Central Management Console (CMC).
7. Log on to the CMC using your Administrator account and password.

   The password is set when you first install BusinessObjects Enterprise.
8. Select **Authentication**and then double-click **SAP**.

   The SAP authentication page should appear. If it does not, ensure that `librfc32.dll` and `sapjcorfc.dll` are in your `C:\WINDOWS\system32` directory, and restart your Java application server.

For more information about wdeploy, see the BusinessObjects Enterprise documentation.

Note:
For 64-bit installation, ensure the `librfc32.dll` and `sapjcorfc.dll` are in your `C:\Windows\SysWOW64` directory, and restart your Java application server.

Deploying web applications on IBM WebSphere

This section guides you through the process of deploying InfoView on WebSphere in Windows environment.

To deploy web applications on IBM WebSphere

To deploy BusinessObjects Integration for SAP Solutions web applications after installation, you must use the `wdeploy` found in the *`installdir`*`\deployment` folder instead of the standalone `wdeploy`.

1. Ensure that you have deployed the SAP Java Connector as described in *SAP Java Connector* on page 53.
2. Ensure that your *`CLASSPATH`* environment variable includes the `sapjco.jar` archive file.

   See *SAP Java Connector* on page 53 for details.
3. Manually deploy the BusinessObjects XI Integration Solutions for SAP web applications using `wdeploy` found under *`INSTALLDIR`*`\deployment`.
   a. Move to *`businessobjects_root`*`\BusinessObjects12.0\java\applications\`, and use the following command to package the WAR files:

   "businessobjects_root\javasdk\bin\jar.exe" cf CmcApp.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\CmcApp" .

   "businessobjects_root\javasdk\bin\jar.exe" cf SAP.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\SAP" .

   "businessobjects_root\javasdk\bin\jar.exe" cf InfoViewApp.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\InfoViewApp" .

"businessobjects_root\javasdk\bin\jar.exe" cf OpenDocument.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\OpenDocument" .

"businessobjects_root\javasdk\bin\jar.exe" cf dswsbobje.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\dswsbobje" .

"businessobjects_root\javasdk\bin\jar.exe" cf PartnerPlatformService.war -C "businessobjects_root\ BusinessObjects Enterprise 12.0\warfiles\WebApps\PartnerPlatformService" .

b. Open the `config.WAS_Type` file (for example, `config.webSphere6`) located under *`installdir`*`\deployment`, set the parameters appropriate for your environment, and save the file.

   For more information about `config` file parameters, see the “Deploying applications after installation” chapter of the *Web Applications Deployment Guide*.

c. Navigate to the *`installdir`*`\deployment` folder, and use the following command to redeploy related BusinessObjects Enterprise web applications.

```
wdeploy.bat webSphere6 -DAPP=CmcApp -Das_admin_pass
word=<your password here> undeploy
wdeploy.bat webSphere6 -DAPP=CmcApp -Das_admin_pass
word=<your password here> deploy
wdeploy.bat webSphere6 -DAPP=InfoViewApp -Das_admin_pass
word=<your password here> undeploy
wdeploy.bat webSphere6 -DAPP=InfoViewApp -Das_admin_pass
word=<your password here> deploy
wdeploy.bat webSphere6 -DAPP=OpenDocument -Das_admin_pass
word=<your password here> undeploy
wdeploy.bat webSphere6 -DAPP=OpenDocument -Das_admin_pass
word=<your password here> deploy
wdeploy.bat webSphere6 -DAPP=dswsbobje -Das_admin_pass
word=<your password here> undeploy
wdeploy.bat webSphere6 -DAPP=dswsbobje -Das_admin_pass
word=<your password here> deploy
```

d. Use the following command to deploy SAP web applications.

```
wdeploy.bat webSphere6 -DAPP=SAP -Das_admin_password=<your
 password here> deploy
wdeploy.bat webSphere6 -DAPP=PartnerPlatformService -
Das_admin_password=<your password here> deploy
```

4. To test that the SAP authentication module is now available, open a web browser and type http://*servername*:9080/CmcApp in its address bar to launch the Central Management Console (CMC).
5. Log on to the CMC using your Administrator account and password.

   The password is set when you first install BusinessObjects Enterprise.
6. Click **Authentication**, and then double-click **SAP**.

   The SAP authentication page should appear. If it does not, ensure that both the librfc32.dll and the sapjcorfc.dll are in your C:\WINDOWSWNNT\system32 directory, and restart your Java application server.

   Note:
   For 64-bit installation, ensure the librfc32.dll and the sapjcorfc.dll are in your C:\windows\sysWow64 directory, and restart your Java application server.

Deploying web applications on SAP Web Application Server

This section guides you through the process of deploying InfoView on SAP Web Application Server in a Windows environment.

To deploy web applications on SAP Web Application Server

To deploy BusinessObjects Integration for SAP Solutions web applications after installation, you must use the wdeploy found in the *installdir*\deployment folder instead of the standalone wdeploy.

1. Ensure that you have deployed the SAP Java Connector as described in *SAP Java Connector* on page 53.
2. Ensure that your *CLASSPATH* environment variable includes the sapjco.jar archive file.

   See *SAP Java Connector* on page 53 for details.
3. Manually deploy the BusinessObjects XI Integration Solutions for SAP web applications using wdeploy found under *INSTALLDIR*\deployment.
   a. Move to *businessobjects_root*\BusinessObjects12.0\java\applications\, and use the following command to package the WAR files:

"businessobjects_root\javasdk\bin\jar.exe" cf CmcApp.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\CmcApp" .

"businessobjects_root\javasdk\bin\jar.exe" cf SAP.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\SAP" .

"businessobjects_root\javasdk\bin\jar.exe" cf InfoViewApp.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\InfoViewApp" .

"businessobjects_root\javasdk\bin\jar.exe" cf OpenDocument.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\OpenDocument" .

"businessobjects_root\javasdk\bin\jar.exe" cf dswsbobje.war -C "businessobjects_root\BusinessObjects Enterprise 12.0\warfiles\WebApps\dswsbobje" .

"businessobjects_root\javasdk\bin\jar.exe" cf PartnerPlatformService.war -C "businessobjects_root\ BusinessObjects Enterprise 12.0\warfiles\WebApps\PartnerPlatformService" .

b. Open the `config.WAS_Type` file (for example, `config.nw2004`) located under *`installdir`*`\deployment`, set the parameters appropriate for your environment, and save the file.

   For more information about `config` file parameters, see the “Deploying applications after installation” chapter of the *Web Applications Deployment Guide*.

c. Navigate to the *`installdir`*`\deployment` folder, and use the following command to redeploy related BusinessObjects Enterprise web applications.

```
wdeploy.bat nw2004 -DAPP=CmcApp -Das_admin_password=<your
 password here> undeploy
wdeploy.bat nw2004 -DAPP=CmcApp -Das_admin_password=<your
 password here> deploy
wdeploy.bat nw2004 -DAPP=InfoViewApp -Das_admin_pass
word=<your password here> undeploy
wdeploy.bat nw2004 -DAPP=InfoViewApp -Das_admin_pass
word=<your password here> deploy
wdeploy.bat nw2004 -DAPP=OpenDocument -Das_admin_pass
word=<your password here> undeploy
wdeploy.bat nw2004 -DAPP=OpenDocument -Das_admin_pass
word=<your password here> deploy
```

```
wdeploy.bat nw2004 -DAPP=dswsbobje -Das_admin_pass
word=<your password here> undeploy
wdeploy.bat nw2004 -DAPP=dswsbobje -Das_admin_pass
word=<your password here> deploy
```

d. Use the following command to deploy SAP web applications.

```
wdeploy.bat nw2004 -DAPP=SAP -Das_admin_password=<your
password here> deploy
wdeploy.bat nw2004 -DAPP=PartnerPlatformService -Das_ad
min_password=<your password here> deploy
```

4. To test that the SAP authentication module is now available, open a web browser and type http://*servername*:9080/CmcApp in its address bar to launch the Central Management Console (CMC).
5. Log on to the CMC using your Administrator account and password.

   The password is set when you first install BusinessObjects Enterprise.
6. Click **Authentication**, and then double-click **SAP**.

   The SAP authentication page should appear. If it does not, ensure that `both the librfc32.dll` and the `sapjcorfc.dll` are in your `C:\WINDOWS\system32` directory, and restart your Java application server.

   Note:
   For 64-bit installation, ensure the `librfc32.dll` and the `sapjcorfc.dll` are in your `C:\windows\sysWow64` directory, and restart your Java application server.

Distributed installation

The BusinessObjects Enterprise architecture is scalable in that it allows for a multitude of server configurations, ranging from stand-alone, single-machine environments, to large-scale deployments supporting global organizations. The flexibility offered by the product's architecture allows you to set up a system that suits your current reporting requirements, without limiting the possibilities for future growth and expansion.

Note:
This section provides details that are specific to BusinessObjects XI Integration for SAP Solutions. For general information about distributing the BusinessObjects Enterprise components, see the “Scaling Your System” section of the *BusinessObjects Enterprise Administrator's Guide* .

Installing components on BusinessObjects Enterprise machines

If you have a distributed installation of BusinessObjects Enterprise, install the listed BusinessObjects XI Integration for SAP Solutions components on the appropriate machines.

If you select a default server installation of BusinessObjects XI Integration for SAP Solutions, the setup program detects which elements of BusinessObjects Enterprise are present, and installs the appropriate BusinessObjects XI Integration for SAP Solutions components.

Components	BusinessObjects Enterprise machines
Data Access	• Crystal Reports Processing Server • Report Job Server • Report Application Server (RAS)
BW Publisher (installed as a service on one or more of these machines, or with a local SAP Gateway)	• Crystal Reports Processing Server • Report Job Server • RAS • BusinessObjects Enterprise SDK
Security	• Central Management Server • All machines that have the BusinessObjects Enterprise SDK installed.
Web Content	• BusinessObjects Enterprise Java SDK

Separating BusinessObjects Enterprise from your web server

The *BusinessObjects Enterprise Installation Guide* available online explains how to connect BusinessObjects Enterprise to a web server or Java application server that is running on a different machine.

If you set up your system in this manner, you will need to install the Web Content feature from the BusinessObjects XI Integration for SAP Solutions installation disc onto the server that is connected to BusinessObjects Enterprise. This feature includes the files that make up the BusinessObjects XI Integration for SAP Solutions web application.

Distributing the BW Publisher installation

This section explains the distribution of BW Publisher service and how to separate the BW Publisher from other BusinessObjects Enterprise components.

BW Publisher Service

You can load-balance publishing from BW by installing BW Publisher services on two separate machines in the same BusinessObjects Enterprise system.

When you install the BW Publisher on the BusinessObjects Enterprise machines, configure each one to use the same Program ID and SAP Gateway Host and Gateway Service. After you create an RFC destination that uses this Program ID, BW load-balances publishing between the BusinessObjects Enterprise machines. Moreover, if one BW Publisher becomes unavailable, BW continues to use the remaining BW Publisher.

You can add an additional level of system redundancy to any configuration that includes multiple BW application servers. Configure each BW application server to run an SAP Gateway. For each one, install a separate BW Publisher service on a BusinessObjects Enterprise machine. Configure each BW Publisher service to use the Gateway Host and Gateway service of a separate BW application server. In this configuration, publishing from BW can continue if either a BW Publisher or an application server fails.

Related Topics

- *Recommended initial installation* on page 53
- *To start the BW Publisher* on page 117

BW Publisher on a stand-alone SAP Gateway

If you want to separate the BW Publisher from other BusinessObjects Enterprise components, install the BW using a stand-alone SAP Gateway.

In this case you must install a local SAP Gateway on the same machine as the BW Publisher. In addition, the BW Publisher requires access to the BusinessObjects Enterprise Software Development Kit (SDK) and the Crystal Reports Print Engine. Thus, if you install the BW Publisher and the local SAP Gateway on a dedicated machine, you must also install the SIA Server.

Related Topics

- *Selecting your BW Publisher configuration* on page 27
- *Publishing from BW to BusinessObjects Enterprise* on page 27

Adding servers to BusinessObjects Enterprise

If you expand your BusinessObjects Enterprise system after installing BusinessObjects XI Integration for SAP Solutions.

Related Topics

- *Installing components on BusinessObjects Enterprise machines* on page 71

Uninstalling BusinessObjects XI Integration for SAP Solutions

This section describes uninstalling BusinessObjects XI Integration for SAP Solutions.

Note:

If you have installed multiple SAP solutions on the same Crystal Reports or BusinessObjects Enterprise server, and you want to uninstall them, then you must uninstall the SAP Solutions in the reverse order in which they were installed. Therefore, you must always uninstall the most recently installed SAP Solution first.

To uninstall BusinessObjects XI Integration for SAP Solutions

If you want to delete users and groups that were imported from SAP through the Central Management Console (CMC) and the SAP authentication plug-in, you must remove the users and groups before you uninstall BusinessObjects XI Integration for SAP Solutions. You cannot delete SAP users from BusinessObjects Enterprise without BusinessObjects XI Integration for SAP Solutions.

1. Uninstall BusinessObjects XI Integration for SAP Solutions.
   - On a Windows computer, uninstall the BusinessObjects XI Integration for SAP from **Add/Remove Programs**.
   - On a UNIX computer, run the `AddOrRemoveProducts.sh` command.
2. Run the `partnercafuninstall.bat` or `partnercafuninstall.sh` script, depending on your platform. You must provide the password for the BusinessObjects Enterprise administrator.
   - On Windows, run `partnercafuninstall.bat -p` *`BOE_PASSWORD`*.
   - On UNIX, run `partnercafuninstall.sh -p` *`BOE_PASSWORD`*.

   After the script finishes, you must also clean up the remaining SAP files.
3. In the *`installdir`*`\deployment\apps` folder, delete `SAP.properties` and `PartnerPlatformServices.properties`.
4. Undeploy and redeploy BusinessObjects Enterprise web applications using wdeploy from the *`install`*`\deployment` folder and the following commands:

```
wdeploy.sh <WAS type> -DAPP=CmcApp -Das_admin_password=<your
 password here> undeploy
wdeploy.sh <WAS type> -DAPP=CmcApp -Das_admin_password=<your
 password here> deploy
wdeploy.sh <WAS type> -DAPP=InfoViewApp -Das_admin_pass
word=<your password here> undeploy
```

```
wdeploy.sh <WAS type> -DAPP=InfoViewApp -Das_admin_pass
word=<your password here> deploy
wdeploy.sh <WAS type> -DAPP=OpenDocument -Das_admin_pass
word=<your password here> undeploy
wdeploy.sh <WAS type> -DAPP=OpenDocument -Das_admin_pass
word=<your password here> deploy
wdeploy.sh <WAS type> -DAPP=dswsbobje -Das_admin_pass
word=<your password here> undeploy
wdeploy.sh <WAS type> -DAPP=dswsbobje -Das_admin_pass
word=<your password here> deploy
```

Configuring SAP authentication

chapter 5

This section explains how to configure BusinessObjects Enterprise authentication for your SAP environment.

Accessing the SAP authentication application

After installing SAP Authentication, you must provide BusinessObjects Enterprise with information about your SAP system. BusinessObjects XI Integration for SAP Solutions installs a web application to assist you. This web application is accessible through the main BusinessObjects Enterprise administration tool, the Central Management Console (CMC). To access it from the home page of the CMC, click **Authentication**.

Related Topics

- *Authenticating SAP users* on page 24
- *Configuring SAP authentication for BusinessObjects Enterprise* on page 79

Configuration overview

Once you have updated BusinessObjects Enterprise with BusinessObjects XI Integration for SAP Solutions, you must configure your SAP system and BusinessObjects Enterprise. These steps must be performed for BW, R/3, and mySAP ERP systems:

- *Configuring transports* on page 220
- *Creating and applying authorizations* on page 228
- *Configuring SAP authentication for BusinessObjects Enterprise* on page 79
- *Configuring SAP for server-side trust* on page 96
- *Configuring BusinessObjects Enterprise for server-side trust* on page 101
- *Configuring Data Access* on page 90

After you have completed these steps on an R/3 or mySAP ERP system, configuration is complete. You can begin using BusinessObjects XI Integration for SAP Solutions.

For BW systems, additional configuration is required to enable report viewing and report publishing. After completing these steps, go on to *Configuring the BW Publisher* on page 116.

Configuring SAP authentication for BusinessObjects Enterprise

SAP authentication enables SAP users to log on to BusinessObjects Enterprise using their SAP user names and passwords, without storing these passwords in BusinessObjects Enterprise. SAP authentication also allows you to preserve information about user roles in SAP, and to use this role information within BusinessObjects Enterprise to assign rights to perform administrative tasks, or access content.

Related Topics

- *Authenticating SAP users* on page 24

Creating a user account for BusinessObjects Enterprise

The BusinessObjects Enterprise system requires an SAP user account that is authorized to access SAP role membership lists, authenticate SAP users, and so on. You will need this user name and its password when you connect BusinessObjects Enterprise to your SAP system. For general instruction on creating SAP user accounts and assigning authorizations through roles, see your SAP documentation.

Use transaction `SU01` to create a new SAP user account named `CRYSTAL`. Use transaction `PFCG` to create a new role named `CRYSTAL_ENTITLEMENT`. (These names are recommended but not required.) Change the new role's authorization data by setting these values for the following authorization objects:

Authorization object	Field	Value
Authorization for file access (S_DATASET)	Activity (ACTVT)	Read, Write (33, 34)
	Physical file name (FILENAME)	* (denotes All)
	ABAP program name (PROGRAM)	*
Authorization Check for RFC Access (S_RFC)	Activity (ACTVT)	16
	Name of RFC to be protected (RFC_NAME)	BDCH, STPA, SUSO, SUUS, SU_USER, SYST, SUNI, PRGN_J2EE, /CRYSTAL/SECURITY
	Type of RFC object to be protected (RFC_TYPE)	Function group (FUGR)
User Master Maintenance: User Groups (S_USER_GRP)	Activity (ACTVT)	Create or Generate, and Display (03)
	User group in user master maintenance (CLASS)	* **Note:** For greater security, you may prefer to explicitly list the user groups whose members require access to BusinessObjects Enterprise.

Finally, add the `CRYSTAL` user to the `CRYSTAL_ENTITLEMENT` role.

Tip:
If your system policies require users to change their passwords when they first log on to the system, log on now with the `CRYSTAL` user account and reset its password.

Connecting to SAP entitlement systems

Before you can import roles or publish BW content to BusinessObjects Enterprise, you must provide information about the SAP entitlement systems that you want to integrate with BusinessObjects Enterprise. BusinessObjects Enterprise uses this information to connect to SAP when it determines role memberships and authenticates SAP users.

To add an SAP entitlement system to BusinessObjects Enterprise

1. Go to the "Authentication" management area of the CMC.
2. Double-click the **SAP** link.

   The entitlement systems settings appear.

   Tip:
   If an entitlement system is already displayed in the **Logical system name** list, click **New**.

3. In the **System** field, type the three-character System ID (SID) of your SAP system.
4. In the **Client** field, type the client number that BusinessObjects Enterprise must use when it logs on to your SAP system.

   BusinessObjects Enterprise combines your System and Client information, and adds an entry to the **Logical system name** list
5. Ensure the **Disabled** check box is clear.

   Note:
   Use the **Disabled** check box to indicate to BusinessObjects Enterprise that a particular SAP system is temporarily unavailable.

6. Complete the **Message Server** and **Logon Group** fields as appropriate, if you have set up load balancing such that BusinessObjects Enterprise must log on through a message server.

   Note:
   You must make the appropriate entries in the `Services` file on your BusinessObjects Enterprise machine to enable load balancing - especially if your deployment not on a single machine. Specifically you should account for the machines hosting the CMS, the Web application server, as well as all machines managing your authentication accounts and settings.

7. If you have not set up load balancing (or if you prefer to have BusinessObjects Enterprise log on directly to the SAP system), complete the **Application Server** and **System Number** fields as appropriate.
8. In the **Username**, **Password**, and **Language** fields, type the user name, password, and language code for the SAP account that you want BusinessObjects Enterprise to use when it logs on to SAP.

   Note:
   These credentials must correspond to the user account that you created for BusinessObjects Enterprise. For details, see *Creating a user account for BusinessObjects Enterprise* on page 79.

9. Click **Update**.
10. On the **Options** tab, ensure that the **Enable SAP Authentication** check box is selected.

If you add multiple entitlement systems, click the **Options** tab to specify the system that BusinessObjects Enterprise uses as the default (that is, the system that is contacted to authenticate users who attempt to log on with SAP credentials but without specifying a particular SAP system).

To verify if your entitlement system was added correctly

1. Click the **Role Import** tab.
2. Select the name of the entitlement system from the **Logical system name** list.

   If the entitlement system was added correctly, the **Available roles** list will contain a list of roles that you can choose to import.

Tip:
If no roles are visible in the **Logical system name** list, look for error messages on the page. These may give you the information you need to correct the problem.

Setting SAP Authentication options

SAP Authentication includes a number of options that you can customize when integrating BusinessObjects Enterprise with your SAP systems. For instance, you can enable/disable SAP Authentication or configure BusinessObjects Enterprise to temporarily disable SAP Authentication for SAP systems when they become unavailable.

To set SAP Authentication options

1. Go to the "Authentication" management area of the CMC.
2. Double-click the **SAP** link and then click the **Options** tab.
3. Review and modify settings as required.

Setting	Description
Enable SAP Authentication	Clear this check box if you want to disable SAP Authentication completely. (To disable SAP Authentication for a specific SAP System, select that system's **Disabled** check box on the **Entitlement Systems** tab.)
Default system	In this list, select the SAP entitlement system that BusinessObjects Enterprise uses as the default (that is, the system that is contacted to authenticate users who attempt to log on with SAP credentials but without specifying a particular SAP system). If this list is empty, see *To add an SAP entitlement system to BusinessObjects Enterprise* on page 81. **Note:** If you designate a default system, users from that system do not have to enter their System ID and client when they connect from client tools like Live Office or Universe Designer using SAP authentication. For example, if SYS~100 is set as the default system, SYS~100/user1 would be able to log on as user1 when SAP authentication is chosen.
Max failed entitlement system accesses	Type the number of times that BusinessObjects Enterprise should re-attempt contacting an SAP system to fulfill authentication requests. Setting the value to -1 allows BusinessObjects Enterprise to attempt to contact the entitlement system an unlimited number of times. Setting the value to 0 limits BusinessObjects Enterprise to making one attempt to contact the entitlement system. **Note:** Use this setting together with **Keep entitlement system disabled [seconds]** to configure how BusinessObjects Enterprise handles SAP entitlement systems that are temporarily unavailable. BusinessObjects Enterprise uses these settings to determine when to stop communicating with an SAP system that is unavailable, and when it should resume communication with that system.

Setting	Description
Keep entitlement system disabled [seconds]	Type the number of seconds that BusinessObjects Enterprise should wait before resuming attempts to authenticate users against the SAP system. For example, if you type 3 for **Max failed entitlement system accesses**, BusinessObjects Enterprise allows a maximum of 3 failed attempts to authenticate users against any particular SAP system; the fourth failed attempt results in BusinessObjects Enterprise ceasing its attempts to authenticate users against that system for the amount of time specified by **Keep entitlement system disabled [seconds]**.
Max concurrent connections per system	Use this field to specify how many connections you want to keep open to your SAP system at the same time. For example, if you type 2 in this field, BusinessObjects Enterprise keeps two separate connections open to SAP.
Number of uses per connection	Use this field to specify how many operations you want to allow to the SAP system per connection. For example, if you specified 2 for **Max concurrent connections per system** and 3 for **Number of uses per connection**, once there has been 3 logons on one connection, BusinessObjects Enterprise will close that connection and restart it.
Enable SAP Authentication	Clear this check box if you want to disable SAP Authentication completely. (To disable SAP Authentication for specific SAP Systems, select that system's **Disabled** check box on the **Entitlement Systems** tab.)
Automatically import users	Select this check box if you want BusinessObjects Enterprise to create user accounts and user folders for all role members when you actually import the roles. Clear the check box to have BusinessObjects Enterprise create user accounts and user folders dynamically, when users log on for the first time with valid SAP credentials. For details see *Importing SAP roles to BusinessObjects Enterprise* on page 87.

Setting	Description
Concurrent users and **Named Users**	Use these options to specify if new user accounts are configured to use concurrent user licenses or named user licenses. Concurrent licenses specify the number of people who can connect to BusinessObjects Enterprise at the same time. This type of licensing is very flexible because a small number of concurrent licenses can support a large user base. For example, depending on how often and how long users access BusinessObjects Enterprise, a 100 user concurrent license could support 250, 500, or 700 users. Named user licenses are associated with specific users and allow people to access the system based on their user name and password. This provides named users with access to the system regardless of how many other people are connected. **Note:** The option you select here does not change the number or type of user licenses that you have installed in BusinessObjects Enterprise. You must have the appropriate licenses available on your system.
Force user synchronization	Select this check box if you want to synchronize SAP user account information when you click **Update** on the **Role Import** tab.
Content folder root	Use this field to specify where you want BusinessObjects Enterprise to begin replicating the BW folder structure in the CMC and InfoView. The default is `/SAP/2.0` but you can change it to a different folder if you want. To change this value, you must change it both in the CMC and the Content Administration Workbench. For details, see *To change the Content folder root* on page 87.

4. Click **Update**.

To change the Content folder root

1. Go to the "Authentication" management area of the CMC.
2. Double-click the **SAP** link.
3. Click **Options** and type the name of the folder in **Content folder root** field.

   The folder name that you type here is the folder that you want BusinessObjects Enterprise to begin replicating the BW folder structure from.
4. Click **Update**.
5. In the BW Content Administration Workbench, expand **Enterprise system**.
6. Expand **Available systems** and double-click the system that your BusinessObjects Enterprise is connecting to.
7. Click the **Layout** tab and in the **Content base folder**, type the folder that you want to use as the root SAP folder in BusinessObjects Enterprise (for example, `/SAP/2.0/`).

Importing SAP roles to BusinessObjects Enterprise

By importing SAP roles into BusinessObjects Enterprise, you allow role members to log on to BusinessObjects Enterprise with their usual SAP credentials. In addition, Single Sign On (SSO) is enabled so that SAP users are logged on to BusinessObjects Enterprise automatically when they access reports from within the SAP GUI or an SAP Enterprise Portal.

Note:
There are often many requirements for enabling SSO. Some of these might include using a driver and application that are SSO-capable, and ensuring your server and web server are in the same domain. For more information about configuring your system for SSO, refer to the appropriate security documents in SAP and BusinessObjects Enterprise.

For each role that you import, BusinessObjects Enterprise generates a group. Each group is named with the following convention: *`SystemID~ClientNumber@NameOfRole`*. You can view the new groups in the "Users and Groups" management area of the CMC. You can also use these groups to define object security within "BusinessObjects Enterprise". For details, see the

"Setting Rights" chapter in the *BusinessObjects Enterprise Administrator's Guide*.

Consider three main categories of users when configuring BusinessObjects Enterprise for publishing, and when importing roles to BusinessObjects Enterprise:

- BusinessObjects Enterprise administrators

  Enterprise administrators configure the BusinessObjects Enterprise system for publishing content from SAP. They import the appropriate roles, create necessary folders, and assign rights to those roles and folders in BusinessObjects Enterprise.

- Content publishers

  Content publishers are those users who have rights to publish content into roles. The purpose of this category of user is to separate regular role members from those users with rights to publish reports.

- Role members

  Role members are users who belong to "content bearing" roles. That is, these users belong to roles to which reports are published. They have View, View on Demand, and Schedule rights for any reports published to the roles they are members of. However, regular role members cannot publish new content, nor can they publish updated versions of content.

You must import all content publishing and all content bearing roles to BusinessObjects Enterprise prior to publishing for the first time.

Note:
It is strongly recommended that you keep the activities of roles distinct. For example, while it is possible to publish from an administrator role, it is better practice to publish only from content publisher roles. Additionally, the function of content publishing roles is only to define which users can publish content. Thus, content publishing roles should not contain any content; content publishers should publish to content bearing roles that are accessible to regular role members.

To import a role to BusinessObjects Enterprise

1. Go to the "Authentication" management area of the CMC.
2. Double-click the **SAP** link.

3. On the **Options** tab, select or clear the **Automatically import users** check box, depending on how you want BusinessObjects Enterprise to handle user accounts when you import roles.
   - Select the check box to have BusinessObjects Enterprise create a user account and a user folder immediately for each member of the role(s) that you import

     When you later add members to a role within SAP, BusinessObjects Enterprise dynamically creates additional user accounts and user folders when new role members first log on to BusinessObjects Enterprise with valid SAP credentials.
   - Clear the check box to have BusinessObjects Enterprise import roles without immediately creating user accounts and user folders.

     BusinessObjects Enterprise dynamically creates new user accounts and user folders when role members first log on to BusinessObjects Enterprise with valid SAP credentials.

   Once user accounts and user folders are created, you can subsequently view them in the "Users and Groups" and "Folders" management areas of the CMC.
4. On the **Options** tab, select either **Concurrent users** or **Named users** depending on your licenses.

   Note that the option you select here does not change the number or type of user licenses that you have installed in BusinessObjects Enterprise. You must have the appropriate licenses available on your system.
5. Click **Update**.
6. On the **Role import** tab, select the appropriate entitlement system from the **Logical system name** list.

   Note:
   If this list is empty, see *Connecting to SAP entitlement systems* on page 81.
7. In the **Available roles** area, select the role(s) that you want to import, and then click **Add**.
8. Click **Update**.

To check that roles and users were imported correctly

1. Ensure that you know the user name and password of an SAP user who belongs to one of the roles that you just mapped to BusinessObjects Enterprise.
2. For Java InfoView go to http://*webserver*:*portnumber* /InfoViewApp/ . For .NET InfoView go to http://*webserver*/InfoViewApp/.

   Replace *webserver* with the name of the web server and *portnumber* with the port number that is set up for BusinessObjects Enterprise. You may need to ask your administrator for the name of the web server, the port number, or the exact URL to enter.
3. From the **Authentication Type** list, select **SAP**.
4. Type the SAP system and system client that you want to log on to.
5. Type the user name and password of a mapped user.
6. Click **Log On**.

   You should be logged on to InfoView as the selected user.

Configuring Data Access

This section guides you through the process of configuring data access.

Configuring SAP Logon for the Data Access

When users report off of data in SAP tables using Crystal Reports and the Data Access, they are first prompted to select their SAP system from the **Available SAP Systems** list. The Data Access retrieves this list of available systems from the `saplogon.ini` file in the Windows directory on that user's computer.

If users have the SAP GUI installed, adding a new SAP system to their SAP GUI logon adds information about this system to their `saplogon.ini` file. After the new SAP system is added, it becomes available via the Data Access (provided they are authorized to use the system). Alternately, you may configure and distribute `SAPlogon.ini` using your standard procedures. You

can also add the full path to the `saplogon.ini` file to the *`SAPLOGON_INI_FILE`* environment variable.

Consult your SAP documentation for details.

Configuring SAP Server-Side Trust

chapter 6

SAP Server-Side Trust Overview

This section provides procedures for configuring server-side trust between SAP Web Application Servers (version 6.20 and up) and BusinessObjects Enterprise. You need to set up server-side trust if you are using multi-pass report bursting (for publications where the report query depends on the context of the user).

Server-side trust involves password-less impersonation. To impersonate an SAP user without providing a password, a user must be identified with SAP using a more secure method than a regular username and password. (An SAP user with the SAP_ALL authorization profile cannot impersonate another SAP user without knowing that user's password.)

Enabling server-side trust using the free SAP crypto library

To enable server-side trust for BusinessObjects Enterprise using the free SAP crypto library, you must run the relevant servers under credentials that are authenticated using a registered Secure Network Communication (SNC) provider. These credentials are configured within SAP to be allowed to impersonate without a password. For BusinessObjects Enterprise, you need to run the servers involved in report-bursting under these SNC credentials, such as the Crystal Reports Job Server.

You also need an encryption library in order to configure server-side trust. An SAP Cryptographic Library is available for download from the SAP web site. Note that the SAP Cryptographic Library can be used only for setting up server-side trust. The Cryptographic Library is available for Windows and UNIX. For more information about the Cryptographic Library, see SAP notes 711093, 597059 and 397175 on the SAP web site.

The SAP server and BusinessObjects Enterprise need to be assigned certificates that prove their identities to each other. Each server will have its own certificate and a list of certificates for trusted parties. To configure server-side trust between SAP and BusinessObjects Enterprise, you need to create a password-protected set of certificates called a Personal Security Environment (PSE). This document describes how to set up and maintain the PSEs, and how to securely associate them with BusinessObjects Enterprise processing servers.

Client versus server SNC

In client SNC, an SNC name identifier is mapped to one (or more) SAP user names in SU01. When a logon request is sent, the SNC name together with the SAP name is passed to the SAP system, however no password is sent. Provided the SNC name maps to the specified SAP name, the logon is permitted. A client-side logon string for a direct application host logon is shown below:

```
  ASHOST =myserver.mydomain SYSNR=37 CLIENT=066 LANG=EN USER=US
ER123
 SNC_MODE=1 SNC_QOP=9 SNC_LIB="/usr/local/lib/libsapcrypto.so"

 SNC_PARTNERNAME="p:CN=TheServer, OU=Dept., O=TheCompany, C=FR"

 SNC_MYNAME="p:CN=TheUser, O=TheCompany, C=US"
```

The SAP user USER123 must be mapped to `p:CN=TheUser, O=TheCompany, C=US in SU01` for this logon attempt to succeed. In server SNC on the other hand, it is not a requirement to explicitly map between the SNC name identifier and SAP user name. Instead, the SNC name is configured in transaction `SNC0` to be allowed to perform an impersonation-style logon for “any” user without having to provide this users' password. For example:

```
  ASHOST =myserver.mydomain SYSNR=37 CLIENT=066 LANG=EN
SNC_MODE=1
SNC_QOP=9 SNC_LIB="/usr/local/lib/libsapcrypto.so"
SNC_PARTNERNAME="p:CN=TheServer, OU=Dept., O=TheCompany, C=FR"

SNC_MYNAME="p:CN=TheUser, O=TheCompany, C=US" EXTIDTYPE=UN EX
TIDDATA=USER123
```

The server SNC impersonation logon, or logon via external ID is much more powerful than its client counterpart. This logon enables access to any SAP user account in the system. Other External ID logon options include Logon Tickets and X.509 client certificates.

BusinessObjects Enterprise server responsibilities

Specific BusinessObjects Enterprise servers are relevant to the SAP integration in terms of single sign-on (SSO). The following table lists these servers, the type of SNC they require for particular areas of responsibility.

Server	SNC type	Areas of responsibility
Web Application Server	client	SAP Authentication role list
	server	Crystal Reports Dynamic Parameter pick lists and personalization
CMS	client	Password, ticket, checking role membership, and user lists
Page Server	server	Crystal Reports view on demand
Job Server	server	Scheduling Crystal Reports
WeBI Processing Server	server	Viewing and scheduling WeBI reports and List of Values (LOV) prompts
Multidimensional Analysis Service Server (Voyager)	server	Analysis

Note:
The Web Application Server and the CMS use client-SNC and thus require an explicit mapping of the SNC name to SAP user name. This is specified in either transaction `SU01` or `SM30` for table `USRACL`.

For options on using server groups to manage servers running under distinct credentials see *Using server groups* on page 108.

Configuring SAP for server-side trust

The following step procedure describes how to set up SNC for use with BusinessObjects Enterprise. Please note that you should consult the SAP documentation provided with your SAP server for more information or troubleshooting assistance.

After you complete the steps for configuring SAP for server-side trust, proceed to *Configuring BusinessObjects Enterprise for server-side trust* on page 101.

To configure SAP for server-side trust

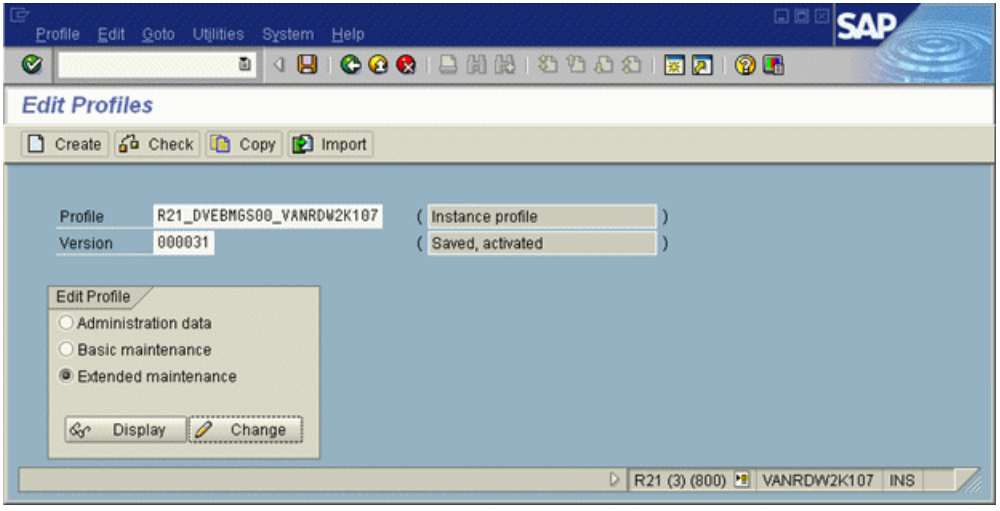
1. From the SAP marketplace, download the SAP Cryptographic Library for all relevant platforms.

Note:
For more information about the Cryptographic Library, see SAP notes 711093, 597059 and 397175 on the SAP web site.

2. Ensure that you have SAP administrator's credentials for within SAP and for the machine running SAP, and administrator's credentials for BusinessObjects Enterprise and the machine (or machines) it is running on.
3. On the SAP machine, copy the SAP Cryptographic Library and the SAPGENPSE tool to `<DRIVE>:\usr\sap\<SID>\SYS\exe\run\` directory (on Windows).
4. Locate the file named "ticket" that was installed with the SAP Cryptographic Library, and copy it to the `<DRIVE>:\usr\sap\<SID>\<instance>\sec\` directory (on Windows).
5. Create an environment variable named *SECUDIR* that points to the directory where the ticket resides.

   Note:
   This variable must be accessible to the user under which SAP's disp+work process runs.

6. In the SAP GUI, go to transaction RZ10 and change the instance profile in **Extended maintenance** mode.



7. In profile edit mode, point SAP profile variables to the Cryptographic Library and give the SAP system a Distinguished Name (DN). These variables should follow the LDAP naming convention:

Tag	Meaning	Description
CN	Common Name	The everyday name of the certificate proprietor.
OU	Organizational Unit	PG for Product Group, for example.
O	Organization	The name of the organization for which the certificate was issued.
C	Country	The country where the organization is located.

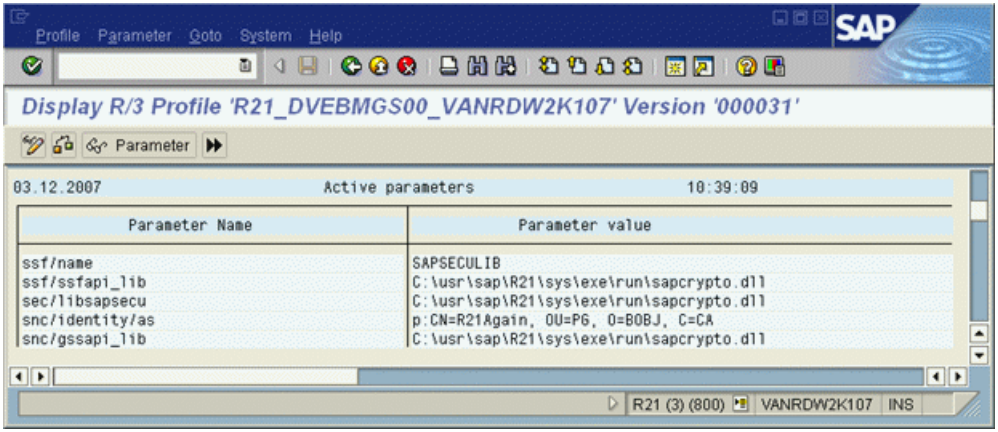
For example, for R21: p:CN=R21, OU=PG, O=BOBJ, C=CA

Note:
Note that the prefix p: is for the SAP Cryptographic Library. It is required when referring to the DN within SAP, but will not be visible when examining certificates in STRUST or using SAPGENPSE.

8. Enter the following profile values, substituting for your SAP system where necessary:

Profile variable	Value
ssf/name	SAPSECULIB
ssf/ssfapi_lib	Full path to sapcrypto lib
sec/libsapsecu	Full path to sapcrypto lib
snc/gssapi_lib	Full path to sapcrypto lib
snc/identity/as	Your SAP system's DN

For example:



9. Restart your SAP instance.
10. When the system is running again, log on and go to transaction STRUST, which should now have additional entries for SNC and SSL.
11. Right-click the SNC node and click **Create**.

    The identity you specified in RZ10 should now appear.
12. Click **OK**.
13. To assign a password to the SNC PSE, click the lock icon.

Note:
Do not lose this password. You will be prompted for it by STRUST every time you view or edit the SNC PSE.

14. Save the changes.

Note:
If you do not save your changes, the application server will not start again when you enable SNC.

15. Return to transaction RZ10 and add the remainder of the SNC profile parameters:

Profile variable	Parameter
snc/accept_insecure_rfc	1
snc/accept_insecure_r3int_rfc	1
snc/accept_insecure_gui	1
snc/accept_insecure_cpic	1
snc/permit_insecure_start	1
snc/data_protection/min	1
snc/data_protection/max	3
snc/enable	1

The minimum protection level is set to authentication only (1) and the maximum is privacy (3). The snc/data_protection/use value defines that only authentication is to be used in this case, but could also be (2) for integrity, (3) for privacy and (9) for maximum available. The snc/accept_insecure_rfc, snc/accept_insecure_r3int_rfc, snc/accept_insecure_gui, and snc/accept_insecure_cpic values set to (1) ensure that previous (and potential unsecure) communication methods are still permitted.

16. Restart your SAP system.

You must now configure BusinessObjects Enteprise for server-side trust.

Related Topics

- *Configuring BusinessObjects Enterprise for server-side trust* on page 101

Configuring BusinessObjects Enterprise for server-side trust

The following procedures need to be performed in order to configure BusinessObjects Enterprise for server-side trust. Note that these steps are Windows-based, but because the SAP tool is a command line tool, the steps are very similar on UNIX.

1. *To set up the environment* on page 101
2. *To generate a PSE* on page 102
3. *To configure BusinessObjects Enterprise servers* on page 105
4. *To configure PSE access* on page 105
5. *To configure SAP authentication SNC settings* on page 107
6. *Using server groups* on page 108

To set up the environment

Before you begin, ensure that:

- The SAP Cryptographic Library has been downloaded and expanded on the host on which BusinessObjects Enterprise processing servers run.
- The appropriate SAP systems have been configured to use SAP Cryptographic Library as the SNC provider.

For more information, see *Configuring SAP for server-side trust* on page 96.

Before PSE maintenance can begin, you need to set up the library, tool, and environment where PSEs are stored.

1. Copy the SAP Cryptographic Library (including the PSE maintenance tool) to a folder on the machine running BusinessObjects Enterprise.

   For example: `C:\Program Files\SAP\Crypto`

2. Add the folder to the *PATH* environment variable.
3. Add a system-wide environment variable *SNC_LIB* that points to the Cryptographic Library.

   For example: `C:\Program Files\SAP\Crypto\sapcrypto.dll`
4. Create a subfolder named sec.

   For example: `C:\Program Files\SAP\Crypto\sec`
5. Add a system-wide environment variable *SECUDIR* that points to the sec folder.
6. Copy the `ticket` file from the SAP Cryptographic Library into the sec folder.

To generate a PSE

SAP accepts a BusinessObjects Enterprise server as a trusted entity when the relevant BusinessObjects Enterprise servers have a PSE and the PSE is associated with SAP. This “trust” between SAP and BusinessObjects Enterprise components is established by sharing the public version of each other's certificates. The first step is to generate a PSE for BusinessObjects Enterprise that automatically generates its own certificate.

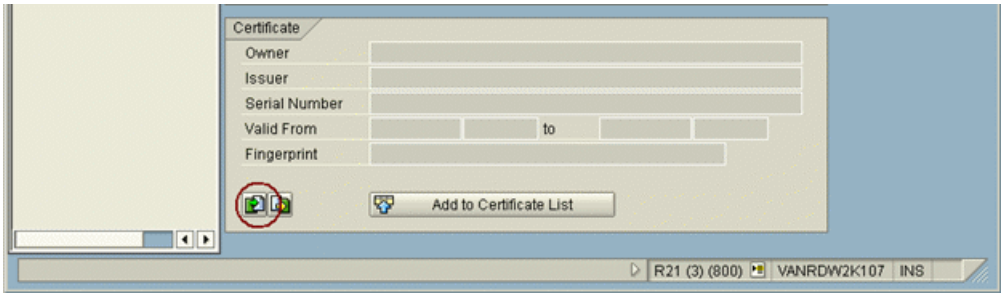
1. Open a command prompt and run sapgenpse.exe gen_pse -v -p BOE.pse from within the Cryptographic Library folder.
2. Choose a PIN and the DN you want for your BusinessObjects Enterprise system.

   For example, CN=MyBOE01, OU=PG, O=BOBJ, C=CA.

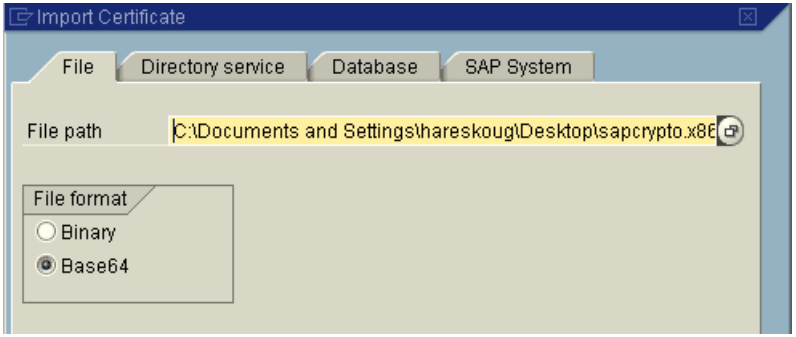
   You now have a default PSE, with its own certificate.
3. Use the following command to export the certificate in the PSE:

   sapgenpse.exe export_own_cert -v -p BOE.pse -o *MyBOECert.crt*
4. In the SAP GUI, go to transaction STRUST and open the SNC PSE.

   You will be prompted for the password you have already assigned.
5. Import the *MyBOECert.crt* file created earlier:



The certificates from SAPGENPSE are Base64-encoded. Make sure you select Base64 when importing them:



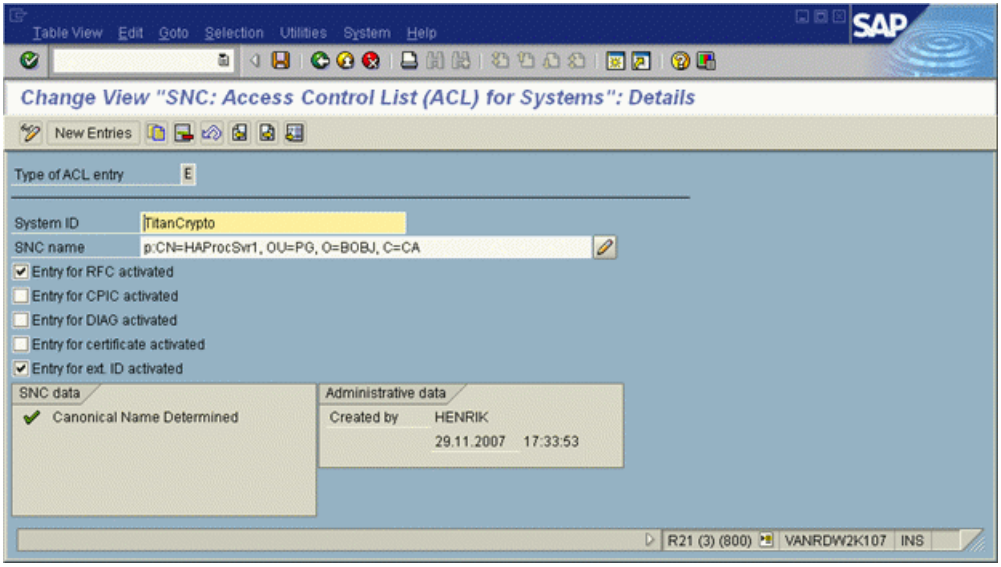
6. To add the BusinessObjects Enterprise certificate to the SAP server's PSE certificate list, click the **Add to certificate list** button.
7. To add SAP's certificate to BusinessObjects Enterprise's PSE, double-click the SAP certificate.
8. Save your changes in STRUST.
9. Click the **Export** button and provide a file name for the certificate.

   For example, MySAPCert.crt.

   Note:
   The format should remain Base64.

10. Go to transaction SNC0.
11. Add a new entry, where:
    - The System ID is arbitrary but reflects your BusinessObjects Enterprise system.

- The SNC name should be the DN (prefixed by p:) that you provided when you created your BusinessObjects Enterprise PSE (in step 2).
- The **Entry for RFC activated** and **Entry for ext. ID activated** checkboxes are both selected:



12. To add the exported certificate to the BusinessObjects Enterprise PSE, run the following command on the command prompt:

    sapgenpse.exe maintain_pk -v -a *MySAPCert.crt* -p BOE.pse

The SAP Cryptographic Library is installed on the BusinessObjects Enterprise machine. You have created a PSE that will be used by BusinessObjects Enterprise servers to identify themselves to SAP servers. SAP and the BusinessObjects Enterprise PSE have exchanged certificates. SAP permits entities with access to the BusinessObjects Enterprise PSE to perform RFC calls and password-less impersonation. Proceed to *To configure BusinessObjects Enterprise servers* on page 105.

To configure BusinessObjects Enterprise servers

After you generate a PSE for BusinessObjects Enterprise, you must configure an appropriate server structure for SAP processing. The following procedure creates a node for SAP processing servers, so that you can set operating system credentials on the node level.

Note:
In this version of BusinessObjects Enterprise, servers are no longer configured in the Central Configuration Manager (CCM). Instead, a new Server Intelligence Agent (SIA) must be created.

1. In the CCM, create a new node for SAP processing servers.

   Give the node an appropriate name such as SAPProcessor. For information about nodes, see “Adding a node” in the *BusinessObjects Enterprise Administrator's Guide*.

2. In the CMC, add the processing servers you need to the new node, then start the new servers.

   For information about adding and starting servers, see the “Managing and Configuring Servers” chapter of the *BusinessObjects Enterprise Administrator's Guide*.

Proceed to *To configure PSE access* on page 105.

Related Topics

- *To generate a PSE* on page 102

To configure PSE access

After you configure the BusinessObjects Enterprise node and servers (see *To configure BusinessObjects Enterprise servers* on page 105 for details), you need to configure PSE access using the SAPGENPSE tool.

1. Run the following command from the command prompt:

   sapgenpse.exe seclogin -p BOE.pse

Note:
You will be prompted for the PSE PIN. If you run the tool under the same credentials used by your BusinessObjects Enterprise SAP processing servers, you do not need to specify a user name.

2. To verify that the single sign-on (SSO) link is established, list the contents of the PSE using the following command:

   sapgenpse.exe maintain_pk -l

   The results should look similar to the following:

```
C:\Documents and Settings\hareskoug\Desktop\sapcryp
to.x86\ntintel>sapgenpse.exe
maintain_pk -l
 maintain_pk for PSE "C:\Documents and Settings\hareskoug\My
 Documents\snc\sec\bobjsapproc.pse"
*** Object <PKList> is of the type <PKList_OID> ***

1. ------------------------------------------------------
-----
   Version:                  0 (X.509v1-1988)
   SubjectName:              CN=R21Again, OU=PG, O=BOBJ,
C=CA
   IssuerName:               CN=R21Again, OU=PG, O=BOBJ,
C=CA
   SerialNumber:             00
   Validity  -  NotBefore:   Wed Nov 28 16:23:53 2007
(071129002353Z)
                NotAfter:    Thu Dec 31 16:00:01 2037
(380101000001Z)
   Public Key Fingerprint:   851C 225D 1789 8974 21DB 9E9B
2AE8 9E9E
   SubjectKey:               Algorithm RSA (OID
1.2.840.113549.1.1.1), NULL


C:\Documents and Settings\hareskoug\Desktop\sapcryp
to.x86\ntintel>
```

   You should not be prompted again for the PSE PIN after a successful seclogin command.

   Note:
   If you encounter PSE access problems, use the -O to specify PSE access. For example, to grant PSE access to a specific user in a specific domain, type:

```
sapgenpse seclogin -p BOE.pse -O <domain\user>
```

Proceed to *To configure SAP for server-side trust* on page 96.

To configure SAP authentication SNC settings

After you configure PSE access, you need to configure the SAP authentication settings in the CMC.

1. Go to the "Authentication" management area of the CMC.
2. Double-click the **SAP** link.

   The entitlement systems settings appear.
3. Click the **SNC settings** tab on the SAP Authentication page.
4. Select your entitlement system from the **Logical system name** list.
5. Select **Enable Secure Network Communication (SNC)** under Basic Settings.
6. Enter the path for the SNC library settings in **SNC library path**.

   Note:
   This step is necessary even though the library is already defined in the *SNC_LIB* environment variable.
7. Select a level of protection under Quality of Protection.

   For example select **Authentication**.

   Note:
   Make sure you do not exceed the level of protection configured on the SAP system. The level of protection is customizable and is determined by your organization's needs and the capabilities of their SNC library.
8. Enter the SNC name of the SAP system under **Mutual authentication settings**.

   The SNC name format depends on the SNC library. Using the SAP cryptography library, the distinguished name recommendation is that it follows LDAP naming conventions. It must be have "p:" as its prefix.
9. Ensure that the SNC name of the credentials under which BusinessObjects Enterprise servers run appears in the **SNC name of Enterprise system** field.

   Note:
   In scenarios where several SNC names are configured, this field should be left blank.

10. Provide the DNs of both the SAP system and the BusinessObjects Enterprise PSE.

Related Topics

- *To configure PSE access* on page 105
- *Using server groups* on page 108

Using server groups

Unless the processing (Crystal Report or Web Intelligence) servers are running under credentials that have access to the PSE, you must create a specific server group containing only these servers along with the required supporting servers. For more information and descriptions of the various BusinessObjects Enterprise servers, see the “Architecture” chapter in the *BusinessObjects Enterprise Administrator's Guide*.

There are three options to choose from when configuring content processing servers for your SAP content

1. Maintain a single SIA, including all BusinessObjects Enterprise servers, running under credentials that have access to the PSE. This is the simplest option - no server groups need to be created. This approach is the least secure in that an unnecessary number of servers have access to the PSE.
2. Create a second SIA with access to the PSE and add to it the Crystal Report or Web Intelligence processing servers. Delete the duplicated servers from the original SIA. No server groups need to be created but less servers have access to the PSE.
3. Create a SIA exclusively for use for SAP with access to the PSE. Add to it the Crystal Report or Web Intelligence processing servers. In the approach, only SAP content should run on these servers, and more importantly SAP content should only run on these servers. Since in this scenario content needs to be directed to certain servers, you must create server groups for the SIA.

Guidelines for using a server group

The server group needs to reference the SIA used exclusively to handle SAP content. In addition, the server group needs to reference the following servers:

- Adaptive Servers

- Publication Servers
- Destination Job Servers

All SAP content; WebI documents and Crystal Reports need to be associated with the server group using the strictest association, i.e. that they must run on servers in the group. When this association is done on an object level, the server group setting should be propagated into settings for both direct scheduling as well as for publications.

To prevent other (non-SAP) content from ever processing on the SAP-specific processing servers, you should create another server group that includes all the servers under the original SIA. It is recommended that you setup a strict association between this content and the non-SAP server group.

Configuring multi-pass publications

For detailed instructions on creating multi-pass publications, see the *BusinessObjects Enterprise Publisher's Guide*.

Troubleshooting multi-pass publications

If you encounter problems with multi-pass publications, enable tracing for the Crystal Reports (CR) or Multidimensional Data Access (MDA) drivers for SAP and look at the logon string used for each job or recipient. These logon strings should resemble the following:

```
 SAP: Successfully logged on to SAP server.
Logon handle: 1. Logon string: CLIENT=800 LANG=en
ASHOST="vanrdw2k107.sap.crystald.net" SYSNR=00 SNC_MODE=1
SNC_QOP=1
SNC_LIB="C:\WINDOWS\System32\sapcrypto.dll"
SNC_PARTNERNAME="p:CN=R21Again, OU=PG, O=BOBJ, C=CA" EXTIDDA
TA=HENRIKRPT3 EXTIDTYPE=UN
```

The logon string must have the appropriate EXTIDTYPE=UN (for username) and EXTIDDATA should be the SAP username of the recipient. In this example, the logon attempt was successful.

Integrating BusinessObjects Enterprise and BW

chapter 7

This section shows how to configure BW to enable and administer report publishing from BW to BusinessObjects Enterprise. It also includes instructions for configuring the http request handler in SAP.

Configuration overview

This section outlines the configuration steps needed to integrate BW and BusinessObjects Enterprise.

Before beginning this section, make sure you have completed the configuration steps outlined in *Configuring SAP authentication* on page 77.

About BW Publisher Service

BW Publisher Service enables you to add content to your SAP and BusinessObjects Enterprise repositories simultaneously.

The BW Publisher Service is different from the Publishing Wizard and the Publishing feature. The Publishing Wizard is a BusinessObjects Enterprise component that enables you to add reports to your BusinessObjects Enterprise repository only. The Publishing feature in BusinessObjects Enterprise lets you distribute personalized collections of documents (known as publications) to a mass audience.

Understanding the default folder security patterns

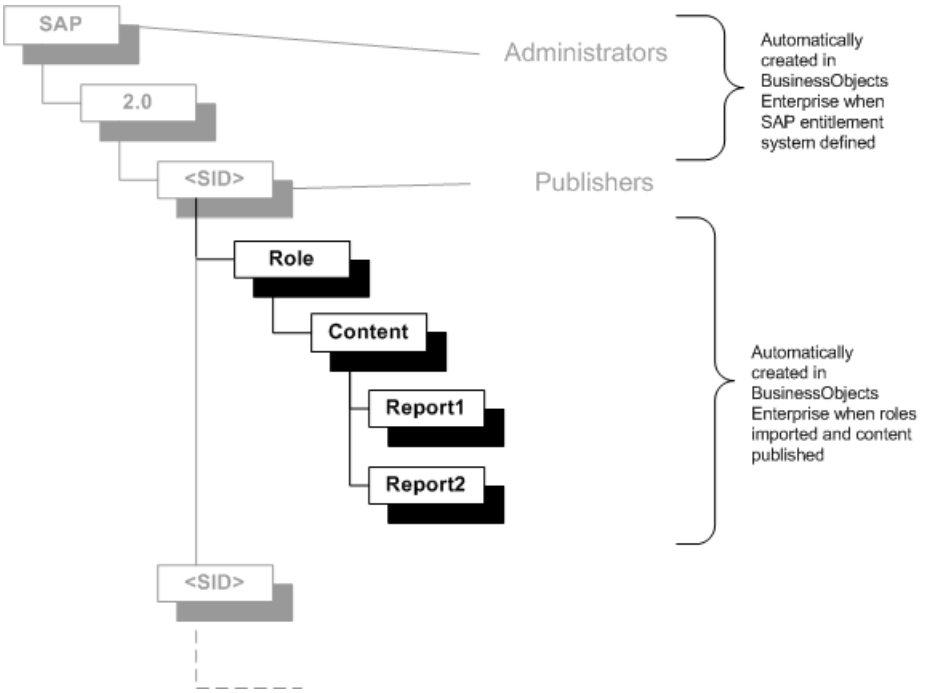
When you publish content to BusinessObjects Enterprise from SAP, BusinessObjects Enterprise automatically creates the remaining hierarchy of roles, folders, and reports. That is, BusinessObjects Enterprise organizes your Crystal reports in folders that are named according to the System ID and Client Number, and according to the name of the role.

The diagram that follows shows how BusinessObjects Enterprise organizes content when you publish two roles from one BW system:

- BusinessObjects Enterprise creates the top-level folders - that is, the SAP, 2.0, and system (*SID*) folders - when you define an entitlement system.

- BusinessObjects Enterprise creates Role folders (imported as groups into BusinessObjects Enterprise) as necessary, when a role is published from BW.
- BusinessObjects Enterprise creates a Content folder for each role that content is published to.
- Security is set on each report object, so users can view only the reports that belong to their roles.

The diagram below displays the basic folder structure that is created.



The administrator is responsible for assigning rights to members of different roles. To do this, the following rights should be assigned in the Content Administration Workbench.

Content folders

BusinessObjects Enterprise imports a group for each role that is added to the entitlement system as defined in the CMC.

To ensure that suitable default rights are granted to all members of a content-bearing role, grant the appropriate rights in the Content Administration

Workbench for each entitlement system that is defined in BusinessObjects Enterprise:

1. In the Content Administration Workbench, expand **Enterprise system** and then expand **Available systems**.
2. Double-click the system you want.
3. Click the **Layout** tab.
4. Set **Default security policy for reports** to **View**.
5. Set **Default security policy for role folders** to **View On Demand**.
6. Click **OK**.

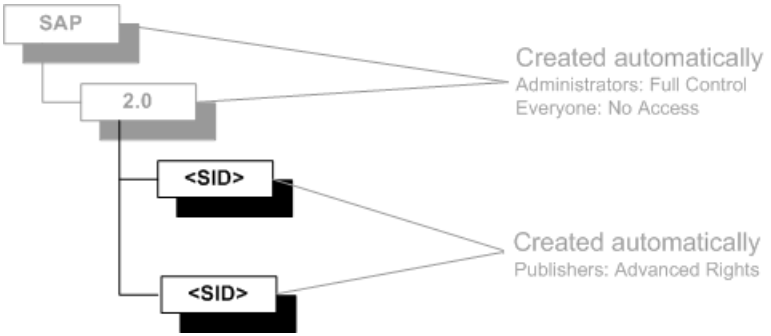
These settings are reflected in BusinessObjects Enterprise for all content roles. That is, roles that have content published to them. Members of these roles will now be able to view scheduled instances of reports published to other roles and will be able to refresh reports published to roles that they are a member of.

Note:
It is strongly recommended that you keep the activities of roles distinct. For example, while it is possible to publish from an administrator role, it is better practice to publish only from publisher roles. Additionally, the function of publishing roles is only to define which users can publish content. Thus, publishing roles should not contain any content; publishers should publish to content bearing roles that are accessible to regular role members.

Setting up folders and security in BusinessObjects Enterprise

When you define an entitlement system in BusinessObjects Enterprise, BusinessObjects Enterprise creates a logical folder structure to match your SAP system. When you import roles and publish content to BusinessObjects Enterprise, corresponding folders are created. As an administrator, you do not have to create these folders. They are created as a result of you defining an entitlement system in BusinessObjects Enterprise, importing roles into the CMC, and publishing content to BusinessObjects Enterprise.

The diagram below displays the basic folder structure that is created.



Note that you, the administrator, are responsible for assigning the correct rights to these folders:

- SAP top-level folder

  Ensure the Everyone group has limited access to the SAP top-level folder.

- System ID folders

  Assign the principal Publisher the following rights in the CMC:

  - Add objects to folder
  - View objects
  - Edit objects
  - Modify the rights users have to objects
  - Delete objects

Tip:
To make rights administration easier, you can create a customized Publisher access level that includes these rights, and then grant the principal Publisher this access level on relevant System ID folders. For more information about working with access levels, see the *BusinessObjects Enterprise Administrator's Guide*.

For more information about how to grant principals rights on top-level folders and on objects, see the “Setting Rights” chapter in the *BusinessObjects Enterprise Administrator's Guide*.

Note:
After you have set up folders and security in BusinessObjects Enterprise, complete the tasks in *Configuring the BW Publisher* on page 116, and *Configuring publishing in the Content Administration Workbench* on page 125. Once you have completed those tasks, you can publish content to BusinessObjects Enterprise from BW.

Configuring the BW Publisher

The BW Publisher allows you to publish Crystal reports (.rpt files) individually or in batches from BW to BusinessObjects Enterprise.

On Windows, you can configure the BW Publisher in one of two ways:

- Start the BW Publisher using a service on a BusinessObjects Enterprise machine. The BW Publisher service will start instances of the BW Publisher as required.
- Start the BW Publisher using a local SAP Gateway to create BW Publisher instances.

You must select the configuration method based on the requirements of your site, after considering the advantages and disadvantages of each configuration. Once you have configured the BW Publisher in BusinessObjects Enterprise, you must configure publishing in the Content Administration Workbench.

Related Topics

- *Selecting your BW Publisher configuration* on page 27
- *Configuring publishing in the Content Administration Workbench* on page 125

Configuring the BW Publisher as a service

This section explains how to enable publishing of reports from BW to BusinessObjects Enterprise, using the BW Publisher as a service, perform the following procedure.

For information on adding system redundancy using multiple BW Publishers, see *Distributing the BW Publisher installation* on page 72.

Starting the BW Publisher: UNIX

Run the BW Publisher script to create a publisher instance or instances to handle publishing requests. It is recommended that you start one publisher instance.

Once the BW Publisher starts, it establishes a connection with the SAP Gateway Service that you specified when you ran the BusinessObjects XI Integration for SAP Solutions setup program.

To start the BW Publisher

1. Log on to your UNIX system under the Business Objects user account you created for your BusinessObjects Enterprise installation.
2. Run the following script to start a publisher instance:

   businessobjects/bwcepub.sh *num* -a*PROGID* -g*GWHOST* -x*GWSERVICE*

   where:

   - *businessobjects* is the root Business Objects directory where you installed BusinessObjects Enterprise and BusinessObjects XI Integration for SAP Solutions.
   - *num* is the number of publisher instances to start.
   - *PROGID* is the Program ID of the RFC Destination for the BW Publisher. The Program ID can take any value, but must be 64 characters or fewer, and may not contain spaces. The Program ID is case-sensitive.

     Record the exact value you specify here for the Program ID. You will need this value when you configure the RFC destination on your BW system.

   - *GWHOST* is the name of your Gateway Host.
   - *GWSERVICE* is the port number of the Gateway Service.

Related Topics

- *Configuring a destination for the BW Publisher service* on page 118

To stop the BW Publisher: UNIX

1. Log on to your UNIX system under the Business Objects user account you created for your BusinessObjects Enterprise installation.
2. Type ./bwcepub.sh stop.

Starting the BW Publisher: Windows

On Windows, use the Central Configuration Manager (CCM) to start the BW Publisher service. When you start the BW Publisher service it creates a publisher instance to service publishing requests from your BW system. If

the volume of publishing requests increases, the BW Publisher automatically spawns additional publishers to meet the demand.

For more information on the CCM, consult the *BusinessObjects Enterprise Administrator's Guide*.

Once the BW Publisher starts, it establishes a connection with the SAP Gateway Service that you specified when you ran the BusinessObjects XI Integration for SAP Solutions setup program.

Related Topics

- *Recommended initial installation* on page 53

To start the BW Publisher service: Windows

1. Start the Central Configuration Manager (CCM) from the BusinessObjects Enterprise program group.
2. Right-click **BW Publisher Service** and, on the shortcut menu, click **Start**.

Configuring a destination for the BW Publisher service

To enable the BW Publisher, you must configure an RFC destination on your BW server to communicate with the BW Publisher service. If you have a BW cluster, configure the RFC destination on each server, using the central instance of BW as your Gateway Host in every case.

If you wish to publish to multiple BusinessObjects Enterprise systems from BW, create a separate RFC destination for the BW Publisher service in each BusinessObjects Enterprise system. You must use unique Program IDs for each destination, but the same Gateway host and Gateway service.

To create the required RFC destination (TCP/IP connection)

1. Execute transaction `SM59`, which allows you to display and maintain RFC destinations.
2. Click **Create** and provide the values described in the following table.

   Tip:
   You cannot view all of these fields until you provide the Connection type. The Connection type must be non-Unicode; otherwise, connection to the BW Publisher will fail.

3. After saving your settings, click **Test connection**.

The connection test attempts to contact your BW Publisher service.

If the RFC destination is properly configured and can communicate with your BW Publisher service, the result is a list showing how long it took to contact the service on each of four attempts. If the RFC destination cannot contact your BW Publisher service, the result is a connection error.

Note:

- The publishing process will not work until the destination is working successfully.
- If you plan to enforce Secure Network Communication (SNC) between SAP and BW Publisher, you must provide your SNC options on the Logon/Security tab for the `CRYSTAL_PUBLISHER` destination. For details about SNC, see *Configuring BusinessObjects Enterprise for server-side trust* on page 101.
- The RFC destination must be created as non-Unicode in the "MDMP/Unicode " tab regardless whether your SAP system is Unicode or non-Unicode.

For more information on RFC destinations and TCP/IP connection types, consult your SAP documentation.

Field	Value
RFC destination	Use a descriptive name. **Note:** Do not use the name `CRYSTAL_PUBLISHER` unless you do not have the Content Administration Workbench. See *Configuring publishing in the Content Administration Workbench* on page 125 for details.
Connection type	Type `T` (for TCP/IP connection) and press Enter.

Field	Value
Description	Type a short description of the destination.
Activation Type	Select "Registered Server Program."
Program ID	Type the descriptive string used to identify the process associated with this destination. You must use the same Program ID that you specified when you started the BW Publisher, when you installed BusinessObjects XI Integration for SAP on your BusinessObjects Enterprise machines. See *Recommended initial installation* on page 53. See *To start the BW Publisher* on page 117. **Tip:** • Program ID is case-sensitive. • Program ID should not contain any spaces.
Gateway host	Type the name of your BW server. If you have a BW cluster, enter the name of the central instance of BW. You must use the same BW server name here that you specified when you installed BusinessObjects XI Integration for SAP on your BusinessObjects Enterprise machines. For details, see *Recommended initial installation* on page 53*Publishing Reports* on page 29.

Field	Value
Gateway service	Type the port number that the Gateway host is listening on. For example, type sapgw##, where `##` represents the instance number of your SAP Gateway. Often, the instance number is `00`, and the value for this field is sapgw00. If you have defined a symbolic name for this port (such as `sapgw##`), you may use this symbolic name instead. You must use the same port number or symbolic name here that you specified when you installed BusinessObjects XI Integration for SAP on your BusinessObjects Enterprise machines. For details, see *Recommended initial installation* on page 53*Distributing information over the Web* on page 30.
Other	Type -LSNC*library_path* -SSNC*publisher_process*. Here SNClibrary_path represents the file directory in which the SNC library is located, and SNCpublisher_process represents the name of the SNC Publisher process.

Configuring the BW Publisher with a local SAP Gateway

Note:
Do not use this configuration if "BusinessObjects Enterprise" is installed on UNIX. Using this method on UNIX could result in unpredictable system behavior.

To enable publishing of reports from BW to BusinessObjects Enterprise, using a local SAP Gateway, perform the following procedure:

- *Installing a local SAP Gateway* on page 122.
- *Configuring a destination for the BW Publisher* on page 123.

Installing a local SAP Gateway

A local SAP Gateway must be installed on the machine where you installed the BW Publisher. (See *Recommended initial installation* on page 53.) It is recommended that an SAP BASIS administrator perform the installation of one of these SAP Gateways.

For up-to-date instructions on installing a local SAP Gateway, see the SAP installation instructions included on your SAP Presentation CD.

For a detailed list of tested environments for BusinessObjects XI Integration for SAP, consult the `platforms_EN.txt` file included with your product distribution. This file includes specific version and Service Pack requirements for application servers, operating systems, SAP components, etc.

After you have installed the SAP Gateway, use `regedit` to verify the `TMP` and `TEMP` registry entries under the `HKEY_CURRENT_USER\Environment` subkey. Both registry entries should hold the same string value, which must be a valid absolute directory path. If either entry's value contains the `%USERPROFILE%` variable, replace it with an absolute directory path. Typically, both registry entries are set to `C:\WINDOWS\TEMP`

Configuring a destination for the BW Publisher

To enable the BW Publisher, you must configure an RFC destination to provide BW with the location of the machine where you have installed the local SAP Gateway and the BW Publisher.

To create the required RFC destination (TCP/IP connection)

1. Execute transaction `SM59`, which allows you to display and maintain RFC destinations.

   Here you will create a TCP/IP connection.

2. Click **Create** and provide the values described in the following table.

   Tip:
   You cannot view all of these fields until you provide the Connection type.

3. After saving your settings, click **Test connection**.

   The connection test attempts to contact your BW Publisher on the local SAP Gateway.

   If the RFC destination is properly configured and can communicate with your BW Publisher, the result is a list showing how long it took to contact the Gateway on each of four attempts. If the RFC destination cannot contact your BW Publisher Service, a connection error occurs.

Note:

- The publishing process will not work until the destination is working successfully.
- If you plan to enforce Secure Network Communication (SNC) between SAP and BusinessObjects Enterprise, you must provide your SNC options on the Logon/Security tab for the `CRYSTAL_PUBLISHER` destination. For details about SNC, refer to the *"Configuring SAP Server-Side Trust"* section in this guide.

For more information on RFC destinations and TCP/IP connection types, consult your SAP documentation.

Field (Windows)	Value (Windows)
RFC destination	Use a descriptive name. **Note:** Do not use the name `CRYSTAL_PUBLISHER` unless you do not have the Content Administration Workbench. See *Configuring publishing in the Content Administration Workbench* on page 125 for details.
Connection type	Type `T` (for TCP/IP connection) and press Enter.
Description	Type a short description of the destination.
Activation Type	Select "Start on Explicit Host."
Program	Type the absolute path to the BW Publisher program (`bwcepub.exe`). If you installed it in the default directory on Windows, the value is: `C:\Progra~1\Busine~1\Business~1.0\win32_x86\bwcepub.exe` **Tip:** Use the MS-DOS short path name, as shown here.

Field (Windows)	Value (Windows)
Target host	Type the fully qualified domain name or IP address of the machine where you installed the BW Publisher. For example: `ceserver01.privatedomain.com`
Gateway host	Type the name of the machine where you installed the SAP Gateway. This should be the same machine as the "Target host." For example: `boserver01`
Gateway service	Type `sapgw##`, where `##` represents the instance number of your SAP Gateway. Typically, the instance number is `00`, and the value for this field is `sapgw00`

Configuring publishing in the Content Administration Workbench

Once you have set up SAP authentication, and have configured the BW Publisher, perform the functions outlined in this section to enable publishing. These instructions will allow you to:

- Set appropriate authorizations for different users of the Content Administration Workbench.
- Set up connections to the BusinessObjects Enterprise systems where content is published.
- Define which roles can publish to each BusinessObjects Enterprise system.

- Publish content from BW to BusinessObjects Enterprise.

Users who can access the Content Administration Workbench

There are three types of users who may access the Content Administration Workbench:

- Content consumers, who belong to content-bearing roles and who can view reports. They do not have authorization to do anything other than view reports.
- BusinessObjects Enterprise content publishers, who can view, publish, modify, and (optionally) delete reports from BW.
- BusinessObjects Enterprise administrators, who are able to perform all tasks within Content Administration Workbench. These tasks include defining BusinessObjects Enterprise systems, publishing reports, and performing report maintenance.

Creating roles in BW for designated content publishers

When you are configuring BW for integration with BusinessObjects Enterprise, assess whether or not your current role structure allows you to quickly designate particular BW users as BusinessObjects Enterprise content publishers or system administrators.

It is suggested that you label any new roles you create in a descriptive manner. Examples of descriptive role names would include `BOE_CONTENT_PUBLISHERS` and `BOE_SYSTEM_ADMINISTRATORS`.

Tip:
In BusinessObjects Enterprise XI you can assign an administrative user either full system administration rights or a subset of those rights. For more information, consult “Controlling Administrative Access” in the *BusinessObjects Enterprise Administrator's Guide*.

To modify the rights that these new roles (or any of your existing roles) are granted in BusinessObjects Enterprise, you must first set up SAP

Authentication and import the roles. You can then modify the rights of each imported role through the Central Management Console in BusinessObjects Enterprise.

For details on creating roles, see your SAP documentation. For more information on the use of roles in administering content, see the following sections:

- *Importing SAP roles to BusinessObjects Enterprise* on page 87.
- *Setting up folders and security in BusinessObjects Enterprise* on page 114.
- *Understanding the default folder security patterns* on page 112.

Configuring access to the Content Administration Workbench

For each type of user that can access the Content Administration Workbench, you must apply the appropriate set of authorizations within BW. The authorizations are listed in the following tables.

Table 7-3: Authorizations for administrative users

Authorization object	Field	Values
S_RFC S_TCODE	RFC_TYPE	FUGR
	RFC_NAME	/CRYSTAL/CE_SYNCH, SH3A, SUNI
	ACTVT	Execute (16)
	TCD	/CRYSTAL/RPTADMIN, RSCR_MAINT_PUB-LISH

Authorization object	Field	Values
S_TABU_CLI	CLIIDMAINT	X
S_TABU_DIS	ACTVT	Change, Display (02, 03)
	DICBERCLS	&NC&
	JOBACTION	DELE, RELE
	JOBGROUP	' '
S_RS_ADMWB	ACTVT	Execute (16)
	RSADMWBOBJ	WORKBENCH
	ACTVT	Create new, Change, Display, Delete (01, 02, 03, 06)
ZCNTADMJOB	ACTVT	Create new, Delete (01, 06)
ZCNTADMRPT	ACTVT	Display, Delete, Activate, Maintain, Check (03, 06, 07, 23, 39)

Table 7-4: Authorizations for content publishers

Authorization object	Field	Values
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	/CRYSTAL/CE_SYNCH, SH3A, SUNI
	ACTVT	Execute (16)
	TCD	/CRYSTAL/RPTADMIN
S_BTCH_JOB	JOBACTION	DELE, RELE
	JOBGROUP	' '
	ACTVT	Execute (16)
	RSADMWBOBJ	WORKBENCH
ZCNTADMCES	ACTVT	Display (03)
ZCNTADMJOB	ACTVT	(New, Delete) 01, 06
ZCNTADMRPT	ACTVT	Display, Activate, Maintain, Check (03, 07, 23, 39) Delete (optional) (06) Edit (optional) (02)

Granting content publishers the right to delete reports in the BW Content Administration Workbench is optional. However, be aware that deleting a report in BW also deletes the report in BusinessObjects Enterprise. If publishers do not have sufficient rights to delete reports in BusinessObjects Enterprise, an error results. See *Setting up folders and security in BusinessObjects Enterprise* on page 114 for information on granting rights in BusinessObjects Enterprise.

Authorizations for content consumers

Authorization object	Field	Values
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	SH3A, SUNI
	ACTVT	Execute (16)
	TCD	/CRYSTAL/RPTADMIN
S_RS_ADMWB	ACTVT	Execute (16)
	RSADMWBOBJ	WORKBENCH
	ACTVT	Display (03)

Defining a BusinessObjects Enterprise system

You must create a system definition within the Content Administration Workbench for each BusinessObjects Enterprise system to which you want to publish reports.

To add a BusinessObjects Enterprise system

1. Execute the transaction `/crystal/rptadmin` to access the Content Administration Workbench.
2. From the **Operations** pane, select **Enterprise System**.
3. Double-click **Add new system**.
4. On the **System** tab, enter the following values:
   - Type a descriptive name in the **Alias** field. Avoid using spaces or special characters, as these characters need special treatment when the alias name is used while configuring Enterprise Portals.
   - Type the name of the machine that is running your BusinessObjects Enterprise CMS. If you configured your CMS to listen on a port other than the default, type `CMSNAME:PORT`
   - Select **Default system** if you want to publish reports to this system from any role that has not been explicitly assigned to a BusinessObjects Enterprise system. Only one BusinessObjects Enterprise system can be the default.

     In the list of all available systems, the default system is indicated with a green checkmark.
5.  Click **Save**.
6. On the **RFC Destinations** tab, add each RFC destination that is associated with this BusinessObjects Enterprise system. To add a destination, click the **Insert Row** button. In the list that appears, double-click the name of the RFC destination.

   Note:
   A BusinessObjects Enterprise system may have multiple destinations to add system redundancy. See *Distributing the BW Publisher installation* on page 72 for more information.
7. Next, test the destination. Select the destination you just added by clicking the gray box to the left of its name.
8. Click **Verify CE definition**.

   This test verifies that BW can contact the specified BW Publisher, and can log on to this BusinessObjects Enterprise system using the Crystal entitlement user account.

9. On the **HTTP** tab, enter the following values:
   - **Protocol**

     Type http (unless the web server that is connected to BusinessObjects Enterprise is configured to use https).
   - **Web server host and port**

     Type the fully qualified domain name or IP address of the web server that hosts your BusinessObjects EnterpriseInfoView. For a installation that uses a Java application server, include the port number. For example:

     ```
     boserver01.businessobjects.com:8080
     ```
   - **Path**

     Type:

     ```
     SAP
     ```

     This path is essentially the virtual path that your web server uses when referring to the `sap` subfolder of your BusinessObjects Enterprise web content. Provide an alternate value only if you have customized your web environment and the location of the BusinessObjects Enterprise web content files.

     Do not include a forward slash at the beginning or at the end of this entry.
   - **Viewer application**

     Type the name of your viewer application. Type reportview.do to use the default viewer for BusinessObjects Enterprise that use the Java version of InfoView. If BusinessObjects Enterprise was installed on Windows using the default ASP.NET configuration, type report/report_view.aspx to use the default browser.
10. On the **Languages** tab, select the languages of reports that will be published to this BusinessObjects Enterprise system.
11. Use the **Roles** tab to add the content-bearing roles that you want to associate with this BusinessObjects Enterprise system. See *Importing SAP roles to BusinessObjects Enterprise* on page 87 for more information.
12.  Click the **Insert Row** button.

A list of roles available to add to this BusinessObjects Enterprise system is displayed.

Note:
Each role can publish to only one BusinessObjects Enterprise system. If the roles that you want to add to this BusinessObjects Enterprise are not displayed in the list, click **Cancel** to return to the **Roles** tab. Then click **Reassign Roles**.

13. Select the roles that you want to publish to this BusinessObjects Enterprise system, and click the **Ok** button.
14. Next, set the default security settings for content published to this BusinessObjects Enterprise system. Click the **Layout** tab, and select the security settings that are used by default for reports and roles folders. Consult your *BusinessObjects Enterprise Administrator's Guide* for more information about these security settings.

    Note:

    - A folder is created automatically in BusinessObjects Enterprise for each role published to that system. This folder contains shortcuts to the reports published under that role.
    - Once you have configured a BusinessObjects Enterprise system, changing the default security levels here will not affect the security levels of published role folders or reports. To change the default security levels for all roles and content published to BusinessObjects Enterprise, delete the roles folders and shortcuts in BusinessObjects Enterprise. (This will not delete the actual reports.) Then change the security settings here, and republish the roles and reports.

15. Click the **Ok** button at the bottom to save your settings and create the BusinessObjects Enterprise system in the Content Administration Workbench.

You are now able to publish reports to BusinessObjects Enterprise from BW.

Publishing reports using the Content Administration Workbench

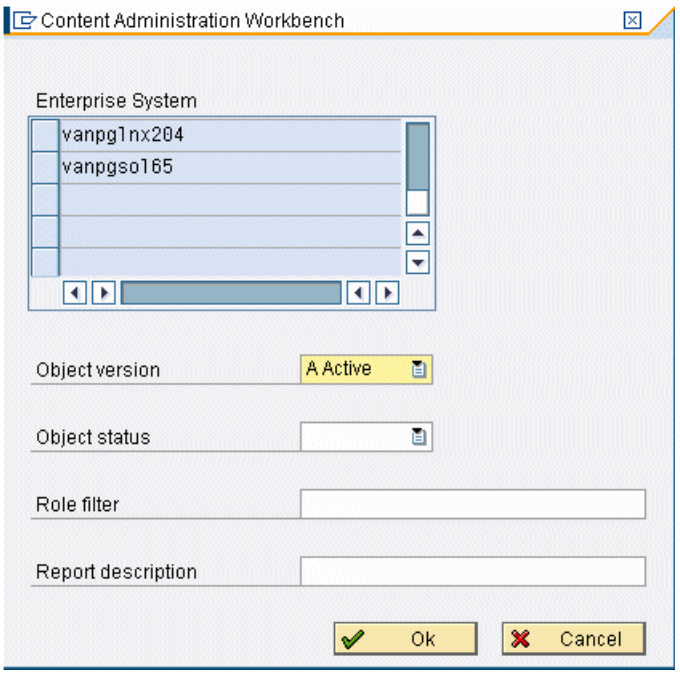
After a report has been saved to BW, you can publish it using the Content Administration Workbench. You can use the Content Administration

Workbench to publish individual reports, or you can publish all reports saved to a particular role. Only a user who has the authorizations granted to a Crystal content publisher (see *Creating and applying authorizations* on page 228) can use the Content Administration Workbench to publish and maintain reports.

Publishing roles or reports

1. Execute the transaction `/crystal/rptadmin` to access the Content Administration Workbench.
2. From the **Operations** pane, select **Publish reports**.
3. To find content saved to your BW system, double-click **Select reports and roles to publish**.

   A dialog box designed to help you filter the available roles and reports appears.



4. From the **BusinessObjects Enterprise System** list, select the BusinessObjects Enterprise system or systems containing content that you want to display.

Note:
The **BusinessObjects Enterprise System** list contains all available systems defined on this BW system.

5. Next, filter your results to limit the number of reports and roles that will be displayed. Use these options:

   - **Object version**

     Selecting "A: active" displays all reports that can be published. Selecting the blank option displays all reports. (The remaining options are SAP reserved terms.)

   - **Object status**

     Select "ACT Active, executable" to display only reports that have been published. Select "INA Inactive, not executable" to display only reports which have not been published. Leave the field blank to display all reports. (The remaining options are SAP reserved terms.)

   - **Role filter**

     If you type text in this box, only the roles that match what you type here are displayed. Use * as a wildcard character. For example, to display all roles beginning with the letter d, type "d*".

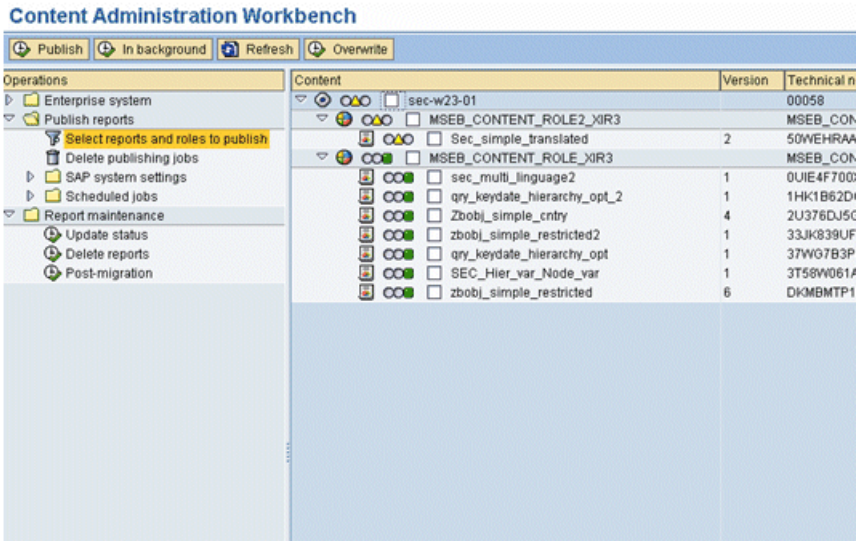
   - **Report description**

     If you type text in this box, only the reports whose descriptions match what you type here are displayed. Use * as a wildcard character to match any number of characters. Use + as a wildcard to match 0 or 1 characters. For example, to display all reports whose description contains the word revenue, type *revenue*.

6. Click **OK**.

   The list of reports that meet your criteria appears in the right-hand panel.

   The reports are arranged in a hierarchy: BusinessObjects Enterprise system > Roles on that system > Reports saved to the role.



Each item in the hierarchy is labeled with a red, yellow, or green dot. Items higher in the hierarchy reflect the status of the items that they contain, with the least favorable condition percolated to the top of the hierarchy. For example, if one report in a role is yellow (active), but all of the rest are green (published), then the role shows as yellow (active).

- Green: The item is fully published. If the item is a BusinessObjects Enterprise system or a role, all reports in that item are published.
- Yellow: The item is active, but not published. If the item is a report, the item is available for publishing. If the item is a role or a BusinessObjects Enterprise system, then all content is active and at least one item that the role or system contains has not been published.
- Red: The item is SAP content, and is not available for publishing using the Content Administration Workbench. Content is not available for publishing until it has been activated using the BW Administration Workbench.

7. Select the reports that you want to publish.

   To publish all o f the reports in a role, select the role. To publish all roles on a BusinessObjects Enterprise system, select the system.

Note:
When you select a role (or a system), all reports contained in that role (or system) are selected. To clear this selection, clear the role (or system) checkbox, and then click Refresh.

8. Click **Publish**.

   Note:
   Reports published in the background are processed as system resources become available. To use this option, click **In background** instead of **Publish**. See *Scheduling background publishing* on page 137 for details.

9. Click **Refresh** to update the display of the status of BusinessObjects Enterprise systems, roles, and reports in the Content Administration Workbench.

   Tip:
   To view a report, right-click the report and select **View**. To see which queries are used by the report, right-click the report and select **Used Queries**.

   Note:
   After you have published a report to BusinessObjects Enterprise, if you want to overwrite the report you published, click the **Overwrite** button.

Scheduling background publishing

Publishing reports in the background, either immediately or as a scheduled job, conserves system resources. It is recommended that you publish reports in the background to improve system responsiveness.

Publishing reports periodically, as scheduled jobs, synchronizes the report information between BW and your BusinessObjects Enterprise system. It is recommended that you schedule all reports (or roles containing these reports). You can also manually synchronize roles and reports using the Update status option of the Report Maintenance operation. See *Updating the status of reports* on page 139 for details.

To publish a report immediately

1. Use the Content Administration Workbench to find the reports or roles that you want to publish, as described in *Publishing roles or reports* on page 134.

2. In the Content panel, select the roles or reports to publish.

   Note:
   Only active (green or yellow) reports or roles are available to be published.

3. Click **In background** to publish the selected items as a background process.

   The “Define Background Job” transaction appears.

4. To publish the item immediately, click **Start Condition**, and then click **Immediate** and save the job.

   The job appears under **Scheduled jobs** in the **Operations** tree.

   A user with administrative privileges may need to release this job (using transaction SM37) before it is published.

To publish a report as a scheduled job

1. Use the Content Administration Workbench to find the reports or roles that you want to publish, as described in *Publishing roles or reports* on page 134.
2. In the Content panel, select the roles or reports to publish.

   Note:
   Only active (yellow) reports or roles are available to be published.

3. Click **In background** to publish the selected items as a background process.

   The “Define Background Job” transaction appears.

4. To publish the item at a scheduled time, click **Start Condition**.
5. Click **Date/Time** and specify when the job should start.
6. Click **Periodic job**, and then **Period values**.

   Use the Period Values dialog to specify how often the job should run.

7. Click **Save** to save the period values, and then click **Save** again to save the job.

   The job appears under **Scheduled jobs** in the **Operations** tree.

   A user with administrative privileges may need to release this job (using transaction SM37) before it is published.

Updating system information for published reports

The BW Publisher uses the SAP system information entered here to update the data source of published reports. You can choose to use the local BW application server, or the central BW instance if you prefer a load balancing configuration.

To update system information

1. Execute the transaction `/crystal/rptadmin` to access the Content Administration Workbench.
2. From the **Operations** pane, select **Publish reports**.
3. Under **SAP system settings**, double-click **Set BW source parameters**.
4.  To change an existing BW system, click **Display ->Change**, and then update the information about the listed system.
5. To add a new BW system (or a load-balanced system), first select any existing entries, and click **Delete**. Then click **New Entries**, and add information about the new system.
6. Click **Save**.

Maintaining reports

Report maintenance tasks include synchronizing information about reports between BusinessObjects Enterprise and BW (Update status), deleting unwanted reports (Delete reports), and updating reports migrated from previous versions of BusinessObjects Enterprise (Post-migration).

Updating the status of reports

If you make a change to a published report on a BusinessObjects Enterprise system (such as changing which role a report is published to), the change is not reflected in BW until you synchronize BusinessObjects Enterprise and BW. You can schedule a publishing job to periodically synchronize BusinessObjects Enterprise and BW (see *Scheduling background publishing* on page 137), or you can manually update the status of the report using the Report Maintenance tool.

To update reports

1. Execute the transaction `/crystal/rptadmin` to access the Content Administration Workbench.
2. Under **Report Maintenance**, double-click **Update Status**.
3. Use the dialog that appears to filter the list of displayed BusinessObjects Enterprise systems, roles, and reports, as described in *Publishing roles or reports* on page 134.
4. Select the reports you want to update from the displayed list.

   To select all reports and roles on a BusinessObjects Enterprise system, select the system.

5. Click **Version Check**.

   BW connects to the BusinessObjects Enterprise systems containing the reports you have indicated, to synchronize information. If BW cannot contact a BusinessObjects Enterprise system, it returns an error message. You must correct the problem before you can update the status of reports on that system in BW.

Deleting reports

Deleting a published report from BW using the Content Administration Workbench also deletes the report from BusinessObjects Enterprise. Only users who have been granted the authorizations necessary to delete reports on both BW and the BusinessObjects Enterprise system can remove reports.

Note:
If a user has rights to delete a report on BW, but not on the BusinessObjects Enterprise system where that report is published, you may encounter an error.

To delete reports

1. Execute the transaction `/crystal/rptadmin` to access the Content Administration Workbench.
2. Under **Report Maintenance**, double-click **Delete reports**.
3. Use the dialog that appears to filter the list of displayed BusinessObjects Enterprise systems, roles, and reports, as described in *Publishing roles or reports* on page 134.
4. Select the reports you want to delete from the displayed list.

To select all reports and roles on a BusinessObjects Enterprise system, select the system.

Note:

 You cannot delete reports using the Content Administration Workbench if their status dot is red. These reports are SAP content.

5. Click **Delete reports**.

   BW connects to the BusinessObjects Enterprise systems containing the reports you have indicated, to delete the reports. If BW cannot contact a BusinessObjects Enterprise system, it returns an error message. You must correct the problem before you can delete these reports.

Configuring the SAP http request handler

To enable viewing of reports in BW, you must configure BW to use the http request handler that is included as part of the Content Administration Workbench. Then, when a BW user opens a Crystal report from within the SAPGUI, BW is able to route the viewing request over the Web appropriately.

Use the transaction SICF to access the list of virtual hosts and services active on your BW system. Create a new node named `ce_url`under BW in the `default_host` hierarchy and add `/CRYSTAL/CL_BW_HTTP_HANDLER` to the handler list. You may have to manually activate this service after creating it.

Managing the SAP Enterprise Portal

chapter 8

SAP Enterprise Portal overview

SAP Enterprise Portal provides a single point of access to information, enterprise applications, and services. This scalable portal provides you with the tools to manage your information, to analyze it, and to share and collaborate this information with others.

With BusinessObjects XI Integration for SAP Solutions, users can include and view Crystal reports from within the SAP Enterprise Portal. For example, users can choose to create a new iView inside of the portal and include a report in this iView.

The portal provides administrators with tools to manage and monitor the portal. Using iViews, administrators use the administration tools in the portal to configure the BusinessObjects Enterprise backend. Administrators can also include and incorporate multiple BusinessObjects Enterprise systems into one SAP Enterprise Portal. For more information on configuring BusinessObjects Enterprise, refer to *Configuring publishing in the Content Administration Workbench* on page 125. For information on SAP Enterprise Portal, refer to your SAP documentation.

Content access points

The following different access points for content are provided with BusinessObjects XI Integration for SAP Solutions:

- Sample iViews
- URL iViews
- BusinessObjects Enterprise Knowledge Management and Collaboration Solution (CMC)

Single sign-on requirements

To facilitate access and administration, you need to enable single sign-on between the SAP Enterprise Portal and the BusinessObjects Enterprise systems incorporated in the portal.

For single sign-on to work:

- The Enterprise Portal and the application server used by BusinessObjects Enterprise must reside in the same domain. This requirement enables token-based logon to use single sign-on.
- User roles from the SAP entitlement systems must be imported into the BusinessObjects Enterprise backend. For more information see*Importing SAP roles to BusinessObjects Enterprise* on page 87.
- BusinessObjects Enterprise InfoView must be configured to support single sign-on. If you are using BusinessObjects Enterprise Java InfoView you must modify the `web.xml` file which is located by default in the following directory:

  ```
  <INSTALLDIR>\BusinessObjects Enterprise
  12.0\warfiles\WebApps\InfoViewApp\WEB-INF
  ```

  For BusinessObjects Enterprise .NET InfoView, you must modify the `web.config` file which is located by default in the following directory:

  ```
  <INSTALLDIR>\BusinessObjects Enterprise 12.0\Web
  Content\InfoViewApp\InfoViewApp
  ```

  You must modify the parameters to specify the values listed in the table below.

Parameter name	Required value
authentication.default	secSAPR3
siteminder.enabled	false
sso.enabled	true

Using sample iViews

The BusinessObjects XI Integration for SAP Solutions install includes sample iViews. The sample iViews can be used to view Crystal Report Alerts or to view reports by selecting their corresponding thumbnail. These files are by default located in the following directory:
`<INSTALLDIR>\BusinessObjects\BusinessObjects Enterprise 12.0\Web Content\Enterprise 12\SAP\iviews\import\ep`

This folder contains all the files that are needed for you to import sample iViews to your portal. The subfolder `ep` contains files for SAP Enterprise

Portal (.epa files). Within each of these subfolders are additional subfolders that contain the corresponding files for JSP.

These samples include three sample iViews:

- Alert iView

  Alert iViews displays all alerts for a specific user.

- iView Template

  iView template is a template that allows users to create new iViews as a type of BusinessObjects Enterprise Report.

- Thumbnail iView

  Thumbnail iViews displays reports from BusinessObjects Enterprise as a thumbnail.

You can import these files through the Portal Administration portion of your SAP Enterprise Portal. For more information on importing, see “Importing iViews for Enterprise Portal”.

Note:

- After importing the `.epa` files, you need to change the system setting for these iViews. By default, the system is set to "SAP_BW".
- You also need to configure the BusinessObjects Enterprise server parameters for your system in the Portal System Landscape.

iView Template

BusinessObjects Enterprise iView templates provide templates for users to create new Crystal Report iViews. Before create a new iView, you need to upload the master iView `.par` file.

The master iView `.par` file is named `com.businessobjects.pct.masteriview.par`, and is located the same directory as the sample iView `.epa` file.

The iView template is available in the SAP Enterprise Portal in the list of iView templates when you create a new iView. The template is designed to report Crystal Reports only.

Alert iView

This iView presents all triggered alerts in a table. The table contains the report name, alert message, and the date when the alert was triggered. The alert message provides a link to the report instance that triggered the alert.

You can specify the following parameters for this iView:

- SAP_SYSID: The ID for the SAP system that's used for the Alert iView (for example, `DEB`).
- SAP_CLIENT: The client of the SAP system that's used for the Alert iView (for example, `800`).

These parameters are automatically filled by SAP Enterprise Portal.

Thumbnail iView

This iView displays all reports in a thumbnail format (as a report preview). When the user moves the mouse over the report preview, a brief description of the report appears. The user can view a report by clicking the thumbnail.

Note:
When you save a Crystal report, select the Save Preview Picture option (on the Reporting tab of the Options dialog box). Selecting this option ensures that the report is saved with a thumbnail image which is used by the Thumbnail iView.

You can specify the following parameters for this iView:

- SAP_SYSID: The ID for the SAP system that's used for the Thumbnail iView (for example, `DEB`).
- SAP_CLIENT: The client of the SAP system that's used for the Thumbnail iView (for example, `800`).

These parameters are automatically filled by SAP Enterprise Portal.

How to configure imported content

After you have imported the import files for the iViews, you will find the folder (BusinessObjects Enterprise Integrations Kit) in the Portal Content Directory. The delivered iViews are configured to work with the system alias "SAP_BW". Either you can configure a new alias inside the SAP Portal landscape to reflect this system alias "SAP_BW" or you can change the iViews to make use of another system alias.

After assigning the correct system alias to these iViews you need to proceed with the following steps:

- Configure the BusinessObjects Enterprise server for the system.
- Create a page containing these iViews.
- Create a role containing the page.
- Assign the role to a user.
- Include the role into the navigation inside the portal.

In addition, specify the Application Parameter for each iView. For this property, enter `cms_name=[cms]` for the fully qualified server name.

For more information on creating and setting roles, refer to your SAP documentation.

Importing SAP Enterprise Portal business packages

In order to use the Sample iViews, you need to import specific business packages from BusinessObjects Enterprise to the Enterprise Portal.

To import business packages

1. In SAP Enterprise Portal, while in the administrator role, select the **System Administration** tab.
2. Click **Transport** and then click **Import**.
3. Specify where the files to be imported are found.

- Server: Select this option if the files are on the server.
- Client: Select this option if the files are on your local client.

Note:
By default the Java sample iViews is located in the following directory:

```
<INSTALLDIR>\BusinessObjects Enterprise 12.0\Web
Content\Enterprise12\SAP\iviews\import\ep\jsp
```

The .NET sample iViews are located in the following directory:

```
<INSTALLDIR>\BusinessObjects Enterprise 12.0\Web
Content\Enterprise12\SAP\iviews\import\ep\aspx
```

4. Click **Browse** and navigate to the `.epa` file that you want to import.
5. Click **Select** to choose the package that you want to import.

   The package is automatically unpacked and the individual objects are listed in the Object Preview.
6. On the Content to be Overwritten list, specify whether you want to overwrite existing content or not by clicking **All** or **None**.
   - None: Content objects that already exist in the portal (for example, roles, worksets, and so on) are not overwritten.
   - All: All existing content objects are overwritten.
7. Click **Import** to begin importing the file.

   A new screen appears showing you the status of the import. You can stop the import at any time by clicking Cancel Import. The status of the import is updated automatically until the import has finished. When the import is complete, any error messages that occurred are listed in the Details of Import Status table. There is a link for each error that you can use to navigate directly to an explanation of the error.

To import BusinessObjects Enterprise master iView par file

1. Logon to SAP Enterprise Portal as an administrator, and select the **System Administration** tab.
2. Click **Support**, and in the **Support Desk**, click **Portal Runtime**.

3. In the “Portal Anywhere” table, click **Administration Console**.
4. Click **Browse**, and navigate to the master iView `com.businessobjects.pct.masteriview.par` file for the BusinessObjects Enterprise iView template that you want to import.

   By default the file is located in the following directory `C:\Program Files\Business Objects\BusinessObjects Enterprise 12.0\Web Content\Enterprise12\SAP\iviews\import\ep`
5. Click **Upload** to choose the package that you want to upload.

Configuring the BusinessObjects Enterprise server entry point

Before you use any iViews, you need to configure your BusinessObjects Enterprise server. Using SAP Enterprise Portal, you need to specify the host name and the path for your BusinessObjects Enterprise server.

To configure the BusinessObjects Enterprise server

1. From the top-level navigation bar, choose **System Administration**; then choose **System Configuration**.
2. From the Detailed Navigation iView, choose **System Landscape**.
3. In the **Portal Catalog**, expand **Portal Content**.
4. In the folder containing the systems, right-click a system and choose **Open**, and then choose **Object**.
5. In the System Landscape Editor, from the **Edit** list, select **Crystal Enterprise Server**.
6. In the BusinessObjects Enterprise Editor, enter the following parameters:
   - Host Name of Crystal Enterprise Server:

     Here you need to enter the BusinessObjects Enterprise server as fully qualified host name (including the port).

     For example: BusinessObjects001.business.net:1080
   - Path of BusinessObjects Enterprise Server:

     Here you need to enter the path to the viewer application you want to use for this system.

For example: /SAP

Note:
This path starts with a "/" but does not end with a "/".

- Protocol:

  The protocol which gets used by the viewer applications.

All these settings function as a template (with the selected settings) for all iViews running against the system. Thus, you can have different settings for each system.

Therefore, you can have the following:

- Different BusinessObjects Enterprise server per system.
- Different viewer applications per system.

Using URL iViews

URL iViews can be used to access Crystal and Web Intelligence Reports based on SAP data sources. This type of iView leverages URL Reporting capabilities through Business Objects' OpenDocument functionality. URL reporting using OpenDocument provides URL access to multiple report types passing a URL string to a BusinessObjects Enterprise server. OpenDocument controls how reports are generated and displayed.

The OpenDocument resource files are by default available after BusinessObjects Enterprise is installed. For further information refer to BusinessObjects Enterprise documentation in the "Get More Help" section of this guide.

To configure a URL iView to access a report

You can use either the .NET or Java OpenDocument resources to create your URL iVIew to create a report.

1. Provide the URL iView you are going to use to access the report.

For example, the URL iView for .NET:

```
http://hostname.domain.com:port/OpenDocument/opendoc/openDoc
ument.aspx
```

For Java:

```
http://hostname.domain.com:port/OpenDocument/opendoc/openDoc
ument.jsp
```

2. Add the following parameter values shown in the table below:

URL Parameter	Value
iDocID	report's unique ID

Note:
The report's unique ID, can be found in the properties of a report in InfoView.

Note:
Additional parameters can be appended to a URL Iview to define the viewer, refresh options and many other parameters that are report-type specific. For a full listing of these parameters see the *Viewing Reports and Documents using URLs* document that is available on the support site. For more information see the “Get More Help” section at the end of this guide.

The URL iView is ready to redirect you from the SAP Enterprise Portal to view your report in BusinessObjects Enterprise.

3. Click **Preview** to redirect to InfoView.

   If single sign-on has been correctly configured, you should automatically be logged into InfoView using your SAP credentials.

To configure a URL iView to access InfoView

You can use either the .NET or Java OpenDocument resources to create your URL iVIew to create a report.

1. Open your browser.
2. Type the URL used to access InfoView:

For Java use the following format:`http://hostname.domain.com:port/InfoViewApp`

For .NET use:`http://hostname.domain.com:port`

3. Add the following three parameter values

URL Parameter	Value to type
sap_sysid	three digit system ID
sap_client	three digit client number
language	two digit language code

4. Click **Preview** to redirect to InfoView.

Configuring KMC

chapter 9

Configuring the BusinessObjects Enterprise repository for Knowledge Management and Collaboration (KMC)

SAP NetWeaver provides Knowledge Management & Collaboration (KMC) capabilities via the SAP Enterprise Portal (SAP EP). SAP EP uses the BusinessObjects Enterprise repository.

This section describes how to install, configure and maintain BusinessObjects Enterprise repository in SAP Enterprise Portal (SAP EP). This information is intended for the SAP EP administrator who is responsible for configuring repository managers.

Quick reference: configuring the BusinessObjects Enterprise repository for SAP EP

Administrators experienced with SAP EP and BusinessObjects Enterprise may want to follow these steps to quickly configure Business Objects Enterprise for knowledge management and collaboration. For more detailed instructions, see the instructions that follow this quick reference.

1. Upload `BusinessObjectsKM.par` into SAP EP from the Administration Console within Portal Runtime.
2. In the Repository Manager, create a new instance.

   To save time, you can duplicate the existing one using the following steps:

   a. Make sure Property Search Manager is Not Set.

      This is because the Property Search Manager class in some SAP EP deployments may prevent the `BusinessObjectsKM.par` from starting properly.

   b. Make sure the service "layout" is selected.
   c. Specify the host and port of the CMS you want to connect to.
   d. Replace WEB_SERVER_AND_PORT with the host and port of your web server in the OpenDoc URL, Dispatch URL and web service URL.
   e. Make sure the specified SAP System ID has been imported into the CMS, and the certificate of the EP has been imported in this SAP system.

3. On the KM Content page, right-click the repository and choose **Details** > **Settings** > **Presentation** on the context menu.
4. Click **Select profile** to select the **BOBJELayout** layout and select the **Apply settings to all subfolders** check box.

To install the BusinessObjects Enterprise repository

1. Log on to SAP EP with administrator rights.
2. Go to the Administration console (under System Administration > Support > Portal Runtime), browse to the BusinessObjectsKM.par file and click **Upload**.

   Note:
   After installing SAP IK, you can get the par file from `%Business Objects%/BusinessObjects Enterprise 12.0/java/applications` (for Windows Installer) or on the CD (for UNIX Installer).

3. To undeploy BusinessObjects Enterprise repository, return to the Administration console, select BusinessObjectsKM.par, and click **Clean**.

Configuring the BusinessObjects Enterprise repository

To configure BusinessObjects Enterprise repository, you need to configure settings in SAP EP, BusinessObjects Enterprise, and an SAP BW system.

To understand why, consider the following workflow:

- When a user logs onto SAP EP, a logon ticket is issued by SAP EP.
- When the user clicks BusinessObjects Enterprise repository, the logon ticket (and the configured SAP_System_ID and SAP_Client) is passed to BusinessObjects Enterprise.
- The ticket is then validated against the SAP BW system specified by the SAP_System_ID.

The following step procedures describe how to configure all of the components involved in using the BusinessObjects Enterprise repository with SAP EP.

To configure SAP BW for BusinessObjects Enterprise repository

To use the BusinessObjects Enterprise repository, you need to configure the following settings in SAP BW.

1. Make sure the SAP BW system and SAP EP are in the same domain.
2. Make sure the user has the same name on the SAP EP and SAP BW systems.

   Note:
   If the SAP EP user doesn□?t exist in SAP BW system, create one.

3. Make sure the certificate of SAP EP has been imported into the SAP BW system.
   a. Go to **System Administration** > **System Configuration** > **Keystore Administration**.
   b. Select `SAPLogonTicketKeypair-cert`, click **Download verify.der File to local machine** (`verify.der.zip`), and then unzip it.
   c. In the SAP system where you want to authenticate the SAP EP user, start transaction STRUSTSSO2.
   d. Choose **Import Certificate** for the system PSE.
   e. Browse to the downloaded `verify.der` and set the encoding to binary.
   f. Click **Add to PSE** and **Add to ACL**. In the new dialog box, the system ID is the portal□?s system ID (generally the same as CN), and client is 000.
   g. After a successful log on to SAP EP, a user will get the MYSAPSSO2 cookie, which can be verified by the SAP system.

To configure BusinessObjects Enterprise for SAP EP

Before implementing the following instructions, make sure SAP EP and the BusinessObjects Enterprise web application server are in the same domain.

1. Make sure the SAP BW system and role have been imported for the SAP EP user:
   a. Add the SAP BW system as an entitled system in BusinessObjects Enterprise.

b. Import the corresponding role into BusinessObjects Enterprise.
c. In the BusinessObjects Enterprise repository configuration, specify the names of the CMS and the SAP BW system ID.

2. To enable single sign-on when viewing a report, set `opendoc.session cookie.enabled` to `false` in the web.xml file for the OpenDocument web application.
3. To see localized error messages (optional):
   a. Copy the following files to the `dswsbobje/WEB-INF/lib` folder on your web server:
      - ceresprops_LANG.jar
      - federation_LANG.jar
      - webreporting_LANG.jar
      - ws-langpack-resource_LANG.jar
   b. In the `dswsbobje/WEB-INF/classes/langpacks.properties` file, set INSTALLEDLANGUAGES=LANG1,LANG2 and so on.
4. If you want users to be able to log onto the BusinessObjects Enterprise web applications via HTTPS, follow these optional steps:
   a. Download the certificate of BusinessObjects Enterprise Web Service.
   b. Use the following command to import the certificate to a keystore:

```
%java_home%\bin\keytool -import -v -trustcacerts -alias
tomcat -file server.cer -keystore client.keystore -keypass
 password -storepass password
```

   c. Put the keystore file in the SAP EP server.
   d. In the configuration settings for BusinessObjects Enterprise in the Repository Manager, specify the location and password of the keystore file.

To configure the client

- Make sure all clients have cookies enabled.

To configure SAP EP for BusinessObjects Enterprise repository

1. Go to **System Administration** > **System Configuration** > **Knowledge Management** > **Content Management** > **Repository Managers**, choose the BusinessObjects Enterprise repository.
2. Specify the following items:

Setting	Description	Example
CMS	The name of the CMS you want to connect to. One BusinessObjects Enterprise repository instance maps to one BusinessObjects Enterprise CMS. To view objects for multiple CMSs, create multiple BusinessObjects Enterprise repository instances.	*cms_host_name*:*port*
Prefix	The prefix of one instance, which will be displayed in the KM Content iview.	/*BOERM*
Starting folder SID	The SI_ID of the object in BusinessObjects Enterprise that you want to use as the starting folder in KM.	23
SAP Client	The client number of the SAP BW system which is used for single sign-on.	3 digit client number

Setting	Description	Example
SAP System ID	The system ID of the SAP BW system which is used for single sign-on.	3 digit System ID
Web Service URL	The URL of Web Service provider for logging SAP EP user onto BusinessObjects Enterprise.	*web_app_host*:*port*
Logoff URL	The URL to use for cleanup when the user clicks Logoff.	*web_app_host*:*port*
Open-Doc URL	The URL in BusinessObjects Enterprise for viewing an object or its latest instance.	*web_app_host*:*port*
Dispatch URL	The URL in BusinessObjects Enterprise for performing tasks such as scheduling objects and viewing an object's history.	*web_app_host*:*port*
Property Search Manager	The class name of the Property Search Manager. Make sure this is set to Not Set.	Not set.

Setting	Description	Example
Repository Services	Enable the required services. • To enable BusinessObjects Enterprise-specific commands, select **layout**. • To enable search, select **properties**. • To enable collaboration, select the collaboration features you want to use. (For example, **comment**, **discussion**, or **rating**.) • To enable subscription, select **subscription**.	comment, discussion, feedback, layout, personal note, properties, rating, subscription
Keystorefile	The location of keystore file for connecting to CMS with the HTTPs web service. See step 3 for additional configuration steps required for HTTPS.	
Keystorepwd	The password for the keystore. See step 3 for additional configuration steps required for HTTPS.	

Note:

- The CMS, Web Service URL, OpenDoc URL and dispath URL can be on different machines.
- Changes to the CMS, SAP_System_ID, SAP_Client and starting folder ID settings will take effect when the user has logged off and logged back on again.

3. If you want to use HTTPS for logon to BusinessObjects Enterprise, you also need to perform the following optional steps:
   a. Download the certificate of the BusinessObjects Enterprise Web Service.

b. Import the certificate to a keystore using the following command:

```
%java_home%\bin\keytool -import -v -trustcacerts -alias
tomcat -file
   server.cer -keystore client.keystore -keypass password
 -storepass password
```

c. Put the keystore file on the SAP EP server.
d. In the BusinessObjects Enterprise repository configuration settings, specify the location and password of the keystore.

To configure the BusinessObjects Enterprise layout

To make BusinessObjects Enterprise properties and commands appear properly, you need to change the layout set of your configured BusinessObjects Enterprise repository to the BusinessObjects Enterprise layout.

1. Go to **Content Administration** > **KM Content**, right-click the BusinessObjects Enterprise repository and choose **Details** from the context menu.
2. On the "Details" page, click **Settings** > **Presentation**, then click **Select Profile** and choose "BOBJELayout".
3. To apply the layout to all folders in the repository, check **Apply settings to all subfolders**.
4. Click **Save**.

Configuring collaboration

The collaboration feature allows users to easily discuss objects stored in BusinessObjects Enterprise. Collaboration features include comments, discussions, feedback, personal notes and rating.

To enable the collaboration features for your users, select the features you want in the BusinessObjects Enterprise repository settings in Content Management > Repository Managers.

Configuring subscription

Subscription notifies users who have subscribed to a folder or document on changes to it. The notification can be sent via email or SMS. You can also set subscription to send notifications at certain intervals or according to certain events.

The requirements for subscription are:

- The subscription service is enabled for the BusinessObjects Enterprise repository in Content Management > Repository Managers.
- The user has chosen to Subscribe the BusinessObjects Enterprise repository.
- Your mail server or SMS server has been configured to allow subscription.

To maintain BusinessObjecets Enterprise repository instances

1. Go to System Administration > System Configuration > Knowledge Management > Content Management > Repository Managers, and choose the BusinessObjects Enterprise repository.

   A predefined instance of the BusinessObjects Enterprise repository appears. You can modify the predefined instance or create a new one.

2. To create a new instance:
   a. Click **New**.
   b. Provide the required information and click **OK**.

      For more information about these settings, see *To configure SAP EP for BusinessObjects Enterprise repository* on page 160.

3. To modify an existing instance:
   a. Select an instance and click **Edit**.
   b. Modify the settings you want to change.

      Note:
      All changes except Repository Services settings can take effect immediately. (Changes to Repository Services require the J2EE server to restart.)

Using the BusinessObjects Enterprise Knowledge Management and Collaboration (KMC) solution

This section describes how to use a Business Objects Repository in SAP EP. It includes procedures for logging on, navigating, viewing, scheduling, creating, copying, moving, downloading, subscribing, searching, and troubleshooting.

Logging on and off

After the SAP Enterprise Portal (SAP EP) administrator has configured a BusinessObjects Enterprise Repository, SAP EP users should be able to access this repository through the Knowledge Management (KM) content or through a KM iView using single sign-on.

To log off, click **Logoff** on either the **View** menu or the **BusinessObjects** menu. If you do not log out, the sessions will be automatically terminated according to the timeout settings.

Navigation

You can navigate to a folder using the breadcrumb navigation, which appears at the top of the screen, or using the tree list on the left.

You can browse through all folders of the CMS specified in the BusinessObjects Enterprise repository that you have access to. After entering the BusinessObjects Enterprise repository, you should see three folders:

- Inbox

  Your personal inbox.

- My Favorites

  Your Favorites folder.

- <Starting_Folder_Name>

The starting folder is seen as Root folder within KM content. However you may define any subfolder to the Root folder (Public Folder) in you KM iView

If you have changed the navigation type to By Category, two categories should appear in the first level:

- Personal Category
- Corporate Category

To change navigation settings

You must be logged onto BusinessObjects Enterprise repository.

- To change the navigation type, click **View**, and then click **By Folder** or **By Category**.

  After changing navigation type, you will be redirected to the original page of KM Content.

  Note:
  The default navigation type is By Folder. If you change your navigation type, you will browse folders by that navigation type during your current BusinessObjects Enterprise session. The navigation type will be reset to By Folder when you log off.

Performing common tasks

Most common tasks can be performed using either commands in the menus or using the context menus for individual objects.

The following table provides a list of common commands, with descriptions and links to additional resources.

Task	Description
Refresh	Click **Folder**>**Refresh** to get the latest view of BusinessObjects Enterprise information. If there are any changes to the folder that you are browsing, they will appear when you click **Refresh**.
View	Click the context menu of an object and chose **View** to view the object on demand. The content appears in a new window. **Note:** This command does not apply to folder objects.
View latest instance	If an object has been scheduled and has at least one successful instance, you can click the **View Latest Instance** command to view the most recent successful instance. The content appears in a new window. **Note:** This command does not apply to folder objects.
Schedule	Click **Schedule** to schedule a new instance of an object. The **Schedule** command appears in the context menu for an object if it can be scheduled (for example, a Crystal report or a Web Intelligence document), and if you have the right to schedule it.
History	Click **History** to view a history of an object's scheduled instances. The **History** command appears in the context menu for an object if it contains instances.
MyInfoView	Click **Goto** > **MyInfoView** to open MyInfoView in a new window.
Create	For more information, see *To create a document* on page 168.
Copy / **Move**	You can copy or move documents or folders from one repository to another. For more information, see *To copy or move documents* on page 169.

Task	Description
Delete	You can delete documents or folders in the BusinessObjects Enterprise repository. For more information, see *To delete a document* on page 169.
Details	Click the context menu of an object and choose **Details** to see detailed information about the object, including name, description, the last date the object was run, and the size of the object. The Details page also shows collaboration information for the object, if the collaboration service has been enabled for the repository. For more information on collaboration, see *Collaboration* on page 171.
Download	To download a copy of an object to your local machine, click the context menu of the object and choose **Download**.

Note:
More advanced user tasks are discussed in *Performing advanced tasks* on page 170.

To create a document

You can create new objects, such as Desktop Intelligence, Voyager, and Web Intelligence documents, and save them to BusinessObjects Enterprise.

Note:
You can also upload document types such as Crystal reports, text files, and Microsoft documents to BusinessObjects Enterprise.

- To create a new document, click **Folder** > **New**, and then choose the type of document you want to create.

  A new window will appear where you can configure the new document.

To copy or move documents

You can copy or move documents or folders from one repository to another.

Note:
If a folder is copied or moved, the objects in the folder are also copied or moved in the BusinessObjects Enterprise Repository. For some SAP EP repositories, the name of the source object cannot be passed. In this case, the CUID of the new object in BusinessObjects Enterprise is used as its name.

1. Select the check box next to each document that you want to copy or move.

   You can select multiple checkboxes in order to copy or move multiple documents.

2. Click the **Selection** menu, then click **Copy** or **Move**.

   Note:
   If you have insufficient rights to perform the move or copy action, an error message appears.

To delete a document

You can delete documents or folders in the BusinessObjects Enterprise repository.

Note:
If you delete a folder, its contents are also deleted.

1. Select the check box next to each document that you want to delete.

   You can select multiple checkboxes in order to delete multiple documents.

2. Click the **Selection** menu, then click **Delete**.

   Note:
   To delete a single object, you can right-click it and choose **Delete** from the context menu.

Note:
If you do not have the appropriate rights to delete objects, you may receive an error message.

Performing advanced tasks

The following tasks may require additional administrative settings. Contact your administrator for more information.

Search

If the Search service is enabled within the BusinessObjects Repository, you can search a folder by clicking the context menu of the folder and choosing **Search from here**.

A new window opens where you can type keywords to search for. The search is a "fuzzy" search, based on the properties of the objects.

Subscribe

You can subscribe to a document or folder to be notified at certain intervals of changes that occur, such as document creation, edits, or deletions.

This feature is available to users only if the subscription service is enable on the BusinessObjects Enterprise Repository.

To subscribe to a document or folder, click the its context menu and choose **Subscribe**. A new window appears where you can configure the subscription settings.

These Subscribe command is also available on the Details page of an object. For information on how to navigate to the Details page, see *Performing common tasks* on page 166 .

Collaboration

The collaboration feature allows you easily discuss objects. To initiate a collaboration about an object, click context menu of the object and choose one of the collaboration commands:

- Give Feedback. This option is like a review, but is visible only to the feedback writer and the object author.
- Start a discussion.
- Rate. Select a rating level (Excellent, for example).
- Write a review. This option is visible to all users.

These commands are also available on the Details page of an object. For information on how to navigate to the Details page, see *Performing common tasks* on page 166 .

Defining Security for the Open SQL driver

chapter 10

This section shows how to use the Security Definition Editor to define table-level and row-level security for specific SAP tables when you access them using the Open SQL driver. The Security Definition Editor enables you to maintain your current SAP security levels when you deploy the Open SQL driver.

Security Definition Editor overview

When you deploy the Data Access component and distribute the database drivers, you allow SAP users to access the data stored within your SAP R/3, mySAP ERP, and BW systems. By default, the Open SQL driver provides an open reporting environment where there are no data access restrictions. (You can, however, easily reverse this default behavior with the Security Definition Editor's Global Lock feature, which initially restricts users from accessing all SAP tables. For details, see *Choosing your table-level security model* on page 175.)

If you need to deploy a security model that regulates users' access to SAP data, use the Security Definition Editor (transaction /CRYSTAL/RLS) to restrict data access at the table level and at the row level. The Security Definition Editor defines security for transparent tables, pool tables, cluster tables, and tables containing data clusters (for instance, PCL2). The restrictions that you specify are enforced whenever a user attempts to connect to SAP with the Open SQL driver, whether to design, refresh, or schedule a Crystal report. Thus, in order to design, refresh, or schedule a Crystal report against R/3, mySAP ERP or BW, users require access to all of the tables referred to by the report.

Data access restrictions that you define using the Security Definition Editor are applied on a per-client basis. That is, the restrictions you apply affect all users who access SAP using the same client used to define the restrictions.

In previous versions of BusinessObjects XI Integration for SAP, data access restrictions were client-independent. To preserve restrictions that you defined using earlier versions of this tool, follow the instructions in *Migrating your existing security model* on page 175 before continuing.

Note:
The Security Definition Editor is provided by the Security Definition Editor transport, which you import into your SAP system when you set up the Data Access. For details, see *Configuring transports* on page 220.

Migrating your existing security model

To continue to use the data access restrictions that you defined using a previous version of BusinessObjects XI Integration for SAP (using the ZRLS transaction), you can import these restrictions into client-dependent form using /CRYSTAL/RLS. Import these data restrictions before using /CRYSTAL/RLS to create or modify additional restrictions. Any changes you made using /CRYSTAL/RLS will be overwritten when you import the global restrictions.

To apply your global data access restrictions to additional clients, import these restrictions once for each client.

To migrate data access restrictions

1. Enter the transaction /CRYSTAL/RLS in your SAP system.
2. Under the **Extras** menu, select **Import Global Data**.

   A dialog appears, warning you that importing these restrictions will overwrite any restrictions you have defined using /CRYSTAL/RLS.
3. Click **Yes**.

   Your global, client-independent data access restrictions are imported.

Choosing your table-level security model

For enhanced flexibility, the Security Definition Editor provides a Global Lock feature, which allows you to define the basis of your data access security model in one of two ways:

- Global Lock disabled

  This open security model initially provides all users with access to all tables. To customize the model to match your current SAP security configuration, you can prevent users from accessing particular tables on a table-by-table basis. When you first deploy the Data Access , the Global Lock is disabled by default.
- Global Lock enabled

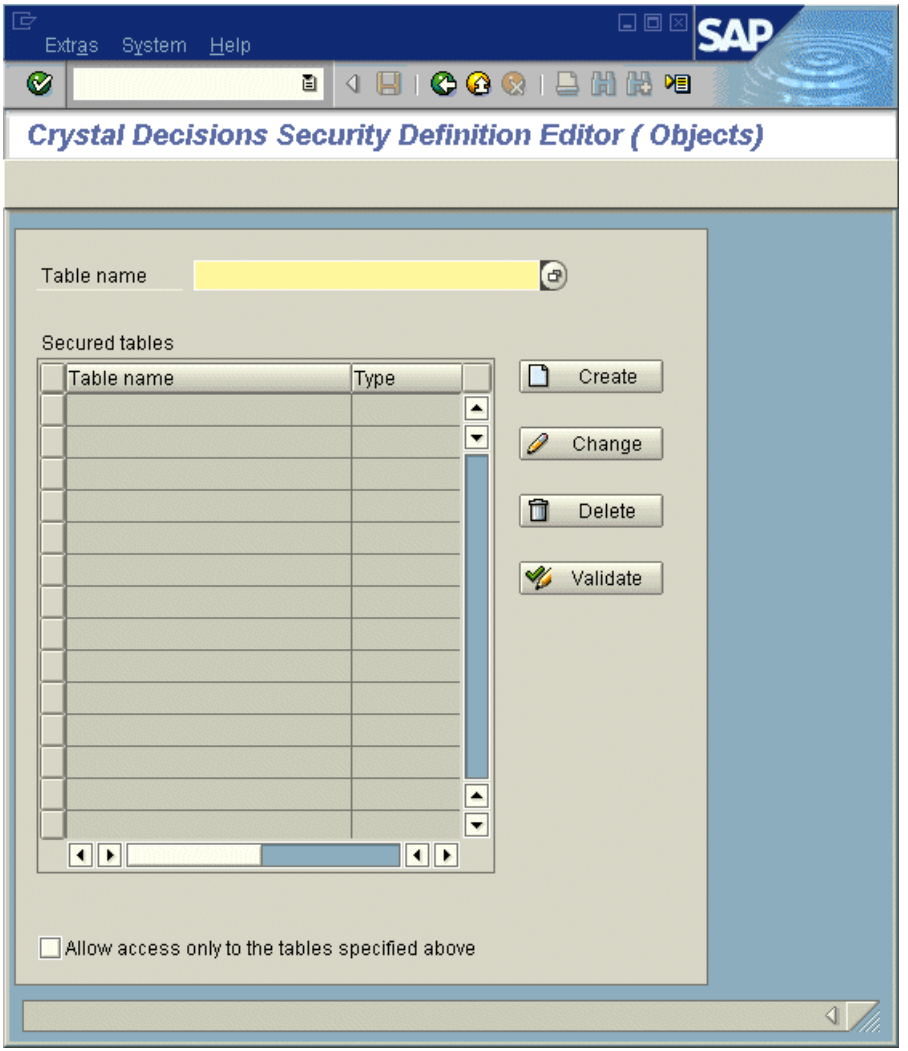
This closed security model initially denies all users access to all tables. To customize the model to match your current SAP security conventions, you can authorize users to access particular tables on a table-by-table basis. Additionally, you can specify a list of custom functions that users can still report off when the Global Lock is enabled. For details, see *Customizing authorizations for specific functions* on page 184 for details.

Once you have enabled or disabled the Global Lock, you can refine the security model by customizing data access authorizations for particular tables. For details, see *Customizing authorizations for specific tables* on page 178.

To enable/disable the Global Lock

1. From the SAPGUI, execute transaction `/CRYSTAL/RLS`.

   The "Security Definition Editor" appears.



2. You now have two options:
   - If you want to enable the Global Lock, select the **Allow access only to the tables specified above** option.
   - If you want to disable the Global Lock, ensure that the **Allow access only to the tables specified above** option is not selected.

Now that you've chosen an open or closed basis for your security model, you can customize authorizations for particular users and tables, thereby allowing or disallowing data access in order to match your SAP security conventions.

Customizing authorizations for specific tables

Whether you have enabled or disabled the Global Lock feature, you may need to customize the data access authorizations for one or more SAP tables. If the Global Lock is enabled, you will need to allow all or some users to access particular tables. (Otherwise, users will be unable to design or refresh reports against the SAP system.) Alternatively, if the Global Lock is disabled, you may need to prevent all or some users from accessing tables that contain sensitive data.

In either case, whether you want to secure a table or to permit access to a table, you must use an authorization object for that purpose. (You can customize a new authorization object, or reuse an existing one.) Then, using the Security Definition Editor, you associate the authorization object with the table in question. Finally, you incorporate the new authorization object into your current configuration of user profiles or roles.

Essentially, by associating an authorization object with an SAP table, you define that table as an exception to the Global Lock settings that you have made within the Security Definition Editor. In other words, once you've associated an authorization object with a table, that table is withheld from all users—regardless of your Global Lock settings. You must then use the authorization object according to your usual SAP security conventions in order to provide particular users with access to the SAP table.

To customize authorizations for a specific table

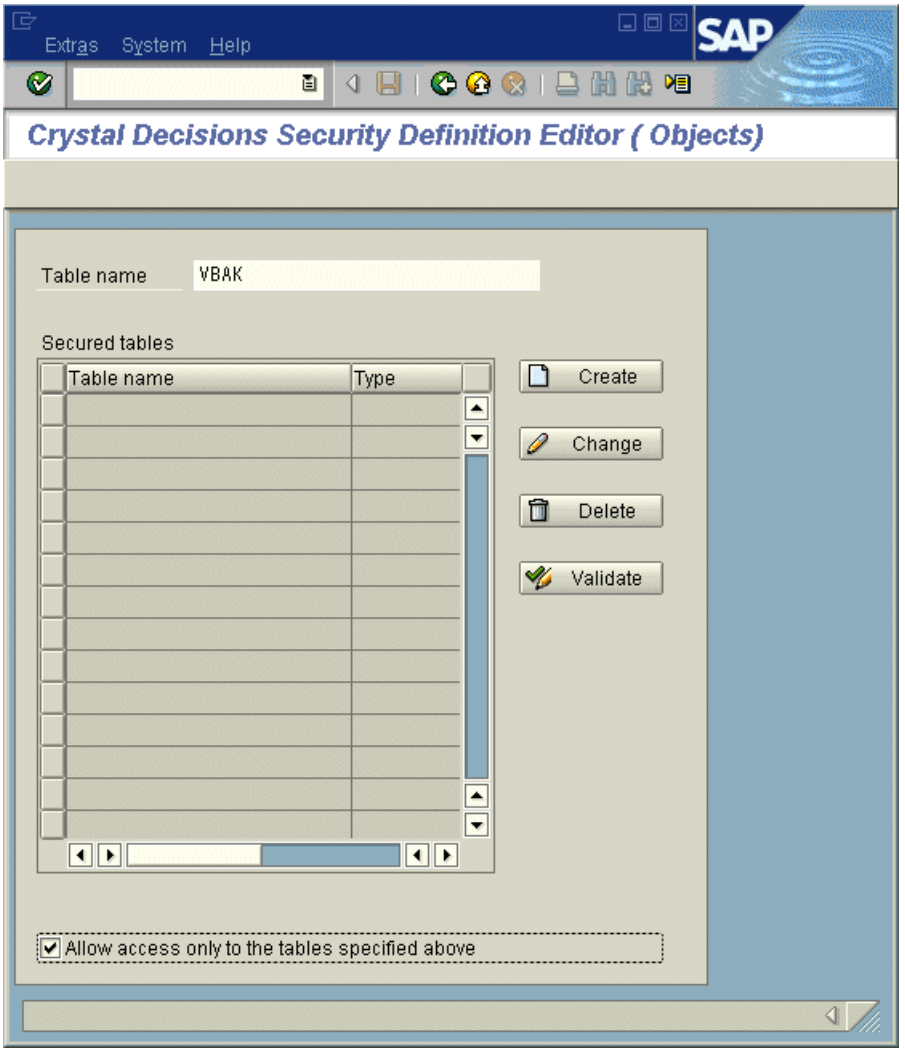
1. Create a new authorization object.

   For this example, create an authorization object called ZTABCHK that consists of one authorization field called TABLE. The ZTABCHK authorization is being used to secure the VBAK table from all but a particular subset of users.

Note:
Use transaction SU21 to create the authorization object, or see the SAP Help for more information on creating authorization objects.

2. From SAP, execute transaction `/CRYSTAL/RLS`.

   The "Security Definition Editor" screen appears.



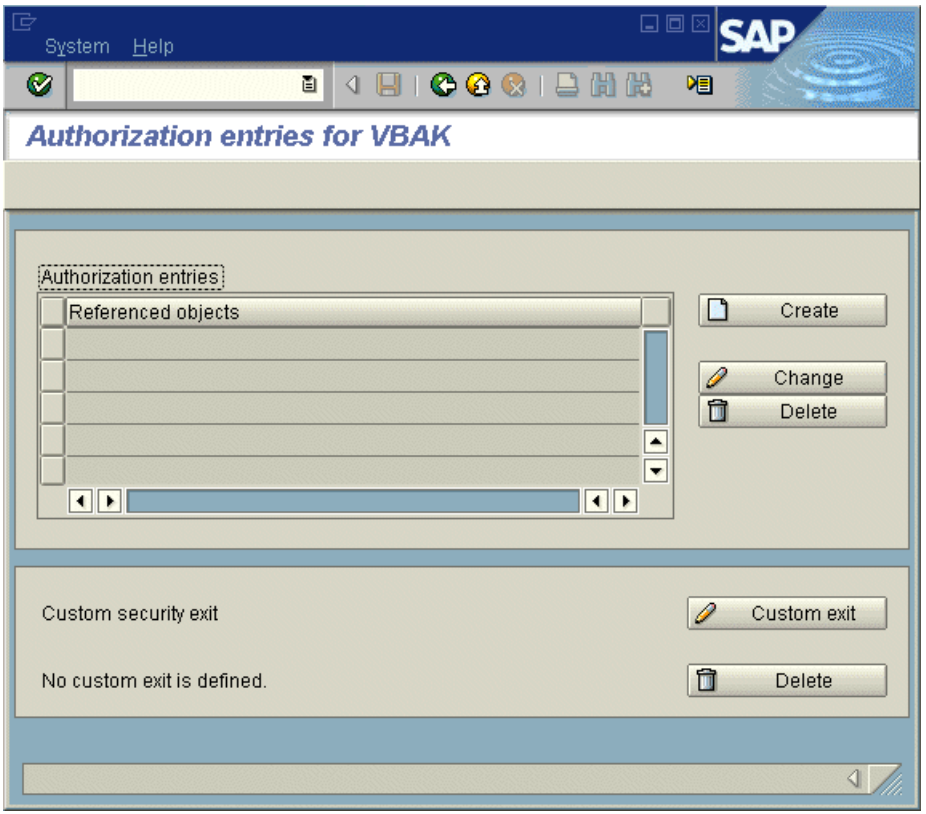
You will now associate your new authorization object with an SAP table.

3. In the **Table name** field, type the name of the table whose security definition you will customize.

   For this example, type VBAK.

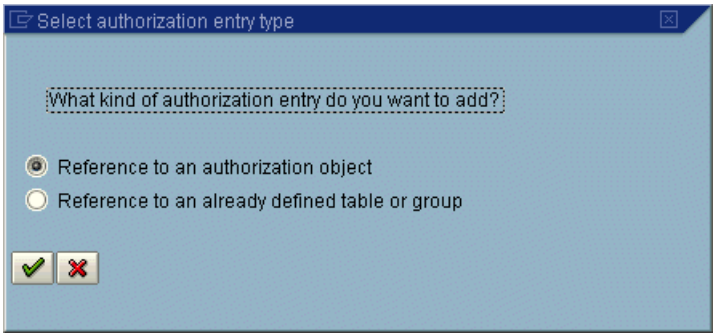
4. Click **Create**.

   The "Authorization entries" screen appears



5. Click **Create**.

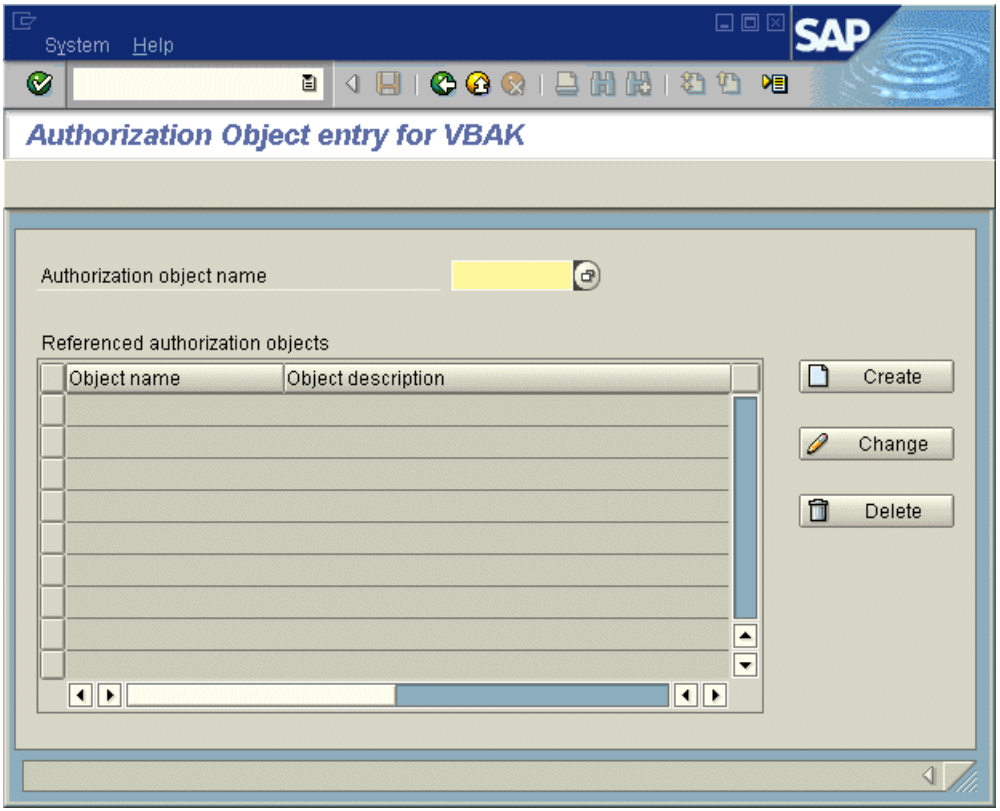
   The "Authorization Object entry" dialog box appears.



6. Click **Reference to an authorization object**.

   For details on the second option—Reference to an already defined table or group—see *Defining table authorizations by group* on page 184. Click **OK**.

   The "Authorization Object entry" screen appears.

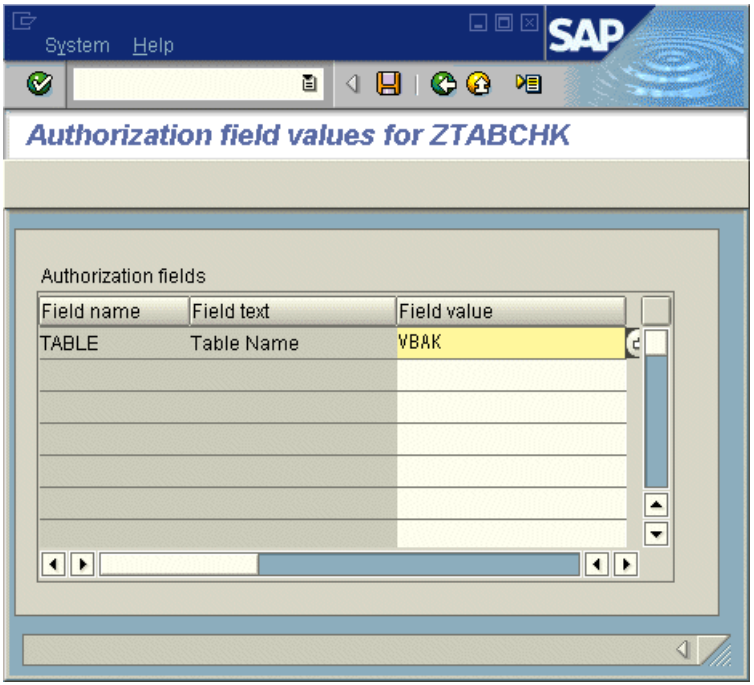


7. In the **Authorization object name** field, type the name of the authorization object that you created in step 1.

   For this example, type ZTABCHK.

8. Click **Create**.

   The "Authorization field values" screen appears.



9. In the **Field value** list, type the name of the table whose security definition you want to customize.

   For this example, type VBAK.

10. Click **Save**.

    You have now associated your customized authorization object with a specific SAP table.

11. Exit the Security Definition Editor.
12. Following your usual procedure, incorporate the new authorization object into your configuration of user profiles or roles.

    For instance, following this example, you would apply the ZTABCHK authorization object to the subset of users who need to access the VBAK table.

    Depending on the version of R/3 or mySAP ERP that you are using, and the SAP authorization model that you have already deployed, you can accomplish this in various ways:

- Attach the new authorization object to a new role that you in turn add to each user's security profile.
- Attach the new authorization object to a new profile that you in turn add to each user's security profile.

The end result is that the authorization is added to the master user data, so the database drivers can adhere to your customized data access restrictions.

Note:
Regardless of the method you use, ensure that your new authorization holds the name of the correct database table in its TABLE field value. In this example, the VBAK table must be specified.

Customizing authorizations for specific functions

When the Global Lock feature is disabled, report designers essentially have the freedom to call any function on the SAP system. To restrict the functions available to report off, enable the Global Lock. This restricts users from calling any functions on the SAP system. In the `/CRYSTAL/AUTHFCN` table, you can specify a list of functions that are exceptions to the Global Lock. That is, you can specify a list of functions that users are able to call. To access the list of functions, use the /CRYSTAL/RLS tool and go to **Extras** > **Function modules**.

Defining table authorizations by group

The Security Definition Editor provides two ways for you to quickly define table authorizations for tables that require similar levels of security:

- You can reference a table to any other table whose data access authorizations you have already defined.

  The **Reference to an already defined table or group** option is provided in the "Select authorization entry type" screen, which appears in the Security Definition Editor when you create an authorization entry for a table.

- You can reference multiple tables to a group table that acts as a security template.

  To create a group table, execute transaction /CRYSTAL/RLS and specify a nonexistent table name in the Editor. (When the specified table does not exist, the Editor assumes instead that you are creating a group or template.) The main screen listing all the definitions will show the table type as group. You can now share security levels by referencing existing tables to this security template.

Applying row-level security

Sometimes table-level security does not allow you to secure data in a way that corresponds with the security privileges of your SAP users: you may need to grant all users access to a particular table, while at the same time limiting a subset of those users to a certain portion of the table's data. To accomplish this, use the Security Definition Editor to define an additional level of security for the individual rows of data.

In general, row-level security is based on a particular field within a table. For instance, you might need to prevent users from seeing data for all customers within a Sales table. To enable this type of restriction, you create an authorization object and use the Security Definition Editor to associate the object with the Customer field in the Sales table. Then, when you apply the new authorization object to each user's profile or role, you specify the Customer values for those customers whose Sales records the user is permitted to view. When the user designs or refreshes reports against the Sales table, data is returned only for those customers that you have specified.

Essentially, by associating an authorization object with a field within an SAP table, you define that table as an exception to the Global Lock settings that you have made within the Security Definition Editor. In other words, once you've associated an authorization object with a field, the parent table is secured from all users—regardless of your Global Lock settings. You must then use the authorization object according to your usual SAP security conventions in order to provide particular users with access to rows of data within the SAP table.

You can secure rows in a table by using authorization objects, custom functions, or both.

Securing rows using authorization objects

In order to define row-level security for tables, you can create an authorization object and use the Security Definition Editor to associate the object with one of the table's fields. You then apply the new authorization object to the roles or profiles of SAP users who need to access any of the table's data. When you apply the authorization object, you specify the rows of data that each user is permitted to access.

To define row-level security using an authorization object

1. Create a new authorization object.

   For this example, create an authorization object called Z_BUKRS that consists of one authorization field called BUKRS. This authorization is being used to secure the GLT0 table based on the values in the BUKRS (Company Codes) field.

   Note:
   Use transaction SU21 to create the authorization object, or see the SAPGUI Help for more information on creating authorization objects.

2. Execute transaction `/CRYSTAL/RLS` to access the Security Definition Editor.
3. In the **Table name** field, type the name of the table that contains the rows you want to secure.

   For this example, type GLT0.

   Note:
   You can now use wildcards to specify the table name. This is an efficient way to apply an authorization to multiple tables with similar names simultaneously. Use * to specify zero or more characters and + to specify one character.

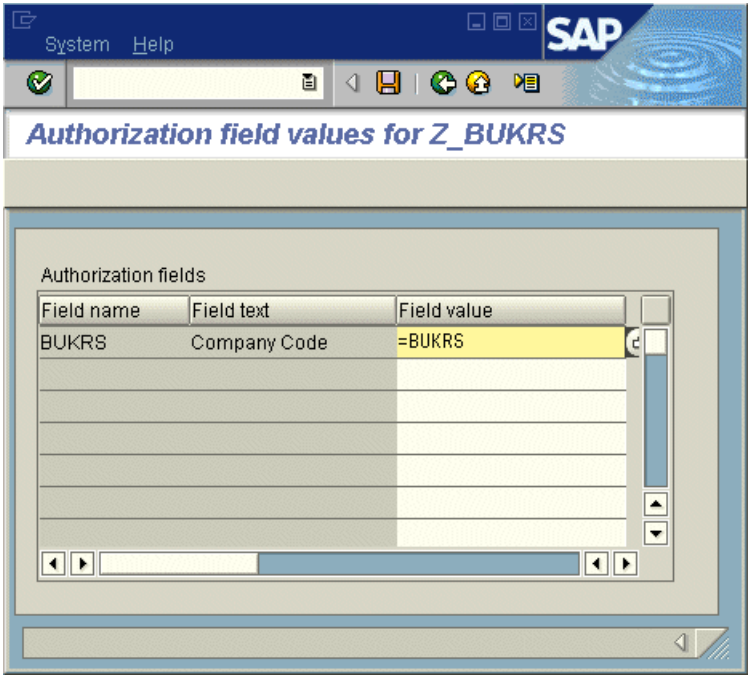
4. Click **Create**.
5. In the "Authorization entries" screen, click **Create**.
6. In the "Select authorization entry type" screen, click **Reference to an authorization object**.
7. Click **OK** to access the "Authorization Object entry" screen.

8. In the **Authorization object name** field, type the name of the authorization that you created in step 1.

   For this example, you would type Z_BUKRS.

9. Click **Create**.

   The "Authorization field values" screen appears.



10. In the **Field value** list, type the equals sign (=) and the name of the field that you want to secure.

    For this example, you would type =BUKRS.

    Tip:
    To view a list of available fields, right-click the Field value list and, on the shortcut menu, click Possible entries. Double-click the desired field (in this case, BUKRS) to insert it along with the required equals sign (=).

11. Click **Save**.
12. Exit the Security Definition Editor.

13. Following your usual procedure, apply the new authorization object to the profiles or roles of the appropriate users.

    For instance, following this example, you would apply the Z_BUKRS authorization object to each user who needs to access rows of data within the GLT0 table. When you apply the authorization object, you enter the appropriate Company Code values into the BUKRS authorization field, thereby specifying the Company Codes that the specified user is authorized to access.

    Depending on the version of R/3 or mySAP ERP that you are using, and the SAP authorization model that you have already deployed, you can accomplish this in various ways:

    - Attach the new authorization to a new role that you in turn add to each user's security profile.
    - Attach the new authorization to a new profile that you in turn add to each user's security profile.

    The end result is that the authorization is added to the master user data, so the database drivers can adhere to your customized data access restrictions.

Securing rows using custom security exits

In addition to, or instead of using authorization-based restrictions for tables, you can secure rows using custom security exits. That is, you can map table fields to function parameters so that you can define the call to one function to handle the post filtering for any table.

Note:

- You must give a value (either constant or field-mapped) for all non-optional parameters.
- Make mappings between compatible types. For example, do not link a function parameter for a date to a number field. Mapping incompatible types results in a failure at runtime.

The following example shows how to map table fields to function parameters in a custom security exit.

To define row-level security using a custom security exit

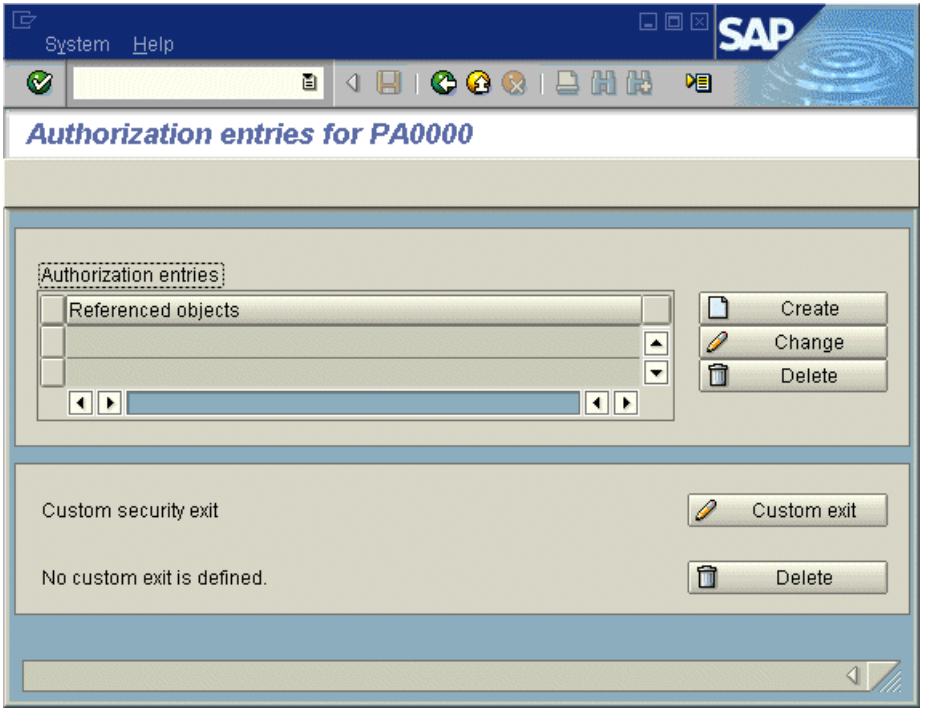
1. Execute transaction `/CRYSTAL/RLS`.
2. In the **Table name** field, type the name of the data table whose rows you want to secure.

   For this example, type PA0000 to secure the rows in that table.

   Note:
   You can now use wildcards to specify the table name. This is an efficient way to apply an authorization to multiple tables with similar names simultaneously. Use * to specify zero or more characters and + to specify one character.

3. Click **Create**.

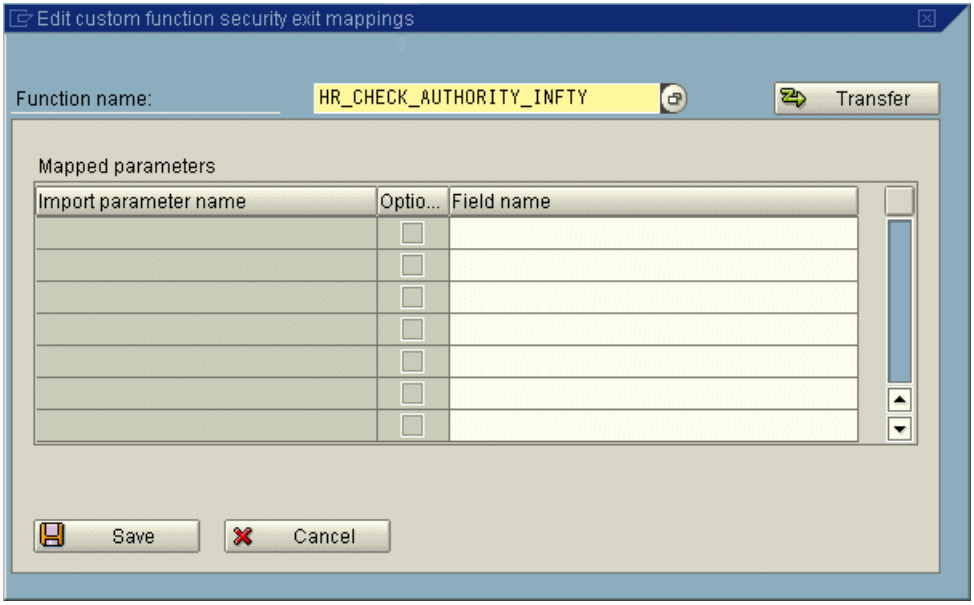
   The "Authorization entries" screen appears.



This screen lists the authorization entries (if any) that are currently applied to the table.

4. Click **Custom exit**.

   The "Edit custom function security exit mappings" window appears.



5. In the **Function name** field, type the name of the function that you want to use to secure the table, and then click **Transfer**.

   For this example, type HR_CHECK_AUTHORITY_INFTY.

6. For each necessary parameter, specify a value or field to map to that parameter.

   In this example make the entries listed in the table below:

Imported parameter name	Field name
INFTY	'0000'
PERNR	=PERNR

Imported parameter name	Field name
SUBTY	=SUBTY

7. Click **Save**.

   You are returned to the "Authorization entries" screen, which now indicates that there is an active custom security exit for this table.

   When a user attempts to access a table secured by a custom security exit, the driver checks the appropriate field(s) in the table. The field values you mapped are passed as parameters to the function you selected, in this example HR_CHECK_AUTHORITY_INFTY. When authorization restrictions are combined with the values you mapped, the authorization restrictions filters the results first, and then the mapped values further filter the results.

Firewalls Configuration for BusinessObjects XI Integration for SAP Solutions

chapter 11

Understanding communication between BusinessObjects Enterprise components

This chapter shows what ports are used for communication specifically between BusinessObjects XI Integration for SAP Solutions and SAP systems when configuring to work with firewalls. You need to configure BusinessObjects Enterprise system to work in a firewalled environment first, for detailed information about this, please refer to “Working with Firewalls” section in *BusinessObjects Enterprise Administrator's Guide*.

Guidelines for communication with BusinessObjects XI Integration for SAP Solutions

BusinessObjects Enterprise components include browser clients, rich clients, servers, and the BusinessObjects Enterprise SDK hosted in the Web Application server. BusinessObjects Integration for SAP Solutions components can be distributed installed on the appropriate machines. It is helpful to understand the basics of communications with BusinessObjects Integration for SAP Solutions components before configuring your BusinessObjects Enterprise system to work with firewalls. Deployments of BusinessObjects Integration for SAP Solutions must conform to these general communication rules:

- The CMS (along with Security components) must be able to initiate communication with SAP system on SAP System Gateway port.
- The Crystal Reports Job Server and Crystal Reports Processing Server (along with Data Access components) must be able to initiate communication with SAP system on the SAP System Gateway port.
- The BW Publisher component must be able to initiate communication with the SAP system on the SAP System Gateway port.
- BusinessObjects Integration for SAP Solutions components deployed on the SAP Enterprise Portal side (for example, iView and KMC) must be able to initiate communication with BusinessObjects Enterprise web applications on HTTP/HTTPS ports.
- The web application server must be able to initiate communication on the SAP System Gateway service.

- Crystal Reports must be able to initiate communication with the SAP host on the SAP System Gateway port and SAP System Dispatcher port.

The port that the SAP Gateway service is listening on is the same as that specified in the installation. For more details about SAP Gateway service, consult your SAP documentation.

Note:
If a BusinessObjects Enterprise component requires an SAP router to connect to an SAP system, you can configure the component using the SAP router string. For example, when configuring an SAP entitlement system to import roles and users, the SAP router string can be substituted for the application server□?s name. This insures that the CMS will communicate with the SAP system through the SAP router.

Detailed port requirements for the BusinessObjects Integration for SAP Solutions

This section lists the requirements for communication with BusinessObjects Integration for SAP Solutions. If you deploy BusinessObjects Enterprise with firewalls, you can use this information to open the minimum number of ports in those firewalls necessary for BusinessObjects Integration for SAP Solutions.

Port requirements for BusinessObjects Enterprise servers

The following ports are required for their corresponding servers in BusinessObjects Enterprise:

- Central Management Server Name Server port
- Central Management Server Request port
- Input File Repository Server Request port
- Output File Repository Server Request port
- Report Application Server Request port
- Crystal Reports Cache Server Request port
- Crystal Reports Processing Server Request port

For detailed information about how to configure your BusinessObjects Enterprise system to work in an environment with firewalls, see the “Working

with Firewalls” chapter in the *BusinessObjects Enterprise Administrator's Guide*.

Port requirements for SAP

BusinessObjects Integration for SAP Solutions uses the SAP Java Connector (SAP JCO) to communicate with the Enterprise Resource Planning side. You require these ports:

- SAP Gateway service listening port (for example, 3300).
- SAP Dispatcher service listening port (for example, 3200).

The following table summarizes the specific port configurations that you need.

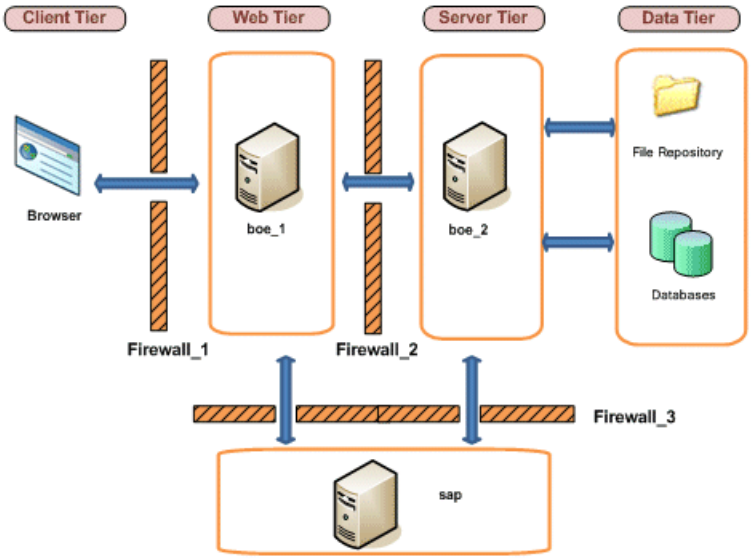
Source computer	Port	Destination computer	Port	Action
SAP	Any	BusinessObjects Enterprise Web Application Server	Web Service HTTP/HTTPS port	Allow
SAP	Any	CMS	CMS Name Server port	Allow
SAP	Any	CMS	CMS Requested port	Allow
Web Application Server	Any	SAP	SAP System Gateway Service port	Allow
Central Management Server (CMS)	Any	SAP	SAP System Gateway Service port	Allow
Crystal Reports	Any	SAP	SAP System Gateway Service port and SAP System Dispatcher port	Allow

Example: BusinessObjects Enterprise servers separated from SAP by a firewall

This example shows how to configure a firewall for BusinessObjects Enterprise and SAP to work together in a deployment where separated by a firewall. In this deployment scenario, BusinessObjects Enterprise and BusinessObjects Integration for SAP Solutions components are deployed across these machines:

- Machine boe_1 hosts the Web Application Server and the BusinessObjects Enterprise SDK.
- Machine boe_2 hosts the back-end servers, including the Central Management Server, the Input File Repository Server, the Output File Repository Server, the Crystal Reports Cache Server, Crystal Reports Job Server, Web Intelligence Job Server, Web Intelligence Report Server, Report Application Server, and the Crystal Reports Processing Server.
- Machine sap hosts the SAP system, which communicates with BusinessObjects Enterprise through BusinessObjects Integration for SAP

Solutions. In this example, the SAP System Gateway Service port is 3300 and the SAP System Dispatcher port is 3200.



To configure this example, you require the following:

1. Communication prerequisites:
   - The CMS (along with Security components) must be able to initiate communication with SAP system on SAP System Gateway port.
   - The Crystal Reports Job Server and Crystal Reports Processing Server (along with Data Access components) must be able to initiate communication with the SAP system on the SAP System Gateway port.
   - The BusinessObjects Integration for SAP Solutions components deployed on the SAP Enterprise Portal side (for example, iView and KMC) must be able to initiate communication with the BusinessObjects Enterprise web applications on HTTP/HTTPS ports.
   - The web application server must be able to initiate communication on the SAP System Gateway service.
2. The web application server must communicate with all Business Objects Enterprise servers on machine boe_2. Configure the port numbers for each server on these machines. Note that you can use any free port between 1,025 and 65,535.

The port numbers chosen for this example are listed in the following table.

Server	Port number
Central Management Server	6411
Input File Repository Server	6415
Output File Repository Server	6420
Crystal Reports Cache Server	6425
Crystal Reports Job Server	6430
Web Intelligence Processing Server	6435
Report Application Server	6440
Crystal Reports Processing Server	6445

3. Configure the firewalls Firewall_1 and Firewall_2 to allow communication to the fixed ports on the BusinessObjects Enterprise servers and the web application server that you set in BusinessObjects Enterprise, and Fire wall_3 to allow communication between the BusinessObjects Enterprise system and SAP system.

   In this example, you open the HTTP port for the Tomcat application server.

Table 11-1: Configuration for Firewall_1

Port	Destination computer	Port	Action
Any	boe_1	8080	Allow

Table 11-2: Configuration for Firewall_2

Source computer	Port	Destination computer	Port	Action
boe_1	Any	boe_2	6410	Allow
boe_1	Any	boe_2	6411	Allow

Source computer	Port	Destination computer	Port	Action
boe_1	Any	boe_2	6415	Allow
boe_1	Any	boe_2	6420	Allow
boe_1	Any	boe_2	6425	Allow
boe_1	Any	boe_2	6430	Allow
boe_1	Any	boe_2	6435	Allow
boe_1	Any	boe_2	6440	Allow
boe_1	Any	boe_2	6445	Allow

Table 11-3: Configuration for Firewall_3

Source computer	Port	Destination computer	Port	Action
boe_1	Any	sap	3300	Allow
boe_2	Any	sap	3300	Allow

Troubleshooting

chapter 12

This section describes some common installation and configuration issues in order to assist you in troubleshooting your BusinessObjects XI Integration for SAP Solutions implementation.

Locating and generating log files

You can create and view several log files to help determine the cause of errors. The core BusinessObjects Enterprise server components log information by default to the `logging` directory of your BusinessObjects Enterprise installation.

To enable logging for your SAP drivers, go to `HKEY_LOCAL_MACHINE\SOFTWARE\Business Objects\Suite 12.0\SAP` and create a new string key called `TraceDir` (this name is case-sensitive). Then, change the trace level from No to Yes for each component that you want to enable logging for.

Disabling SAP entitlement systems in the CMC

In the CMC, you can temporarily disable a connection between BusinessObjects Enterprise and an SAP entitlement system. This may be useful to maintain the responsiveness of BusinessObjects Enterprise in cases such as the scheduled down time of an SAP entitlement system.

To temporarily disable a connection to an SAP entitlement system

1. In the CMC, go to the **Authorization** management area.
2. Double-click the **SAP** link.
3. In the **Logical system name** list, select the system you want to disable.
4. Select the **Disabled** check box.
5. Click **Update**.

Note:
See the *BusinessObjects Enterprise Administrator's Guide* for a number of sections devoted to general system troubleshooting, such as web server

configuration, path mapping, report processing, and so on. You can download our product documentation from our customer support site: *http://support.businessobjects.com/documentation/product_guides/default.asp* .

Reports, tables, and functions

If the SAP data source does not appear when you create a new report, there may be a problem with the driver installation, or required files may have been deleted since installation. Run the Crystal Reports–SAP Edition installation again.

Errors when connecting to SAP

If an error message indicates that the `RSAQ_REMOTE_FUNCAREA_CATALOG` function module was not found, you may be trying to use the InfoSet driver to access a system that is older than R/3 4.6c. The InfoSet driver is supported only for versions 4.6c and later of SAP R/3 and for mySAP ERP.

Viewing document and reports

If an InfoView user recognizes any of the following symptoms when using the InfoView, it means that the `partnercafinstall.bat` file was not run when you installed BusinessObjects Integration for SAP Solutions.

- in the "Document List", the **My Group** folder does not appear.
- In the "Document List", every SAP multilingual report appears, instead of the specific reports based on the user's *`Preferred Viewing Locale`* setting.
- When viewing an SAP report that uses parameters, Online Prompting does not appear.
- When scheduling an SAP multilingual report, the "Languages" section does not appear on the "Schedule" page.
- When scheduling an SPA report that uses parameters, the "Parameters" section does not appear on the "Schedule" page.
- On the "History" page for an SAP report, the **Show all instances scheduled in all languages** checkbox does not appear.

If a user recognizes any of these symptoms, manually run the `partnercafinstall.bat` or `partnercafinstall.sh` file, depending on you environment.

To run the partnercafinstall command

1. Locate the `partnercafinstall` file.
   - On a Windows computer, `the partnercafinstall.bat` file is located at`<INSTALL_DIR>common\4.0\java\lib\`, where *<INSTALL_DIR>* is the folder where BusinessObjects Enterprise is installed.
   - On UNIX, the `partnercafinstall.sh` is located at *$BOBJEDIR*`/bobje/java/lib/partnercafinstall.bat`, where *$BOBJEDIR* is an environment variable that identifies the root folder where BusinessObjects Enterprise is installed.
2. Run the appropriate script, using *BOE_PASSWORD* as a parameter, where *BOE_PASSWORD* is the administrative password.
   - On Windows, run `partnercafinstall.bat` *BOE_PASSWORD*.
   - On UNIX, run `partnercafinstall.sh` *BOE_PASSWORD*.

Transport Files

chapter 13

This section lists the names and contents of the transports that are included on the installation CD. Also read the `transports_EN.txt` file located in the `transports` directory on the installation CD. This text file lists the names of the files that make up each transport.

Overview

BusinessObjects XI Integration for SAP includes nine transports: the Open SQL Connectivity transport, the InfoSet Connectivity transport, the Row-level Security Definition transport, the Cluster Definition transport, the Authentication Helpers transport, the Content Administration Workbench, the BW Query parameter personalization transport, the MDX transport, and the ODS transport.

The contents of each transport are listed here. To determine which transports you need to import, see *Configuring transports* on page 220.

There are two different sets of the transports: Unicode compatible transports and ANSI transports. If you are running a BASIS system of 6.20 or later, use the Unicode compatible transports. If you are running a BASIS system earlier than 6.20, use the ANSI transports. The `transports_EN.txt` file located in the `transports` directory on the installation CD lists the Unicode compatible and ANSI transport files.

Note:
When checking for possible installation conflicts, ensure that none of the object names already exists in your SAP system. Objects use a /crystal/ namespace by default, so it is not necessary to create this namespace yourself. If you do create the /crystal/ namespace manually, you will be prompted for license repair keys that you cannot access.

Open SQL Connectivity transport

The Open SQL Connectivity transport enables the drivers to connect to and report off the SAP system.

Object	Type	Description
/CRYSTAL/BC	Package	Development class
/CRYSTAL/OPENSQL	Function group	Open SQL functions
/CRYSTAL/OSQL_AUTH_FORMS	Program	Helper program
/CRYSTAL/OSQL_EXECUTE	Program	Helper program
/CRYSTAL/OSQL_TYPEPOOLPROG	Program	Helper program
/CRYSTAL/OSQL_TYPEPOOLS	Program	Helper program
/CRYSTAL/OSQL_UTILS	Program	Helper program
ZSSI	Authorization object class	Reporting authorization objects
ZSEGREPORT	Authorization object	Reporting authorization object
/CRYSTAL/OSQL_CLU_ACTKEY_ENTRY	Table	Cluster meta data

Object	Type	Description
/CRYSTAL/OSQL_FCN_PARAM	Table	Function meta data
/CRYSTAL/OSQL_FCN_PARAM_FIELD	Table	Function meta data
/CRYSTAL/OSQL_FIELD_ENTRY	Table	Table meta data
/CRYSTAL/OSQL_OBJECT_ENTRY	Table	Table meta data
/CRYSTAL/OSQL_RLS_CHK_ENTRY	Table	RLS meta data
/CRYSTAL/OSQL_RLS_FCN_ENTRY	Table	RLS meta data
/CRYSTAL/OSQL_RLS_VAL_ENTRY	Table	RLS meta data
ZCLUSTDATA	Table	Cluster meta data
ZCLUSTID	Table	Cluster meta data
ZCLUSTKEY	Table	Cluster meta data
ZCLUSTKEY2	Table	Cluster meta data

Object	Type	Description
/CRYSTAL/AUTHCHK	Table	RLS meta data
/CRYSTAL/AUTHFCN	Table	RLS meta data
/CRYSTAL/AUTHKEY	Table	RLS meta data
/CRYSTAL/AUTHOBJ	Table	RLS meta data
/CRYSTAL/AUTHREF	Table	RLS meta data
ZSSAUTHCHK	Table	Old RLS meta data
ZSSAUTHOBJ	Table	Old RLS meta data
ZSSAUTHKEY	Table	Old RLS meta data
ZSSAUTHREF	Table	Old RLS meta data
ZSSAUTH FCN	Table	Old RLS meta data

InfoSet Connectivity transport

The InfoSet Connectivity transport enables the InfoSet driver to access InfoSets. This transport is compatible with R/3 4.6c and later. Do not import this transport if you are running R/3 4.6a or earlier.

Object	Type	Description
/CRYSTAL/BC	Package	Development class
/CRYSTAL/FLAT	Function group	InfoSet wrapper functions
/CRYSTAL/QUERY_BATCH	Program	Batch mode execution
/CRYSTAL/QUERY_BATCH_STREAM	Program	Streaming batch mode execution.

Row-level Security Definition transport

This transport provides the Security Definition Editor, which is a tool that serves as a graphical interface to the /CRYSTAL/AUTH tables in the Open SQL Connectivity transport. For details on using the Security Definition Editor, see *Security Definition Editor overview* on page 174.

Object	Type	Description
/CRYSTAL/BC	Package	Development class
/CRYSTAL/TABMNT	Function group	Function group for table maintenance view for function restrictions
/CRYSTAL/RLSDEF	Program	Main program

Object	Type	Description
/CRYSTAL/RLS_INCLUDE1	Program	Include program containing the module definitions
/CRYSTAL/RLS_INCLUDE2	Program	Include program containing the subroutine definitions
TDDAT [/CRYSTAL/AUTHFCN]	Table contents	Table maintenance definition
TVDIR [/CRYSTAL/AUTHFCN]	Table contents	Table maintenance definition
/CRYSTAL/AUTHFCNS	Definition of transport and maintenance object	Table maintenance definition
/CRYSTAL/RLS	Transaction	Main program transaction
/CRYSTAL/RLSFCN	Transaction	Helper transaction called internally by main program.

Cluster Definition transport

This transport provides the Cluster Definition tool. This tool enables you to build up a metadata repository for ABAP data cluster definitions. These definitions provide the Open SQL driver with the information it requires in

order to report off these data clusters. For details on using the Cluster Definition Tool, see the “Reporting off clusters” section of the *BusinessObjects XI Integration for SAP User's Guide*.

Note:
ABAP data clusters are not the same as cluster tables. Cluster tables are already defined in the DDIC.

Object	Type	Description
ZCIMPRBG	Program	Main program
ZCRBGTOP	Program	Include program
ZCDD	Transaction	Main program transaction

Authentication Helpers transport

This transport provides access to the higher performance user list used by the SAP BusinessObjects Enterprise security plug-in. This enhancement frees users from having to enter their credentials more than once to access any of the BusinessObjects Enterprise, R3, and BW systems.

Object	Type	Description
/CRYSTAL/BC	Package	Development class
/CRYSTAL/SECURITY	Function group	Security helper functions

Content Administration Workbench

This transport provides content administration functionality for BW systems. It is available only as a Unicode compatible transport.

Object	Type	Description
/CRYSTAL/BC	Package	Development class
/CRYSTAL/CL_BW_HTTP_HANDLER	Class	Multi CE-aware HTTP request handler
/CRYSTAL/OBJECT_STATUS_DOM	Domain	Report activity
/CRYSTAL/OBJ_POLICY_DOM	Domain	CE object security
/CRYSTAL/OBJECT_STATUS	Data element	Report activity
/CRYSTAL/OBJ_POLICY	Data element	CE object security
/CRYSTAL/CE_SYNCH	Function group	Publisher stubs
/CRYSTAL/CA_MSG	Message class	Status messages
/CRYSTAL/CE_SYNCH_FORMS	Program	Program component

Object	Type	Description
/CRYSTAL/CONTENT_ADMIN	Program	Program component
/CRYSTAL/CONTENT_ADMIN_CLASS_D	Program	Program component
/CRYSTAL/CONTENT_ADMIN_CLASS_I	Program	Program component
/CRYSTAL/CONTENT_ADMIN_CTREE	Program	Program component
/CRYSTAL/CONTENT_ADMIN_FORMS	Program	Program component
/CRYSTAL/CONTENT_ADMIN_MODULES	Program	Program component
/CRYSTAL/CONTENT_ADMIN_PAIS	Program	Program component
/CRYSTAL/CONTENT_ADMIN_PBOS	Program	Program component
/CRYSTAL/CONTENT_ADMIN_TAB_FRM	Program	Program component

Object	Type	Description
/CRYSTAL/CONTENT_ADMIN_TOP	Program	Program component
/CRYSTAL/PUBLISH_WORKER	Program	Program component
/CRYSTAL/PUBLISH_WORKER_DISP	Program	Program component
/CRYSTAL/PUBLISH_WORKER_DISP_I	Program	Program component
/CRYSTAL/PUBLISH_WORKER_FORMS	Program	Program component
/CRYSTAL/PUBLISH_WORKER_PROC	Program	Program component
/CRYSTAL/PUBLISH_WORKER_PROC_I	Program	Program component
/CRYSTAL/PUBLISH_WORKER_SCREEN	Program	Program component
/CRYSTAL/CA_DEST	Table	Application state

Object	Type	Description
/CRYSTAL/CA_JOB	Table	Application state
/CRYSTAL/CA_JOB2	Table	Application state
/CRYSTAL/CA_LANG	Table	Application state
/CRYSTAL/CA_PARM	Table	Application state
/CRYSTAL/CA_ROLE	Table	Application state
/CRYSTAL/CA_SYST	Table	Application state
/CRYSTAL/MENU_TREE_ITEMS	Structure	Application state
/CRYSTAL/REPORT_ID	Table	Application state
/CRYSTAL/RPTADMIN	Transaction	Main program transaction
/CRYSTAL/EDIT_REPORT	Program	Wrapper for report edit
/CRYSTAL/EDIT_REPORT	Function Group	Functions for report edit
ZSSI	Authorization object class	Crystal Authorizations

Object	Type	Description
ZCNTADMCES	Authorization object	CE operations
ZCNTADMRPT	Authorization object	Report operations
ZCNTADMJOB	Authorization object	Background job operations

ODS connectivity transport

This transport enables the ODS Query driver to access ODS data. This transport is compatible with BW 3.0B patch 27 or higher and BW 3.1C patch 21 or higher.

Object	Type	Description
/CRYSTAL/BC	Package	Development class
/CRYSTAL/ODS_REPORT	Function group	ODS functions

BW Query parameter personalization transport

This transport provides support for personalized and default parameter values in reports based on BW queries.

Object	Type	Description
/CRYSTAL/BC	Package	Development class
/CRYSTAL/PERS_VAR	Structure	Variable definition
/CRYSTAL/PERS_VALUE	Structure	Value definition
/CRYSTAL/PERS	Function Group	Personalization functions

BW MDX connectivity transport

This transport enables the MDX Query driver to access BW cubes and queries. This transport is compatible with BW 3.0B patch 27 or higher and BW 3.1C patch 21 or higher.

Object	Type	Description
/CRYSTAL/BC	Package	Development class
/CRYSTAL/MDX	Function group	MDX functions
/CRYSTAL/MDX_STREAM_LAYOUT	Table definition	Dataset structure

Object	Type	Description
/CRYSTAL/CX_BAPI_ERROR	Class	Exception
/CRYSTAL/CX_METADATA_ERROR	Class	Exception
/CRYSTAL/CX_MISSING_STREAMINFO	Class	Exception
/CRYSTAL/CX_NO_MORE_CELLS	Class	Exception
/CRYSTAL/CX_NO_MORE_MEMBERS	Class	Exception
/CRYSTAL/CX_NO_MORE_PROPERTIES	Class	Exception
/CRYSTAL/CX_SAVE_SESSION_STATE	Class	Exception
/CRYSTAL/MDX_APPEND_DATA	Class	Dataset processor
/CRYSTAL/MDX_READER_BASE	Class	Dataset processor

Object	Type	Description
/CRYSTAL/MDX_READ_DIMENSIONS	Class	Dataset processor
/CRYSTAL/MDX_READ_MEASURES	Class	Dataset processor
/CRYSTAL/MDX_READ_PROPERTIES	Class	Dataset processor
/CRYSTAL/MDX_AXIS_LEVELS	Table type	Metadata structure
/CRYSTAL/MDX_PROPERTY_KEYS	Table type	Metadata structure
/CRYSTAL/MDX_PROPERTY_VALUES	Table type	Metadata structure
/CRYSTAL/MDX_STREAM_LAYOUT_TAB	Table type	Metadata structure

Configuring transports

To set up the Data Access or BW Publisher component of BusinessObjects XI Integration for SAP, you must import the appropriate transports from the installation disc to your SAP system. The Data Access and the BW Publisher

use the contents of these transport files when communicating with the SAP system.

The transports provided with BusinessObjects XI Integration for SAP are located in the `transports` directory on the installation cd. These sections provide you with details on setting up the appropriate transports:

- *Types of transports* on page 221
- *Selecting which transports to import* on page 223
- *Checking for conflicts* on page 224
- *Importing the transport files* on page 225

The installation and configuration procedures required on the SAP system must be performed by a BASIS expert who is familiar with the Change and Transport system and who has administrative rights to the SAP system. The exact procedure for importing transport files varies, depending upon the version of BASIS that you are running. For specific procedural details, refer to your SAP documentation.

When you first deploy the Data Access , all users can access all of your SAP tables by default. To secure the SAP data that users can access, use the Security Definition Editor. For complete details, see *Security Definition Editor overview* on page 174.

After you have imported transports, you must configure the appropriate levels of user access. Create the required authorizations and apply them through profiles or roles to SAP users who will be designing, running, or scheduling Crystal reports. For details, see *Creating and applying authorizations* on page 228.

To return to the reporting overview, click *Reporting off BW queries, InfoSets, Operational Data Stores, and MDX cubes* on page 25.

Types of transports

There are two different sets of the transports: Unicode compatible transports and ANSI transports. If you are running a BASIS system of 6.20 or later, use the Unicode compatible transports. If you are running a BASIS system earlier than 6.20, use the ANSI transports. The `transports_EN.txt` file located in the `transports` directory on the installation cd lists the Unicode compatible and ANSI transport files.

Each transport is described here. For details about the contents of each transport file, see *Transport Files* on page 205.

- Open SQL Connectivity transport

  The Open SQL Connectivity transport enables the Open SQL driver to connect to and report off the SAP system.

- Row-level Security Definition transport

  This transport provides the Security Definition Editor, which is a tool that serves as a graphical interface to the /crystal/auth tables in the Open SQL Connectivity transport. For details on using the Security Definition Editor, see *Security Definition Editor overview* on page 174.

- Cluster Definition transport

  This transport provides the Cluster Definition tool. This tool enables you to build up a metadata repository for ABAP data cluster definitions. These definitions provide the Open SQL driver with the information it requires in order to report off these data clusters. For details on using the Cluster Definition Tool, see the "Reporting off clusters" section of the BusinessObjects XI Integration for SAP User's Guide.

  Note:
  ABAP data clusters are not the same as cluster tables. Cluster tables are already defined in the DDIC.

- InfoSet Connectivity transport

  The InfoSet Connectivity transport enables the InfoSet driver to access InfoSets and SAP Queries.

- Authentication Helpers transport

  This transport provides the Single Sign On enhancement for the SAP authentication plug-in. This enhancement frees users from having to enter their credentials more than once to access any of the BusinessObjects Enterprise, R3, and BW systems.

- Content Administration Workbench transport

  This transport provides content administration functionality for BW systems. It is available only as a UNICODE compatible transport.

- BW Query parameter personalization transport

This transport provides support for personalized and default parameter values in reports based on BW queries.

Note:
Read the `transports_EN.txt` file located in the `transports` directory on the installation CD. This text file lists the names of the files that make up each transport.

Selecting which transports to import

Import the transports that are required for your R/3, mySAP ERP, or BW system. Select the Data Access components that you want, and import the required transports.

SAP System	Transport	Notes
R/3 or mySAP ERP	Open SQL Connectivity • Row-level Security Definition • Cluster Definition	
	InfoSet Connectivity	
	Authentication Helpers	Recommended. Required if you have installed the SAP Solution Tools Plug-in (ST-PI).
	Open SQL Connectivity • Row-level Security Definition • Cluster Definition	

SAP System	Transport	Notes
	InfoSet Connectivity	
	Authentication Helpers	Recommended. Required if you have installed the SAP Solution Tools Plug-in (ST-PI).
	Content Administration Workbench	Required.
	BW Query parameter personalization	Required.

Checking for conflicts

The contents of the transport files are registered automatically under the Business Objects namespace when you import the files. The Business Objects namespace is reserved for this purpose within recent versions of R/3 and MYSAP ERP. However, object names for some objects such as authorization objects, authorization classes, and legacy objects may not contain the appropriate prefixes. It is recommended that you check these object types for conflicts prior to importing the transport files.

If the function group, any of the function modules, or any of the other objects already exists on the SAP system, then you must resolve the namespace before importing the BusinessObjects XI Integration for SAP transport files. Refer to your SAP documentation for the procedures appropriate to your version of SAP.

Importing the transport files

Read the `transports_EN.txt` file located in the `transports` directory on the installation CD. This text file lists the exact names of the files that make up each transport. (The `cofiles` and `data` directories below the `transports` directory correspond to the .../`trans/cofiles` and .../`trans/data` directories on your SAP server.)

You must import the Open SQL Connectivity transport before importing the Row-level Security Definition or the Cluster Definition transports. You may import the other transports in any order.

Note:

- After copying files from CD to server, ensure that all files are writable before you import the transports. Imports fail if the import files are read-only.
- Because the transports are binary files, on UNIX installations you must add the files by FTP in Binary mode (to avoid file corruption). In addition, you must have write permissions for the UNIX server.

Authorizations

chapter 14

This section details the various SAP authorizations required when working with BusinessObjects XI Integration for SAP.

Authorizations overview

This appendix provides a list of SAP authorizations that, in our experience and in our test environment, are required when carrying out common tasks with BusinessObjects XI Integration for SAP. Additional authorization objects or fields may be required, depending upon your individual implementation.

From each authorization object, you must create an authorization and define the appropriate field values. You then apply the appropriate authorizations to the profiles (or roles) of your SAP users. The following sections describe the required authorizations and provide you with the necessary field values. For procedural details that are specific to your version of SAP, refer to your SAP documentation.

Note:

- The information in this appendix is provided as a guideline only.
- The ZSEGREPORT authorization object belongs to the ZSSI object class, which is installed when you import the BusinessObjects XI Integration for SAP transport files needed to support Open SQL queries.

Creating and applying authorizations

Next you must create and apply the authorizations needed by each user to access information using the Desktop Intelligence Integration for SAP. The exact procedures for creating, configuring, and applying authorizations depend upon the version of SAP that you have installed.

Authorizations on page 227 provides a list of SAP authorizations that, in our experience and in our test environment, are required when carrying out common tasks with BusinessObjects XI Integration for SAP. Additional authorization objects or fields may be required, depending upon your individual implementation.

For information on the authorizations needed by content publishers, administrators of the content publishing tool, and users who view reports from within BW, see *Configuring publishing in the Content Administration Workbench* on page 125.

Actions in BW

This section guides you through a list of various actions in BW.

From within Crystal Reports

This section guides you through a list of various actions in BW from within Crystal Reports.

Creating a new report from a query in a BW role

Authorization object	Field	Values
S_USER_AGR	ACT_GROUP	*USER_ROLE**
	ACTVT	01, 02, 06
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	RS_PERS_BOD
	ACTVT	16
S_CTS_ADMI	CTS_ADMFCT	TABL

Authorization object	Field	Values
S_RS_COMP	RSINFOAREA	*INFO_AREA***
	RSINFOCUBE	*INFO_CUBE***
	RSZCOMPTP	REP
	RSZCOMPID	*COMP_ID***
S_RS_COMP1	RSZCOMPID	*COMP_ID***
	RSZCOMPTP	REP
	RSZOWNER	*QUERY_OWNER**
	ACTVT	16

* *USER_ROLE* denotes the name of any role that the user belongs to. You can enter multiple values in this field.

* *QUERY_OWNER* denotes the name of the owner of the query. If you specify a name, you can report off only those queries with that owner. Enter * to report off of queries with any owner.

**For *INFO_AREA*, *INFO_CUBE*, or *COMP_ID* enter * to denote any value. If you specify a specific value, you can only report off of queries that contain these info areas, cubes, and component IDs.

Opening an existing report from a BW role

Authorization object	Field	Values
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	SUSO, SUNI. RSCR, SH3A, RFC1, RZX0, RZX2, RS_PERS_BOD, /CRYSTAL/PERS, RSOB
	ACTVT	16
S_RS_COMP	RSINFOAREA	*INFO_AREA***
	RSINFOCUBE	*INFO_CUBE***
	RSZCOMPTP	REP
	RSZCOMPID	*COMP_ID***
S_RS_COMP1	RSZCOMPID	*COMP_ID***
	RSZCOMPTP	REP
	RSZOWNER	*QUERY_OWNER**
	ACTVT	16

* *QUERY_OWNER* denotes the name of the owner of the query from which you are creating the report. If you enter the name of the query owner, you can only report off of queries with this owner. Enter * to denote any query owner.

** For *INFO_AREA*, *INFO_CUBE*, or *COMP_ID* enter * to denote any value. If you specify a specific value, you can only report off of queries that contain these info areas, cubes, and component IDs.

Previewing or refreshing a report

Authorization object	Field	Values
S_RS_COMP	RSINFOAREA	*INFO_AREA***
	RSINFOCUBE	*INFO_CUBE***
	RSZCOMPTP	REP
	RSZCOMPID	*COMP_ID***
S_RS_COMP1	RSZCOMPID	*COMP_ID***
	RSZCOMPTP	REP
	RSZOWNER	*QUERY_OWNER**
	ACTVT	16
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	/CRYSTAL/MDX
	ACTVT	16

* *QUERY_OWNER* denotes the name of the owner of the query from which you are creating the report. If you enter the name of the query owner, you can only report off of queries with this owner. Enter * to denote any query owner.

** For *INFO_AREA*, *INFO_CUBE*, or *COMP_ID* enter * to denote any value. If you specify a specific value, you can only report off of queries that contain these info areas, cubes, and component IDs.

Verifying the database (refreshing table definitions in a report)

Authorization object	Field	Values
S_RS_COMP	RSINFOAREA	*INFO_AREA***
	RSINFOCUBE	*INFO_CUBE***
	RSZCOMPTP	REP
	RSZCOMPID	*COMP_ID***
S_RS_COMP1	RSZCOMPID	*COMP_ID***
	RSZCOMPTP	REP
	RSZOWNER	*QUERY_OWNER**
	ACTVT	16

* *QUERY_OWNER* denotes the name of the owner of the query from which you are creating the report. If you enter the name of the query owner, you can only report off of queries with this owner. Enter * to denote any query owner.

** For *INFO_AREA*, *INFO_CUBE*, or *COMP_ID* enter * to denote any value. If you specify a specific value, you can only report off of queries that contain these info areas, cubes, and component IDs.

Setting the location of the data source

Authorization object	Field	Values
S_RS_COMP	RSINFOAREA	*INFO_AREA***
	RSINFOCUBE	*INFO_CUBE***
	RSZCOMPTP	REP
	RSZCOMPID	*COMP_ID***
S_RS_COMP1	RSZCOMPID	*COMP_ID***
	RSZCOMPTP	REP
	RSZOWNER	*QUERY_OWNER**
	ACTVT	16

* *QUERY_OWNER* denotes the name of the owner of the query from which you are creating the report. If you enter the name of the query owner, you can only report off of queries with this owner. Enter * to denote any query owner.

** For *INFO_AREA*, *INFO_CUBE*, or *COMP_ID* enter * to denote any value. If you specify a specific value, you can only report off of queries that contain these info areas, cubes, and component IDs.

Saving a report to a BW role

Authorization object	Field	Values
S_USER_AGR	ACT_GROUP	*USER_ROLE* *
	ACTVT	01, 02, 06
S_CTS_ADMI	CTS_ADMFCT	TABL

* *USER_ROLE* denotes the name of any role that the user belongs to. You can enter multiple values in this field.

Preparing a report for translation while saving to BW

Authorization object	Field	Values
S_USER_AGR	ACT_GROUP	*USER_ROLE* *
	ACTVT	01
S_CTS_ADMI	CTS_ADMFCT	TABL

* *USER_ROLE* denotes the name of any role that the user belongs to. You can enter multiple values in this field.

Saving a report and simultaneously publishing it to BusinessObjects Enterprise

Authorization object	Field	Values
S_USER_AGR	ACT_GROUP	*USER_ROLE* *
	ACTVT	01
S_CTS_ADMI	CTS_ADMFCT	TABL
S_RS_COMP	RSINFOAREA	*INFO_AREA* ***
	RSINFOCUBE	*INFO_CUBE* ***
	RSZCOMPTP	REP
	RSZCOMPID	*COMP_ID* ***
S_RS_COMP1	RSZCOMPID	*COMP_ID* ***
	RSZCOMPTP	REP
	RSZOWNER	*QUERY_OWNER* **
	ACTVT	16

* *USER_ROLE* denotes the name of any role that the user belongs to. You can enter multiple values in this field.

** *QUERY_OWNER* denotes the name of the owner of the query from which you are creating the report. If you enter the name of the query owner, you can only report off of queries with this owner. Enter * to denote any query owner.

*** For *INFO_AREA*, *INFO_CUBE*, or *COMP_ID* enter * to denote any value. If you specify a specific value, you can only report off of queries that contain these info areas, cubes, and component IDs.

Starting the Business Explorer Query Designer

Authorization object	Field	Values
S_RS_COMP	RSINFOAREA	*INFO_AREA***
	RSINFOCUBE	*INFO_CUBE***
	RSZCOMPTP	REP
	RSZCOMPID	*COMP_ID***
S_RS_COMP1	RSZCOMPID	*COMP_ID***
	RSZCOMPTP	REP
	RSZOWNER	*QUERY_OWNER**
	ACTVT	16

Authorization object	Field	Values
S_CTS_ADMI	CST_ADMFCT	TABL

* *QUERY_OWNER* denotes the name of the owner of the query from which you are creating the report. If you enter the name of the query owner, you can only report off of queries with this owner. Enter * to denote any query owner.

** For *INFO_AREA*, *INFO_CUBE*, or *COMP_ID* enter * to denote any value. If you specify a specific value, you can only report off of queries that contain these info areas, cubes, and component IDs.

From within InfoView

This section guides you through a list of various actions in BW from within InfoView.

Logging on to BusinessObjects Enterprise with SAP credentials

Authorization object	Field	Values
S_ADMI_FCD	S_ADMI_FCD	STOR, STOM

Viewing an SAP BW report on demand

Authorization object	Field	Values
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	SYST, RSOB, SUNI
	ACTVT	16
S_RS_COMP	RSINFOAREA	*INFO_AREA***
	RSINFOCUBE	*INFO_CUBE***
	RSZCOMPTP	REP
	RSZCOMPID	*COMP_ID***
S_RS_COMP1	RSZCOMPID	*COMP_ID***
	RSZCOMPTP	REP
	RSZOWNER	*QUERY_OWNER**
	ACTVT	16

Authorization object	Field	Values
S_RS_ODSO	RSINFOAREA	*INFO_AREA***
	RSODSOBJ	0CRM_OLVM
	RSODSPART	DATA
	ACTVT	03

* *QUERY_OWNER* denotes the name of the owner of the query from which you are creating the report. If you enter the name of the query owner, you can only report off of queries with this owner. Enter * to denote any query owner.

** For *INFO_AREA*, *INFO_CUBE*, or *COMP_ID* enter * to denote any value. If you specify a specific value, you can only report off of queries that contain these info areas, cubes, and component IDs.

Refreshing a report from the viewer

Authorization object	Field	Values
S_RS_COMP	RSINFOAREA	*INFO_AREA***
	RSINFOCUBE	*INFO_CUBE***
	RSZCOMPTP	REP
	RSZCOMPID	*COMP_ID***

Authorization object	Field	Values
S_RS_COMP1	RSZCOMPID	*COMP_ID***
	RSZCOMPTP	REP
	RSZOWNER	*QUERY_OWNER**
	ACTVT	16
S_RS_ODSO	RSINFOAREA	*INFO_AREA***
	RSODSOBJ	0CRM_OLVM
	RSODSPART	DATA
	ACTVT	03

* *QUERY_OWNER* denotes the name of the owner of the query from which you are creating the report. If you enter the name of the query owner, you can only report off of queries with this owner. Enter * to denote any query owner.

** For *INFO_AREA*, *INFO_CUBE*, or *COMP_ID* enter * to denote any value. If you specify a specific value, you can only report off of queries that contain these info areas, cubes, and component IDs.

Scheduling a report

Authorization object	Field	Values
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	SYST, RSOB, SUNI
	ACTVT	16
S_RS_COMP	RSINFOAREA	*INFO_AREA***
	RSINFOCUBE	*INFO_CUBE***
	RSZCOMPTP	REP
	RSZCOMPID	*COMP_ID***
S_RS_COMP1	RSZCOMPID	*COMP_ID***
	RSZCOMPTP	REP
	RSZOWNER	*QUERY_OWNER**
	ACTVT	16

Authorization object	Field	Values
S_RS_ODSO	RSINFOAREA	*INFO_AREA***
	RSODSOBJ	0CRM_OLVM
	RSODSPART	DATA
	ACTVT	03

* *QUERY_OWNER* denotes the name of the owner of the query from which you are creating the report. If you enter the name of the query owner, you can only report off of queries with this owner. Enter * to denote any query owner.

** For *INFO_AREA*, *INFO_CUBE*, or *COMP_ID* enter * to denote any value. If you specify a specific value, you can only report off of queries that contain these info areas, cubes, and component IDs.

Reading dynamic picklists in report parameters

Authorization object	Field	Values
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	SYST, RSOB
	ACTVT	16

Actions in R/3 and mySAP ERP

This section guides you through a list of various actions in R/3 and mySAP ERP.

From within Crystal Reports using the Open SQL driver

This section guides you through a list of various actions in R/3 and mySAP ERP from within Crystal Reports using the Open SWL driver.

Logging on to an SAP server

Authorization object	Field	Values
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	SYST, /CRYS-TAL/OPENSQL
	ACTVT	16

Creating a new report

Authorization object	Field	Values
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	SYST, /CRYS-TAL/OPENSQL
	ACTVT	16
ZSEGREPORT	ACTVT	01

Opening or previewing an existing report

Authorization object	Field	Values
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	SYST, /CRYS-TAL/OPENSQL
	ACTVT	16
ZSEGREPORT	ACTVT	02

Verifying the database (refreshing table definitions in a report)

Authorization object	Field	Values
S_ADMI_FCD	S_ADMI_FCD	STOR, STOM
ZSEGREPORT	ACTVT	02
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	/CRYSTAL/OPENSQL
	ACTVT	16

Setting the location of the data source

Authorization object	Field	Values
ZSEGREPORT	ACTVT	02
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	/CRYSTAL/OPENSQL
	ACTVT	16

From within Crystal Reports using the InfoSet driver, reporting off InfoSet

This section guides you through a list of various actions in R/3 and mySAP ERP from within Crystal Reports using the InfoSet driver, reporting off InfoSet.

Logging on to an SAP server

Authorization object	Field	Values
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	SYST
	ACTVT	16

Creating a new report from an InfoSet on R/3 and mySAP ERP

Authorization object	Field	Values
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	/CRYSTAL/FLAT, SKBW, AQRC
	ACTVT	16

Authorization object	Field	Values
S_CTS_ADMI	CTS_ADMFCT	TABL

Note:
Also add enough authorizations to view data rows. For example, P_ORIG or P_APAP (see *Setting the location of the data source* on page 248).

Verifying the database (refreshing table definitions in a report)

Authorization object	Field	Values
S_ADMI_FCD	S_ADMI_FCD	STOR, STOM

Setting the location of the data source

Authorization object	Field	Values
P_ABAP	REPID	AQTGSYSTGENER-ATESY, SAPDBPNP
	COARS	2

From within Crystal Reports using the InfoSet driver, reporting off an ABAP query

This section guides you through a list of various actions in R/3 and mySAP ERP from within Crystal Reports using the InfoSet driver, reporting off an ABAPA query.

Logging on to an SAP server

Authorization object	Field	Values
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	SYST
	ACTVT	16

Creating a new report from an ABAP query on R/3 and mySAP ERP

Authorization object	Field	Values
P_ABAP	REPID	AQTG02==========P6, SAPDBPNP
	COARS	2

Authorization object	Field	Values
S_ADMI_FCD	S_ADMI_FCD	STOR, STOM
S_TABU_DIS	ACTVT	03
	GROUP	Name of table group

Verifying the database (refreshing table definitions in a report)

Authorization object	Field	Values
S_ADMI_FCD	S_ADMI_FCD	STOR, STOM
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	SKBW
	ACTVT	16

Setting the location of the data source

Authorization object	Field	Values
P_ABAP	REPID	AQTG02==========P6, SAPDBPNP
	COARS	2
S_ADMI_FCD	S_ADMI_FCD	STOR, STOM
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	SKBW
	ACTVT	16
S_TABU_DIS	ACTVT	03
	GROUP	Name of table group

From within BusinessObjects Enterprise

This section guides you through a list of various actions in R/3 and mySAP ERP from within BusinessObjects Enterprise.

Scheduling a report in dialog mode (with an Open SQL query)

Authorization object	Field	Values
S_USER_GRP	CLASS	
	ACTVT	03
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	SYST, RFC1, /CRYSTAL/OPENSQL
	ACTVT	16
ZSEGREPORT	ACTVT	02

Note:
The value for CLASS is BLANK.

Scheduling a report in batch mode (with an Open SQL query)

Authorization object	Field	Values
S_USER_GRP	CLASS	
	ACTVT	03

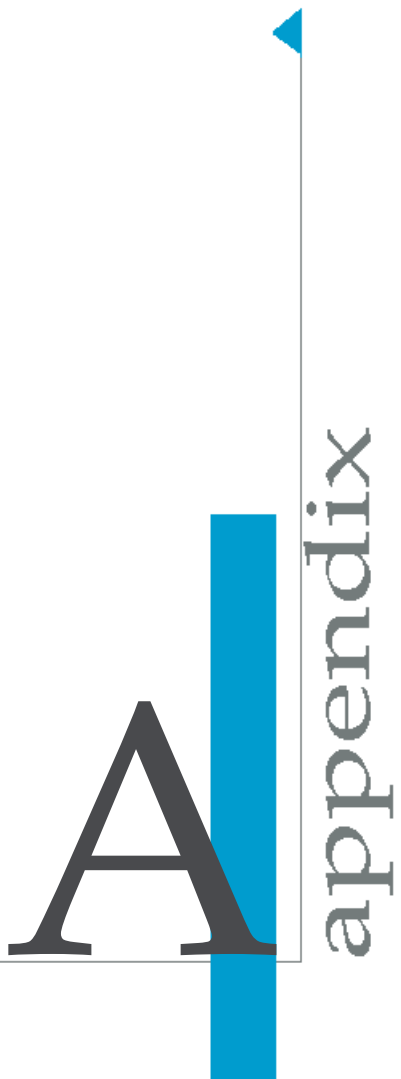
Authorization object	Field	Values
S_RFC	RFC_TYPE	FUGR
	RFC_NAME	SYST, RFC1, /CRYSTAL/OPENSQL, SH3A
	ACTVT	16
S_BTCH_JOB	JOBGROUP	' '
	JOBACTION	RELE
ZSEGREPORT	ACTVT	02
S_BTCH_ADM	BTCADMIN	Y

Note:
The value for CLASS is BLANK.

Crystal entitlement system

See *Creating a user account for BusinessObjects Enterprise* on page 79 for a complete listing.

Get More Help



Online documentation library

Business Objects offers a full documentation set covering all products and their deployment. The online documentation library has the most up-to-date version of the Business Objects product documentation. You can browse the library contents, do full-text searches, read guides on line, and download PDF versions. The library is updated regularly with new content as it becomes available.

To access the online documentation library, visit *http://help.sap.com/* and click **Business Objects** at the top of the page.

Additional developer resources

https://boc.sdn.sap.com/developer/library/

Online customer support

The Business Objects Customer Support web site contains information about Customer Support programs and services. It also has links to a wide range of technical information including knowledgebase articles, downloads, and support forums.

http://www.businessobjects.com/support/

Looking for the best deployment solution for your company?

Business Objects consultants can accompany you from the initial analysis stage to the delivery of your deployment project. Expertise is available in relational and multidimensional databases, in connectivities, database design tools, customized embedding technology, and more.

For more information, contact your local sales office, or contact us at:

http://www.businessobjects.com/services/consulting/

Looking for training options?

From traditional classroom learning to targeted e-learning seminars, we can offer a training package to suit your learning needs and preferred learning style. Find more information on the Business Objects Education web site:

http://www.businessobjects.com/services/training

Send us your feedback

Do you have a suggestion on how we can improve our documentation? Is there something you particularly like or have found useful? Drop us a line, and we will do our best to ensure that your suggestion is included in the next release of our documentation:

documentation@businessobjects.com

Note:
If your issue concerns a Business Objects product and not the documentation, please contact our Customer Support experts. For information about Customer Support visit: *http://www.businessobjects.com/support/*.

Business Objects product information

For information about the full range of Business Objects products, visit: *http://www.businessobjects.com*.

Index

A

ABAP queries, reporting off 25
acconts
  for BusinessObjects Enterprise 79
accounts
  system 79
Alert iView 147
Apache Tomcat 5.5
  configuration details 57
  deploying web applications 61
  wdeploy 61
architecture 20
  diagram 22
authorizations
  applying 228
  applying for data access users 228
  Content Administration Workbench 127
  for BusinessObjects Enterprise 79
  for data access 228
  rights in BusinessObjects Enterprise 114
Automatically import users check box
  CMC 83

B

Business Information Warehouse. See BW 20
BusinessObjects Enterprise 20
  adding servers 73
  configuring 158, 160
  configuring server 150
  creating account for 79
  distributing components 70
  importing roles 87
  layout 163
BusinessObjects Enterprise *(continued)*
  server groups 108
  UNIX installation types 33
  UNIX requirements 34
  Windows installation types 51
  Windows requirements 52
BusinessObjects Enterprise repository
  client 159
  configuring 157, 158
  installing 157
  instances 164
BW 20
  configuring 78
  enabling viewing 141
  integrating with BusinessObjects Enterprise 112
  reporting off queries 25
  requirements 33
BW Publisher 20, 27
  configuring as a service 116
  configuring on UNIX 116
  distributing components 72
  selecting a configuration 27
BW Publisher service 116
  configuring 116
  creating RFC destination 118
  starting 116

C

Central Management Server (CMS) 24
client requirements 52
Cluster Definition tool 211, 221
Cluster Definition transport 211, 221
CMC 83

collaboration 171
  configuring 163
comments 163
communication, over TCP/IP 27
components 211, 221
  Cluster Definition tool 211, 221
  of the product 20
  Security Definition Editor 174
Content Administration Workbench 130
  adding BusinessObjects Enterprise systems 130
  applying authorizations 127
  defining user access levels 127
  deleting reports 140
  overview of report publishing 125
  publishing reports 133
  publishing reports in background 137
  synchronizing report information 137, 139
  updating data source of reports 139
cookies 159
creating
  authorizations 228
Crystal Reports 20, 52
  requirements 52
Crystal Reports Explorer 61
  integrating with InfoView 61
  Tomcat 61
customizing
  security definitions 174

D

data access
  required authorizations 228
Data Access 20, 206
  contents of the transports 206
  installation overview 220
data access restrictions 174
data sources 25
default security patterns 112
defining security 174
disabling SAP authentication 83
discussions 163, 171
distributing 70
  BW Publisher components 72
  components 70
  reports over the Web 30
  web application server 72
  web content 30
documents
  copying 169
  creating 168
  deleting 169
  moving 169

E

Enable SAP Authentication check box
  CMC 83
Enterprise Portal 6.0 148, 149
entitlement systems 81

F

feedback 163, 171
firewalls 194
  communication 194
  configuration example 197
  port requirements 195

G

global lock feature 175
green checkmark, for default system 131
groups 87
GWSETUP 122

I

imported content, configuring 148
importing
  .par files 149
  business packages 148

importing *(continued)*
master iView par file 149
InfoSet Connectivity transport 221
InfoSets, reporting off 25
installation 13, 32
default security levels 112
distributed 70
recommended 53
troubleshooting 202
installation setup
configuring existing server 37
installing 32
on UNIX 33
on Windows 51
SAP Gateway on Windows 122
server components on UNIX 35
iViews 144
alerts 147
enabling viewing 141
folders 146
samples 145
setting alias name 145
thumbnail 147
URL iViews 151

J

Job Server
servers 73

K

Keep entitlement system disabled field
CMC 83
KMC
client 159
collaboration 171
common tasks 166
configuring 156
configuring BusinessObjects Enterprise Repository 156
copying documents 169
KMC *(continued)*
creating documents 168
deleting documents 169
logging on and off 165
navigation 165
navigation options 166
search 170
subscribe 170

L

locking down tables 175

M

mapping roles 87
Max failed entitlement system accesses field
CMC 83
MDX cubes 25
minimum requirements, UNIX 34
minimum requirements, Windows 51

O

object rights 114
objects
copying 169
creating 168
deleting 169
moving 169
Open SQL Connectivity 221
Open SQL Connectivity transport 221
Open SQL driver 174
default security model 174
defining security 174
OpenDocument
WAR files 151
Options tab 83
Oracle Application Server 10g R3
configuration details 57

P

Page Server
servers 73
personal notes 163
Personal Security Environment
see PSE 94
port requirements
firewalls 195
prerequisites to installing UNIX 34
prerequisites to installing Windows 51
product overview 20
PSE
configuring access 105
generating 102
server-sde trust 94
publishing 27
defining roles for, in BW 126
in the background 137
multiple reports using roles 133
reports in a role or system 133
scheduling in background 137
setting up 125
to multiple BusinessObjects Enterprise systems 130

R

R/3 78
rate 171
rating 163
recommended installation 53
report designer 20
report maintenance 139
reporting
off SAP data 25
reports 25
creating 25
deleting 140
publishing
overview 27
updating data sources 139
requirements for installing UNIX 34
requirements for installing Windows 51
restrictions 174
data access 174
row-level 185
table-level 175
RFC destination 118
for BW Publisher service 118
for local SAP Gateway 123
roles 126
creating for administration 126
importing 87
mapping 87
row-level security 185, 186
authorization objects, using 186
custom security exits, using 188
overview 185

S

SAP Authentication 20, 24
CMC 83
distributing components
adding servers 73
enabling/disabling 83
options 83
SAP BW 158
SAP BW. See BW 20
SAP EP
collaboration 171
common tasks 166
configuring BusinessObjects Enterprise 158, 160
configuring BusinessObjects Enterprise Repository 156
copying documents 169
creating documents 168
deleting documents 169
logging on and off 165
navigation 165
search 170
subscribe 170

SAP Gateway
distributing components 72
installing 122
publishing using a local 122
SAP Tools toolbar 25
SAP Web Application Server
manual deployment UNIX
using wdeploy 49
manual deployment Windows 68
using wdeploy 68
SAPGUI requirements 52
scaling your installation 70
search
KMC 170
Secure Network Communications
BusinessObjects Enterprise servers 94
client versus server 94
SAP crypto library 94
security 112
default patterns 112
defining 174
folder level 114
global lock feature 175
in BusinessObjects Enterprise 114
migrating from client-independent model 175
preserving existing restrictions 175
row-level restrictions 185
table-level restrictions 175
Security Definition Editor
description 174
transport 210, 221
security plug-ins 24
server groups
configuring for BusinessObjects Enterprise 108
server transports, contents of 206
servers
installation 73
installing on UNIX 35
ports, firewall configuration 195
services files
UNIX 34
Windows 52
Single Sign On 24
importing roles 87
requirements 144
SNC
see Secure Network Communications 94
subscription
configuring 164
synchronizing report information 137, 139
system account 79
system alias, configuring 150
system requirements, UNIX 34
system requirements, Windows 51

T

table-level security 175
tables 178
customizing authorizations 178
defining security by group 184
locking down 175
TCP/IP communication 27
thumbnail iView 147
toolbar, SAP Tools 25
transports 212, 221, 224
authentication helper 212
checking for conflicts 224
cluster definition 211
Cluster Definition 221
Content Administration Workbench 213
contents 206
function groups 206
importing 225
InfoSet connectivity 209
InfoSet Connectivity 221
objects 206
Open SQL Connectivity 206
overview 206
parameter personalization 217, 221
programs 206

transports *(continued)*
Row-level security definition 210
Security Definition Editor 221
tables 206

U

uninstalling
from UNIX 73
from Windows 73
SAP Solutions 73
UNIX 33
installing 33
requirements 34
services files 34
URL iViews 151

W

web application server
Apache Tomcat 5.5 42, 61
configuration details 57
configuring existing server 37
SAP Web Application Server 49, 68
WebLogic 44, 63
WebSphere 47, 66
web applications
deploying on UNIX
SAP Web Application Server 49
Tomcat 5.5 42
WebLogic 44
WebSphere 47
deploying on Windows
SAP Web Application Server 68
Tomcat 61
WebLogic 63
WebSphere 66
Web Content 20
distributing components 73
WebLogic 10
configuration details 57
WebLogic 9
configuration details 57
WebSphere 6.1
configuration details 57
WebSphere Community Edition 2.0
configuration details 57
Windows 51, 53
recommended installation 53
requirements 51
services files 52