



What's New

- SAP BusinessObjects Enterprise XI 4.0

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About this document

The What's New guide for SAP BusinessObjects Enterprise provides a complete list of the new and modified features for the SAP BusinessObjects Enterprise suite of products since the previous release. You can find information about all the new products and features that are supported in this release.

Welcome to SAP BusinessObjects Enterprise XI 4.0

SAP BusinessObjects Enterprise XI is the business intelligence platform that supports the entire range of performance management, reporting, querying, and analysis applications. It has proven architecture and platform support for semantic layers, data integration, and security. SAP BusinessObjects Enterprise XI 4.0 provides full web-based administration and configuration of the entire system.

SAP BusinessObjects Enterprise XI 4.0:

- Extends the information infrastructure provided by earlier releases and integrates seamlessly with the existing product line.
- Supports all deployment models and lets you fine-tune administration and configuration of the entire system.
- Brings together features from across the SAP BusinessObjects Enterprise XI product line to meet your evolving reporting needs, from providing web access to Interactive Analysis, to improving Crystal Reports interactivity and personalization.
- Facilitates migration from SAP BusinessObjects Enterprise 5.x and 6.x to SAP BusinessObjects Enterprise XI 4.0, however you need to migrate to Release XI 2.0 first.
- Delivers new tools to drive user productivity and self-service reporting.
- Delivers more reporting capability with fewer reports.
- Includes a variety of major enhancements spread across our data access methods, administration capabilities, and report design options.
- Simplifies business monitoring with dashboard functionality and improved user experience.
- Delivers the strongest self-service query and analysis solution for SAP customers.

This document provides an overview of the features and enhancements available in SAP BusinessObjects Enterprise XI 4.0 and directs you to the available product documentation to get you started using the new features.

For the list of supported platforms and databases and application servers, see the SAP BusinessObjects Enterprise XI 4.0, Supported Platforms document, available on the SAP BusinessObjects Enterprise Support section of the SAP Service Marketplace at: <http://service.sap.com>.

To learn about features of previous releases, visit our support website at <http://help.sap.com>.

Installation and web application deployment

The following components are now integrated into the SAP BusinessObjects Enterprise XI 4.0 installation program, and no longer require a separate installation:

- Enterprise Resource Planning

The installation program now includes support for ERP integration (SAP Business Warehouse (BW), Siebel Enterprise, PeopleSoft Enterprise, JD Edwards EnterpriseOne) and portals (Microsoft SharePoint, WebLogic Portal, WebSphere Portal, Oracle Portal Server).

For more information, see "Enterprise Resource Planning (ERP) integration".

- Lifecycle Management

The Lifecycle Management Console is now included in SAP BusinessObjects Enterprise and enables you to move Business Intelligence (BI) resources from one system to another without affecting resource dependencies. It also enables you to manage different versions of BI resources, manage dependencies of BI resources, and roll back a promoted resource to restore the destination system to an earlier state.

The installation program can install and configure the Subversion version control system, or use an existing installation of Subversion or ClearCase.

Lifecycle management console replaces Upgrade Management Tool for promotion workflows.

- SAP Solution Manager support

The installation program can now integrate SAP BusinessObjects Enterprise into the SAP Solution Manager infrastructure. This allows system inventory and performance instrumentation tools like SAP System Landscape Directory (SLD), SAP Solution Manager Diagnostics (SMD), and CA Wily Introscope, and IBM Tivoli.

- Data Federation

Data federation enables multi-source universes by distributing queries across disparate data sources, and lets you federate data through a single data foundation.

- Mobile server support

Mobile server support allows your users to remotely access business intelligence (BI) reports, metrics, and real-time data from a wireless device.

- SAP BusinessObjects Dashboard Design (formerly Xcelsius) server support

SAP BusinessObjects Dashboard Design is a tool for data visualization and the creation of dynamic, interactive dashboards.

- Language support

Supported languages are now only installed by the installation program.

Note:

Carefully consider which languages need to be installed for your organization before installing them. To add or remove language support later requires that you remove and re-install SAP BusinessObjects Enterprise.

- SAP BW publishing servers

The ability to publish reports to SAP BW no longer requires a separate installation.

Note:

The SAP BusinessObjects Enterprise installation program no longer includes Client Tool components. To install Client Tools, use the dedicated SAP BusinessObjects Enterprise Client Tools installation program.

The following improvements have been made to the deployment of web applications to a web application server:

- WDeploy Graphical User Interface (GUI)

The WDeploy web application deployment tool now includes a GUI for the deployment and removal of all web applications to a web application server.

- Web application consolidation

The Central Management Console (CMC), BI launch pad (formerly InfoView), and other core web applications have been consolidated into a single archive.

Integration to SAP Solution Manager and Diagnostic Applications

The following new features and enhancements are introduced in this release:

- Unified tracing mechanism for Java & C++ components.
- End-to-end tracing with SAP Passport support.
- Integration with CA Wily Introscope Enterprise Manager enables enhanced performance measurement through instrumentation of C++ components.
- SAP BusinessObjects License Measurement Tool: a Java command-line tool for collecting and storing SAP BusinessObjects Enterprise licensing data.

New applications introduced in XI 4.0

5.1 Upgrade management tool

The Upgrade management tool is a new software component that lets you upgrade the content of your BI repository from a previous version of SAP BusinessObjects Enterprise.

You can perform a complete upgrade or an incremental upgrade. A complete upgrade replaces the functionality that had previously existed in the Central Configuration Manager (CCM). The incremental upgrade replaces the functionality that had previously existed in the Import Wizard.

To migrate the content of a BI repository to another repository with the same version, use the Lifecycle Management Console.

5.2 Monitoring

Monitoring is a new tool in SAP BusinessObjects Enterprise XI 4.0. This application provides the ability to capture the runtime and historical metrics of SAP BusinessObjects Enterprise XI 4.0 servers and applications, for reporting and notification. System administrators can use the tool to identify if a reporting application is functioning normally and if the response times are as expected.

The following features are also available in Monitoring:

- Check the performance of each server: A feature named Watches, represents the state of each server as traffic lights. The system administrator can set thresholds for these watches and receive alerts when the thresholds are breached. This assists in taking proactive steps for potential failures or outages.
- View critical system KPIs: For monitoring activities and resources. The KPIs are displayed in the dashboard page of the monitoring application.
- Test system availability and response time with Probes: Probes simulate workflows to check if the servers and services in the Enterprise deployment are functioning as expected. By analyzing the roundtrip time of these probes in intervals, the system administrator can assess system usage patterns.
- Analyze peak load and peak period for the Central Management Server (CMS): This helps the system administrator to determine whether more licenses or system resources are required.

- Integrate with other enterprise applications: The SAP BusinessObjects Enterprise XI4.0 monitoring application can be integrated with other enterprise applications like SAP Solution Manager and IBM Tivoli.

5.3 The information design tool

The information design tool is the SAP BusinessObjects design environment for creating and publishing new SAP BusinessObjects universes and connections. The information design tool lets you take advantage of these major new universe design features:

- Dimensional universes that support OLAP dimensions and hierarchies
- Multisource universes that federate multiple relational data sources
- A design environment that facilitates designer teamwork and universe resource sharing
- A security editor for universe data and metadata
- Extended connection management
- Easier management of repository resources

These features are described in more detail in the following sections.

You can convert your existing universes created with Universe Designer XI R2/XI 3 and start taking advantage of the new universe features. Universes created with the universe design tool in SAP BusinessObjects BI 4.0 are can also be converted and edited in the information design tool.

Universes created using the information design tool can be used by the following SAP BusinessObjects data analysis and reporting applications:

- SAP BusinessObjects Web Intelligence BI 4.0
- SAP Crystal Reports for Enterprise BI 4.0
- SAP BusinessObjects Explorer BI 4.0
- SAP BusinessObjects Dashboard Design BI 4.0

Dimensional universes

The information design tool automatically generates OLAP universes for Microsoft Analysis Services and SAP NetWeaver Business Warehouse OLAP cubes. The resulting universes are dimensional, including objects such as:

- Dimensions and analysis dimensions (groups of dimensions sharing the same axis of analysis)
- Hierarchies (parent-child as well as level-based)
- Dimension attributes
- Calculated members and measures
- Named sets of members
- Filters based on dimensional business objects
- Hierarchical and cascading list of values

The query panel is enhanced to allow you to create queries based on hierarchies or members of hierarchies. The major new features of the query panel are:

- The Member Selector that lets you do the following:

- Use OLAP-style selection on, for example, children, descendants, or parents
- Select hierarchy levels
- Select calculated members and named sets
- Create named sets of members during universe definition
- Select members that will be excluded from queries
- A preview pane that lets you preview result sets
- The ability to choose values at multiple levels in a hierarchical lists of values

Multisource universes

Using the information design tool, you can create a data foundation on multiple relational data sources to create a multisource universe. Using this universe, your SAP BusinessObjects data analysis and reporting applications can query multiple relational sources at once. To provide this functionality, the query engine technology from SAP BusinessObjects Data Federator has been enhanced and integrated into SAP BusinessObjects Enterprise BI 4.0.

The integrated data federation query engine provides many features including the following:

- The ability to federate data from multiple relational databases.
- Relational connections to SAP NetWeaver Business Warehouse. These connections let you generate data foundations as star schemas based on the relational tables in InfoCubes, MultiProviders, Virtual Providers, and DataStore objects. Objects can be defined and manipulated in the data foundation as for any relational connection.
- Relational connections to SAS.
- Use of standard SQL 92 syntax to define joins, derived tables, and business objects. The query engine translates the queries for all sources, and distributes them.
- Use of database-specific syntax to define expressions for calculated columns and derived tables in the data foundation. These native expressions take advantage of database-specific functions of the data sources.
- Improved performance and detection for narrow queries (data coming from large tables that can be filtered using data from small tables). This semi-join technology can select the optimal strategy for retrieving data from data sources during execution, depending on the volume of data.

Design environment

To build a universe, you use editors in the information design tool to define the following resources:

- Connections to OLAP or relational data sources
- Data foundations based on connections to define the schema for a relational universe
- Business layers to define the business objects based on a data foundation or an OLAP connection

You then publish the business layer which exports the business layer and the resources it references to create the universe.

Resources are stored in projects. You can share projects in a repository to make resources available to other designers. Several designers can work on the same project at the same time and can share and synchronize their universe resources.

You can also reuse universe resources. For example, you can base several business layers on a single data foundation. The data modeling in the data foundation can then be shared by multiple universes.

The following new universe features are available when designing the data foundation:

- Multisource universes based on multiple relational connections.
- Calculated columns. A calculated column is a new column in a table that is the result of a calculation based on one or more columns of the same table.
- Data foundation views. A view is a set of the tables and joins in the data foundation used to focus the work of the designer on a specific part of the schema.
- Profiling of data stored in a column. Graphs and tables show the repartition of the distinct values of the column.
- Enhanced contexts to solve join path loops.
- Table families. A family is a set of display parameters that can be used to visually group tables of the same type when working in the editor.
- A powerful search panel to visually filter the data foundation tables based on specific characteristics, for example connections, table types, contexts, or families.
- Prompted parameters and lists of values (LOVs) that are inherited by any business layer built on the data foundation.

The following new universe features are available when designing the business layer:

- Dimensional objects as described in the section on dimensional universes.
- The ability to create and run test queries and store them in the business layer.
- Business layer views. A business layer view allows you to define a subset of a universe as a starting point for building a query. With views, it is possible to create larger universes and provide smaller views that can be business-oriented, for example, a Human Resources view or a Finance view.
- Prompted parameters and LOVs as independent objects in the universe that are shareable:
 - An LOV can be shared by multiple business layer objects.
 - An LOV can be shared by multiple parameters (prompts) or filters.
 - For multi-column LOVs, you can choose which columns to display and which column will be used for the query.

Securing universe data and metadata

Using the Security Editor in the information design tool, you can define universe security for users and groups. You first define profiles for the universe:

- Data Security Profiles control access to data. Data Security Profiles can be seen as the equivalent to Access Restrictions defined for universes using the universe design tool.
- Business Security Profiles control access to data by using business layer views and objects, or by defining filters on these objects.

You then assign profiles to users and groups.

In the Security Editor, you can easily browse the defined security by user or by universe. You can also preview the net security profile for a user or group, and display the security inherited by a user.

The Access Restrictions defined for universes in the universe design tool and their assignments are converted into the equivalent Data and Business Security Profiles when a secured universe is converted.

From the Security Editor, you can run a query on a universe in a repository. The query is then secured by the Data Security Profiles and Business Security Profiles that apply to the user used to log into the Security Editor.

Connection management

The information design tool lets you to create local connections on the file system or secured connections in the repository. Once you have validated a local connection, you can publish it in the repository to create an equivalent secured connection. In the repository, you store connections under the Connections folder and its sub-folders.

The same relational connections can be used by universes created with the information design tool and the universe design tool.

The same OLAP connections can be used in the information design tool and with SAP BusinessObjects Advanced Analysis.

Repository management

The Repository Resources View in the information design tool lets you navigate several repositories at the same time. You can create and edit secured connections, retrieve and convert universes, and organize the repository resources in the Connections and Universes folders and their sub-folders.

The actions you are allowed to perform in the Repository Resources View are controlled by Central Management Console security rights.

New and modified features in existing SAP BusinessObjects Enterprise products

SAP BusinessObjects Enterprise XI 4.0 represents the full integration of traditional SAP BusinessObjects and Crystal Reports products, combining the best features of each product line. Whether you have an existing SAP BusinessObjects Enterprise system or a Crystal Enterprise system, you will notice a wide range of new features in SAP BusinessObjects Enterprise XI 4.0.

6.1 Administration

6.1.1 Auditing

A new auditing dashboard allowing central administration of auditing is introduced with new consistent events and new auditing database schema allowing easier creation of auditing reports. Action auditing allowing correlation of multiple auditing events resulting from a single user action.

6.1.2 Data Access

The Data Access layer provides the following new features:

64-bit operating system support

Connection Server and the data access drivers can be loaded and run on all operating systems supported by the release of SAP BusinessObjects Enterprise, as follows:

- 32-bit Microsoft Windows.
- 64-bit Microsoft Windows and UNIX flavors (Linux, HP Itanium, IBM AIX and Sun Solaris Sparc) when Connection Server is in-proc or used as a remote server.

For 64-bit Microsoft Windows platforms, SAP BusinessObjects Enterprise also provides a 32-bit remote Connection Server to access datasources for which 64-bit middleware are not available. For more information about 64-bit support, see the *Data Access Guide*.

New Java CORBA server

Adaptive Connectivity Service is a new N-tier deployment mode of the Data Access layer through Java CORBA server. It allows user applications to access any Java-based datasources remotely. For more information, see the *SAP BusinessObjects Enterprise XI 4.0 Planning Guide*.

New properties in the CMC

The "Properties" page of the server in the CMC displays new parameters that lets you to do the following:

- Enable jobs and middleware tracing.
- Select the datasources to support when Connection Server is used in remote access.

New ODBC connectivities

The Data Access layer provides the following new connectivities:

- IBM DB2 UDB for iSeries v6 through ODBC and DB2 CAE on all platforms.
- Ingres Database 9 on all platforms.
- SAP High-Performance Analytic Appliance (HANA) 1.0 on MS Windows.
- Sybase SQL Anywhere 11 on all platforms.
- Teradata 13 on all platforms.

New JDBC connectivities

The Data Access layer provides the following new connectivities:

- SAP High-Performance Analytic Appliance (HANA) 1.0 on all platforms.
- Sybase SQL Anywhere 11 on all platforms.
- Teradata 13 on all platforms.

For information about how to create a connection, see the *Data Access Guide*.

Deprecated connectivities

Existing connections to the following datasources continue to work but you cannot create new connections to them:

- MS SQL Server 7.x
- MS SQL Server 2000
- MySQL 4
- Oracle 9
- Informix Dynamic Server 7.3
- Informix Dynamic Server 2000
- Sybase Adaptive Server 12
- Teradata V2 R6
- RedBrick Decision Server 6.x
- DB2 UDB for OS/390 v7

SAP MaxDB support

The Data Access layer provides a new connectivity to SAP MaxDB 7.7 database through ODBC and JDBC on all 32-bit and 64-bit platforms supported in this release.

Caution:

This connectivity does not support stored procedures.

DataDirect 6.0 SP2 support

The Data Access layer supports the branded DataDirect ODBC 6.0 SP2 drivers for MS SQL Server 2005 and 2008 databases on all UNIX platforms.

Connection Server activity in CA Wily Introscope Workstation

Workflow activity involving Connection Server is traced in CA Wily Introscope workstation. Connection Server functions can be analyzed through the different views proposed by the tool, which are the following:

- Dashboard and summary view for overall information.
- Trace view, where errors are highlighted and described by messages.
- Tree view, where successive function calls of a specific workflow are displayed and time spent on a function is highlighted to track the time-consuming activities easily.

For more information, see the *SAP BusinessObjects Enterprise XI 4.0 Administrator's Guide*.

Configuring connections with Extensions parameter

The Data Access layer provides a new way to configure JDBC and JavaBean connections. Instead of setting JAR file details in the `jdbc.sbo` or `javabean.sbo` configuration file to store JAR files, you can create your own directories based on `Extensions` parameter values. For more information about how to configure a connection, see the *Data Access Guide*.

Checking connections at runtime

You can customize your driver to make it validate the connection at runtime. This functionality is available for Generic ODBC, Generic OLE DB and Generic JDBC connections. For more information about how to check a connection dynamically, see the *Data Access Guide*.

All other supported connectivities handle this connection check and no customization is required.

Reorganization of data access layer directories

Data access driver DLL and JAR files are located in a new `drivers` folder. Directories of data access driver configuration files have also been reorganized. For more information, see the SAP BusinessObjects Enterprise installation directory or the *Data Access Guide*.

Documentation of single sign-on (SSO) support

The Data Access Guide lists the databases and network layers that support single sign-on authentication of SAP BusinessObjects Enterprise.

Documentation of stored procedure limitations

The Data Access layer does not support all stored procedures as datasources. The Data Access Guide provides you with some restrictions about them. For more information about how to access stored procedures and retrieve data, see the *SAP BusinessObjects Universe Design Tool User Guide*.

Documentation of database capability parameters

In this release, data access PRM files only store parameters that allow you to configure capabilities of targeted databases. Parameters that handle SQL generation capabilities are all stored in application-specific extension PRM files. The Data Access Guide then provides only information about database capability parameters. For information about SQL generation parameters, see the *Designer's Guide*.

New methods in the Driver Development Kit

The DDK API has new methods to retrieve PRM parameter values set in the PRM files of data access drivers. It also provides a new method to allow the environment to access driver configuration. Moreover, it provides a new class for managing exceptions. For more information, see the *Data Access Driver Java SDK Developer Guide*.

New Connection SDK API

The brand new Connection SDK API comes with SAP BusinessObjects Enterprise to help customers to develop their own access to connections stored in the CMS. The Connection SDK API allows developers to manage the reading and updating of connections to datasources. For more information, see the *Data Access Connection Java SDK Developer Guide*.

Datasource support

For more information about datasource support, see the *Supported Platforms* guide.

6.1.3 Data Security

The following enhancements to data security have been added:

- A FIPS-140 compliant mode of operation.
- Specialized Cryptographic Officers group to manage encryption.
- A two-key encryption system to protect sensitive data stored in the CMS.

6.1.4 The data federation administration tool

The data federation administration tool is a rich client interface that offers easy-to-use features to manage your data federation services.

These services, including the data federation query engine, are integrated in the SAP BusinessObjects Enterprise platform. This technology enables multi-source universes by distributing queries across disparate data sources, and lets you federate data through a single data foundation.

Note:

The data federation technology in SAP BusinessObjects Enterprise XI 4.0 is not a replacement for Data Federator XI 3.0. Some data federation features, such as mappings and target tables, are not available in SAP BusinessObjects Enterprise XI 4.0. To use those features, you can create universes using the universe design tool and then add connections to an installation of Data Federator XI 3.0.

The data federation administration tool lets you optimize data federation queries and fine-tune the data federation query engine for the best possible performance.

Use the data federation administration tool to do the following:

- Test your SQL queries.
- Visualize optimization plans, which detail how federated queries are distributed to each source.
- Compute statistics and set system parameters.
- Manage properties to control how queries are executed in each data source at the connector level.

For example, you can use a property like `maxConnections` to set the maximum number of connections from the query engine to the underlying data source, thus permitting or limiting the number of subqueries the engine can send to that data source simultaneously.

- Monitor running SQL queries.
- Browse the history of executed queries.

6.1.5 Integration for ERP Solutions

The add-on solutions for integration with SAP, Oracle E-Business Suite, PeopleSoft, JD Edwards EnterpriseOne and Siebel, are now part of the standard SAP BusinessObjects Enterprise package.

6.1.6 Licensing

A licensing model based on user roles has been introduced for SAP BusinessObjects Enterprise.

- BI Analyst: for content designers
- BI Viewer: for content consumers

Note:

The previous licensing models based on named and concurrent users will continue to be supported.

6.1.7 Lifecycle Management Console

6.1.7.1 Change Transport System

The Change and Transport System (CTS) is a tool that helps you organize development projects in the ABAP Workbench. It can also be used to customize and transport the changes between the SAP systems and your system landscapes.

6.1.7.2 Command Line Input Option

The Command Line option of the Lifecycle Management Console enables you to promote objects through command line input from one SAP BusinessObjects Enterprise system to another SAP BusinessObjects Enterprise system.

The Lifecycle Management Console tool supports the following job promotions through the command line option:

- Export an existing Lifecycle Management Console job template
- Promote with existing Lifecycle Management Console job template
- Promote an existing LCMBIAR
- Export single/multiple platform queries
- Promote multiple platform queries

6.1.7.3 Override Settings

The Override Settings option enables you to promote the overrides through a job promotion or through the BIAR files.

6.1.7.4 Visual Difference

Visual Difference enables you to view the differences between two versions of the same file. Use this feature to develop and maintain different report types, for example, between source and destination versions of a report. This feature gives a comparison status between the source and the destination versions. If a previous version of the user report is accurate and the current version is inaccurate, you can compare and analyze the file to evaluate the exact issue.

6.1.8 Platform Search

Platform Search is now completely re-architected with advanced management features such as cluster awareness, indexing, and search. It is now exposed using OpenSearch API, BI launch pad portal, Live Office, BI Widgets and BI Workspace.

It also offers different techniques such as:

- attribute searching
- enclosed searching using quotation marks
- wildcard searching

Platform Search is equipped with a number of advanced search configurable options listed below:

- Search Statistics: Platform Search offers search statistics, such as indexing status, number of indexed documents, and last indexed time stamp.
- Start or Stop Indexing: you can start or stop the indexing process.
- Index Locale: You can set the indexing locale in one of the following languages: Japanese, Italian, Korean, Norwegian Bokmal, Czech, Polish, Danish, French, Chinese, Dutch, Spanish, Finnish, Thai, German, Portuguese, Russian, Swedish, English and Brazilian. When you change the index locale to another language, Platform Search re-indexes the documents in the selected language.

Note:

By default, English is selected as the index locale.

- Crawling Frequency: You can do continuous or schedule-based crawling.
- Index Location: When documents are indexed, they are stored in shared folders in the index locations, such as Master Index location, Persistent Data location and Non-persistent Data location.
- Level of Indexing: Fine-tune the search content by setting the level of indexing in three ways, namely Platform Metadata, Platform and Document Metadata, and Full Content.
- Content Types: Select the extractors of your choice for deep indexing.
- Rebuild Index: This option deletes all the existing indexing content and re-indexes it from the start.
- Documents Excluded from Indexing: Manually enter the document IDs of the Info Objects that you do not want to get indexed.
- Indexing Failure Listing: This option lists the documents that failed to be indexed.

6.1.9 Server management and configuration

The following enhancements are introduced in this release.

- New server metrics have been exposed to improve system transparency.
- Node management workflows have been improved.
- Server configuration settings for the entire cluster can now be backed up and restored through the CCM.
- SAP BusinessObjects Enterprise servers now generate log files that describe the networking resources being used, to simplify troubleshooting deployments that are behind firewalls.
- More jobs types are processed in a unified, enhanced Adaptive Job Server.

6.2 Developer Flexibility

6.2.1 SDK features

Application developers can access many of the new features included in this release by using the provided SDKs. For more information about SDK support for new features, see the corresponding developer guide.

For information about what's new in the SAP BusinessObjects Enterprise Java SDK, see the *SAP BusinessObjects Enterprise Java SDK Developer Guide*. This SDK includes the following enhancements:

- Support for alerting
- Support for data security
- Support for role-based authentication
- Changes to auditing
- Changes to BIAR interfaces to allow direct transfer of objects between two Central Management Servers (CMS)
- Changes to `CeProgID` and `CeKind` class usage

For information about what's new in the Report Application Server (RAS) Java SDK, see the *Report Application Server Java SDK Developer Guide*. This SDK includes the following enhancements:

- Support for Java generics
- Changes to grouping and sorting APIs
- Support for Crystal Reports Read-Only (RPTR) and Microsoft Excel 2007 (XLSX) Data-Only export formats

For information about what's new in the Report Application Server (RAS) .NET SDK, see the *Report Application Server .NET SDK Developer Guide*. This SDK includes the following enhancements:

- A Crystal Report viewer control for Windows Presentation Foundation (WPF) applications
- Support for Crystal Reports Read-Only (RPTR) and Microsoft Excel 2007 (XLSX) Data-Only export formats

For information about what's new in the Viewers Java SDK, including support for Crystal Reports Read-Only (RPTR) and Microsoft Excel 2007 (XLSX) Data-Only export formats, see the *Viewers Java SDK Developer Guide*.

For more information about what's new in the Web Services SDK, see the *SAP BusinessObjects Enterprise Web Services Developer Guide*.

6.3 End User Experience

6.3.1 Advanced Analysis, Web edition

SAP BusinessObjects Advanced Analysis, Web edition is the successor to SAP BusinessObjects Voyager and the premium alternative to SAP BEx Analyzer. Advanced Analysis provides the following new features and enhancements, which are focused on improving productivity and depth of analysis:

Workspace sheets

Workspace sheets can contain up to four crosstabs and charts, and allow you to group related analyses. Sheets can be accessed as tabs at the bottom of the analysis window.

Task panels

Task panels allow most interactions and analysis tasks to be performed while the relevant data remains visible in the analysis window. The Data, Properties, and Outline task panels are always immediately available, while other task panels such as the filtering and calculations task panels are available on demand.

- The **Data** panel displays your data source connections and their dimensions and hierarchies.
- The **Properties** panel displays a selected component's properties. You can edit common properties such as "Analysis Name", "Description", and chart dimensions.
- The **Outline** panel displays the relationships between the analyses and visual components across your workspace sheets.

Layout panel

The "Layout" panel is an alternative way to display and arrange visual components. You can add and rearrange dimensions or hierarchies by dragging and dropping these elements into the "Columns",

"Rows", and "Background" drop zones. These elements can be filtered, sorted, or organized within the panel.

Tabbed toolbar

The tabbed toolbar allows you to complete most data-analysis tasks from the toolbar. Similar features are grouped into tabs to simplify the layout. Some buttons on the toolbar are associated with multiple functions, which can be accessed by clicking the arrow beside the button. Most toolbar functions can also be accessed from context-sensitive right-click menus.

You can toggle **Auto Update** from the toolbar to perform several navigation steps before updating crosstab and chart components.

Analysis task panels

You can configure analysis features with analysis task panels, such as the **Filter**, **Custom Calculations**, and **Conditional Formatting** task panels. "Analysis" task panels open on top of the "Task" panel to keep the analysis window visible. Additionally, the **Conditional Formatting** task panel provides a **Preview** option that displays the effects of changes before applying them.

Data presentation

The following improvements to data presentation have been added:

- You can now control the positioning of parent and result members.
- Aggregate calculations, which summarize a selection of members, can now be changed at runtime. Each measure member can have its own aggregation.
- You can now asymmetrically expand different parts of a hierarchy when multiple hierarchies are nested on an axis.
- You can swap the axes of any sub-analysis independently from the main analysis.
- You can reorder members to make comparisons easier.

Sorting

You can sort by member names and values.

Search

Advanced Analysis features a search function with new features, such as ranking results by relevance or using Boolean search operators.

Conditional Formatting

Conditional formatting allows you to format selected columns, rows, or cells to highlight important results. This includes a preview feature that displays the chosen effects before adding them to the analysis. You can assign levels of priority to formatting rules, which determine which conditional formatting is displayed. Formatting can be assigned to a specific dimension within nested dimensions. There is no limit to the number of ranges you can select for formatting.

Calculations

Calculations are added as new members with the same behaviors as other members, such as filtering or applying conditional formatting (except for dynamic calculations). Advanced Analysis comes with the following calculations:

- **Custom Calculations** allow you to create your own calculations from any combination of functions and members.
- **Dynamic Calculations** automatically recalculate the associated members when the data changes.
- **Simple Calculations** are any calculations that involve multiple members and any one of the four basic arithmetical operators: Addition, Subtraction, Multiplication, and Division.

Nulls and zeros

The Nulls & Zeros button allows you to focus on meaningful values by suppressing rows or columns with zero or null values.

Multiple queries

Advanced Analysis allows for multiple simultaneous queries from different data providers, from up to four different data sources per sheet.

Sharing

Advanced Analysis has improved its export capabilities to Microsoft Excel. You can export charts, analyses, sheets, and workspaces, and retain number formatting and conditional formatting.

Data can be printed to PDF file in two forms:

- Sheet form prints the content of the screen onto a single page.
- Data form prints the filtered data instead of the visual component.

Analysis views

Analysis views allow interoperability between Advanced Analysis and other SAP BusinessObjects products, such as Crystal Reports and Interactive Analysis. Analysis views, which are specific navigation states of analyses, are saved independently from workspaces. Analysis views can be created in Advanced Analysis and consumed in Advanced Analysis, Crystal Reports and Interactive Analysis.

Server maintenance

In the event of a server failure, all sessions transfer to another live server, which will maintain user states and allow administrators to run maintenance with minimal user impact.

Auditing

The Audit feature, which has been standardized with the SAP BusinessObjects Enterprise suite, now records all view, save, and export actions, and all cube and server connections.

Tracing

Trace logs are now accessible to SAP Solution Manager Diagnostics and the Product and Production Management System (PPMS). Unified Tracing allows administrators to trace a workflow across multiple components and servers. Instrumented server code allows easier performance diagnostics.

LifeCycle Management

The LifeCycle Management Console allows administrators to promote workspaces and data connections, including SAP BW queries, cubes, and their dependencies, to different deployments.

6.3.2 BI launch pad

BI launch pad (formerly known as InfoView) features an improved user interface and additional options for interface customization.

Tabs

The new user interface features two main navigation tabs, the Home tab and the Documents tab. Objects open in new tabs or windows depending on your user preferences. Additionally, any documents that you frequently access can be opened as tabs and pinned. The next time you log onto BI launch pad, the pinned document tab is automatically open and ready for viewing.

Home tab

The default Home tab layout contains the following modules:

- "My Recently Viewed Documents"
- "My Recently Run Documents"
- "Unread Messages in My Inbox"
- "Unread Alerts"
- "My Applications"

You or your administrator can also design a custom BI workspace and set it as a default Home tab for different users and groups.

Documents tab

The Documents tab (formerly called the Document List) has an improved user interface. The drawers in the left-hand Navigation panel let you switch between different views of the repository easily. Additionally, the Details panel lets you view document metadata as you browse.

Viewing documents

The default document-viewing behavior of BI launch pad has changed. How you view an object can affect what is displayed:

- If you view a dynamic content document (for example, a Crystal report or an interactive analysis document) by double-clicking the object in the List panel, the latest instance of the document opens. If the latest instance is unavailable, the object itself opens.
- If you view an object by clicking **View > View**, the object opens.
- If you click **View > View Latest Instance**, the latest object instance opens.
- If you view a publication or program object, BI launch pad displays the object properties if the latest instance is unavailable.

Platform Search

Platform Search functionality and performance have improved in this release. When you type the text that you want to locate in the Search field in the toolbar, "quick search" functionality shows the top six results sorted by relevance as you type. Search goes through the metadata and content of documents

that are found in the repository and in Explorer. You can also use advanced syntax such as Boolean, phrase, and attribute values in your search.

When you run your search, your results are listed in the **Search** drawer and sorted by facet. These facets group your results together by InfoObject metadata, document metadata, and document content.

Alerting

Alerting is a feature that spans different applications and is used to notify users and administrators when events are triggered. In SAP BusinessObjects Enterprise, users and administrators can subscribe to alerts for system, file, or custom events. Reports created in SAP Crystal Reports for Enterprise which contain alerts also support Alerting. When the events or report alerts are triggered, notifications are sent to the subscribers' email addresses or a BI system destination (for example, a BI launch pad account).

SAP Business Explorer Web applications

In this release, you can integrate Business Explorer Web applications with BI launch pad. These applications are Web-based applications from the Business Explorer (BEx) of SAP NetWeaver Business Warehouse (BW) for data analysis, reporting, and analytical applications on the web. You can open the BEx Web applications in BI launch pad, navigate in the data and save the BEx Web applications as bookmarks in the web browser favorites.

For more information about BI launch pad, see the *BI Launch Pad Help* or the *BI Launch Pad User's Guide* available on the SAP Help Portal at <http://help.sap.com>.

6.3.3 BI workspaces

This section provides a high-level overview of the components and features provided in the latest release of BI workspaces for SAP BusinessObjects Enterprise XI 4.0. The term Dashboard Builder has been rebranded to BI workspaces in this release, and it provides the following features:

Simplified workflows for creating BI workspaces

- You can create, design, and manage BI workspaces more easily.
- Enhanced Save, Save As, and Open workflows allow you to store BI workspaces in public or personal folders.
- The legacy workspace creation objects, such as My InfoView, My Dashboard, and Corporate dashboards have been migrated into a single object called a BI workspace.

Enhanced BI workspace interface

- "Module Library" improvements.
- New advanced search option in "Module Library".
- Docking option for "Module Library".
- Improved BI workspace toolbar and topbar.

Note:

The improved toolbar provides various options for you to create, edit, and save a BI workspace through multiple tab editing and save option at the BI workspace level.

Improved user experience to work with BI workspaces

- The drop-down menu on the toolbar allows you to view and scroll through the complete list of tabs and sub tabs.
- The column layout mode allows you to resize columns.

Note:

Until the previous release, the column width of a BI workspace was set automatically. You can now resize these columns.

- The Multiple Navigation List option allows you to create more than one navigation list per page.
- View latest instance or recently viewed documents option allows you to access your recently viewed documents easily.
- Multilingual support enables you to create and manage BI workspaces in more than one language.
- You can create and manage modules with separate workflows.
- openDocument URL links enable easy navigation.

Improved monitoring, management and deployment of BI workspaces

- Close integration with SAP BusinessObjects Enterprise Central Management Console (CMC) for security features.
- Improved security features for viewing and editing BI workspaces through the CMC.
- Auditing for BI workspaces through CMC.
- Automatic migration of BI workspaces from previous releases using the upgrade management tool.
- Multiple logs to track access.
- Supportability for SAP BusinessObjects Enterprise end-to-end tracing and enhanced performance.

Seamless connectivity to reports through advanced content linking

- Content Linking: The interportlet communication enables you to perform advanced visual granular linking of various source and target data types. You can enable the source Dashboard Design or Interactive Analysis component to target prompts and filters within target Dashboard Design, Crystal Reports, or Interactive Analysis documents on composite BI workspaces.
- Granular mapping: You can view the data used in Dashboard Design, Interactive Analysis, and other related data types as visual representations. The data that can be linked in the source and target modules is automatically mapped and presented visually.

Related documentation

For more information about BI workspaces for SAP BusinessObjects Enterprise XI 4.0, see the *Getting Started Creating BI Workspaces Guide* or *SAP BusinessObjects Enterprise BI Workspaces User's Guide XI 4.0*.

6.3.4 Dashboard Design

SAP BusinessObjects Dashboard Design (formerly called Xcelsius) contains new features and enhancements that are focused on improving productivity and direct enterprise data connectivity. These features and enhancements include new and updated support for SAP BusinessObjects Universe queries and integration with SAP BusinessObjects Enterprise.

Dashboard Design caching and processing servers

A new data processing layer is available for enterprise data connectivity and is designed to address the scalability and performance requirements of large scale dashboarding deployments. It includes two new servers: a Dashboard Design Cache Server and a Dashboard Processing Server. The Dashboard Design Cache Server provides data caching and sharing on consistent data models (Relational Universe queries) off the Semantic Layer, and the Dashboard Processing Server manages query processing requests. Both servers are integrated into standard BI Platform services including auditing and monitoring.

Query Panel

A new Query Panel is available for creating Universe-based queries in Dashboard Design. To define a query, you can now drag relational universe objects, dimensions, and measures from the Query Panel to the canvas. You can also define the order that result objects are returned by the query, the data sort order, query filters, and single- or multi-selection prompts. The Query Panel also provides a data preview of the query.

Query Browser Panel

The new Query Browser Panel displays a summary view of result objects, filters, and prompts included in the model and provides quick access to the Query Panel for creating and editing queries. You can also refresh queries from the Query Browser to update query data that is bound to components. When you drag a query from the Query Browser Panel to the canvas, a Prompt Selector component is automatically added to the model.

Direct data binding

In Dashboard Design, you can now bind data from query result objects directly to charts and selectors. When data is bound directly to charts and selectors, the component displays a preview of the query data on the canvas in design time.

Universe Connectivity components

The Components Browser contains a new Universe Connectivity category dedicated to query data connections. The Universe Connectivity category contains two new components: Query Prompt Selector and Query Refresh Button.

The Query Prompt Selector component automatically handles prompt value selection behavior based on the metadata for the query prompt. The Query Prompt Selector component is available in three styles:

- Single value
- Single or multiple selection with List of Values

- Single or multiple selection with cascading List of Values

If the prompt includes a list of values, the Query Prompt Selector component allows users to search for or browse through the list at runtime and also select whether the values are shown or hidden in the model.

The Query Refresh Button component allows users to request a refresh of the query data from within the model at runtime.

Regional Data Format by User Preferred Viewing Locale

Data formatting controls how data, such as dates, times, currency, and numeric values, is presented to users. In previous versions of the product, the data format was determined by the locale set when the model was created. Dashboard Design now allows models to format their data using dynamic regional data formats, which means that the format can be changed automatically to match the end user's preferred viewing locale.

You do not need to do anything to configure regional data formatting. When Dashboard Design models are saved on the platform, the model automatically adjusts its data format settings to match the preferred viewing locale set in BI launch pad.

Text translation

In Dashboard Design, most text contained in models published to the platform can be translated to other languages through the Translation Manager.

When a model is saved to the platform, the translation workflow is enabled and translation experts translate the text used in the model. The text translations are then published to the platform and combined with the model to create localized versions of the model.

At runtime, user's see the localized version that matches their preferred viewing locale.

The following text in Dashboard Design models can be translated:

- Most text input including titles, subtitles, series names, category names, and so on.
- Data in Excel ranges that are marked as translatable by the model designer.

Dashboard Design objects

Dashboard Design introduces a new object type in SAP BusinessObjects Enterprise. Previous versions of the software required two objects: an Xcelsius object for working with the model in the designer, and a Flash object for running the model. The new Dashboard Design object holds both the design document (XLF) and the Flash file (SWF) in a single object.

If the object is opened in Dashboard Design and modified or changed through the Translation Manager, the SWF cached in the Dashboard Design object is automatically updated to reflect the changes. Model designers do not need to re-export the Flash object separately for users to receive the latest changes.

Dashboard Design objects support object-level security. For example, system administrators can set the user rights to block certain users or user groups from modifying or even viewing the dashboard.

For models that have Universe query connections, system administrators can specify preferred server groups for query caching and processing. Object-level caching options override server-level settings, so system administrators can allocate resources and adjust processing settings to accommodate individual model requirements.

Lifecycle Management of Dashboard Design objects

To integrate with Lifecycle Management support in SAP BusinessObjects Enterprise XI 4.0, the new Dashboard Design object maintains relationship and dependency information, including the model's:

- relationship with Universe queries
- dependency on QaaWS and Universe objects in QaaWS connections
- dependencies on corresponding Crystal reports, Interactive Analysis documents, and Universe objects in Live Office connections

With integration to Lifecycle Management tools, system administrators can check dependency information for Dashboard Design objects and make sure all dependent objects are promoted together.

Dashboard Design models access SAP BusinessObjects Enterprise data through a Web Services connection. If the model is migrated to a different location, such as from a testing system to a production environment, the Web Services URL might change. To support this scenario, Dashboard Design models accept dynamic Web Services URLs at runtime. BI launch pad and the CMC retrieve the Web Services URL from the Web Services application object for the Web Services connection.

6.3.5 Explorer

SAP BusinessObjects Explorer is a data discovery application that allows you to retrieve answers to your business questions from corporate data quickly and directly. You use a powerful search engine to find relevant data that is held within consistent and meaningful datasets known as Information Spaces.

Integration with BI launch pad

SAP BusinessObjects Explorer is installed as an add-on to SAP BusinessObjects Enterprise XI 4.0.

You launch SAP BusinessObjects Explorer from within the BI Launch pad. You can launch the Explorer as application or you can open and explore an Information Space directly from the BI launch pad document list on the Documents tab.

Server integration in the CMS

The Explorer servers are fully integrated in the SAP BusinessObjects Enterprise XI CMS. You can now manage Explorer server administration tasks such as auditing, monitoring, and the integration into Solution Manager Diagnostics in the same way as any other server in the CMS. See the SAP BusinessObjects Enterprise Administrator's Guide for information on managing the following metrics:

- Number of users currently logged-in
- Number of indexations in progress
- Number of replications in progress
- Exploration response time
- Search response time
- Information space opening response time

Data source support

SAP BusinessObjects Explorer allows you to access the following data sources in this release:

- Universes in the format .UNX (relational sources only)
- Excel files (average aggregation method added)

Keyboard accessibility

SAP BusinessObjects Explorer now provides keyboard accessibility for users who use the keyboard to navigate in the application. Keyboard access is always available to all users and does not require special installation or settings.

Note:

In this version of Explorer, exploration is keyboard accessible, however Information Space management is not.

6.3.6 Interactive Analysis

6.3.6.1 SAP BusinessObjects Interactive Analysis

SAP BusinessObjects Interactive Analysis (formerly Web Intelligence) is a query, reporting and analysis tool used to build reports from relational and OLAP data sources and to analyze data using features such as filters, conditional formatting and data tracking.

6.3.6.1.1 Hierarchical data

You can now build queries and perform analysis on data organized hierarchically using the following report objects - analysis dimensions, hierarchies, levels, attributes, named sets and calculated members. In queries, you can select data members from a hierarchy explicitly or by using functions.

You can explore hierarchical data in reports by expanding and collapsing hierarchy members, and measures are calculated according to their position in the hierarchy. All existing features (for example, sorts, data synchronization, and breaks) work with hierarchical objects.

6.3.6.1.2 New data sources

You can now build queries on the following data sources:

- Universes in the new (UNX) universe format.

Note:

Using universes, you can access data from relational and OLAP data sources.

- SAP InfoCubes using BEx queries.
- Advanced Analysis workspaces.

UNX universes

Universes with the new UNX file extension are created using the Information Design Tool, new in SAP BusinessObjects XI 4.0. You use them to access data from relational and OLAP data sources. (You can also access relational and OLAP data using legacy UNV universes.)

SAP Info Cubes using BEx queries

When you access the data in SAP InfoCubes using BEx queries, SAP BusinessObjects Interactive Analysis presents its data as standard universe objects such as hierarchies, levels, and dimensions in the Query Panel. You build a BEx query in the same way as you build a query on a universe.

Advanced Analysis workspaces

You can build queries on Analysis Views exported from SAP BusinessObjects Advanced Analysis. Analysis Views appear in the Query Panel as standard universe objects.

6.3.6.1.3 Re-designed interface

The SAP BusinessObjects Interactive Analysis interface now provides greater UI consistency between the Java and Web interfaces (formerly the Java Report Panel and Web Intelligence Interactive), and with other BI Client tools such as SAP Crystal Reports for Enterprise and SAP BusinessObjects Advanced Analysis.

6.3.6.1.4 Enhanced copy and paste

You can copy queries, variables, tables and charts from one document to another. When you copy an object, all its dependent objects are copied. For example, all the queries, hierarchies, dimensions, measures and variables that supply data to a table are copied when the table is copied.

Tables and charts can be copied with or without formatting or data.

Enhanced copy and paste is available in the Java interface and in Interactive Analysis Desktop.

6.3.6.1.5 Default style

The default report style has been enhanced and provides additional control over formatting. It can define most formatting attributes of sections, tables, forms, table cells, section cells, free cells, headers, and footers. Existing documents can be updated with the new default style.

The default style is now stored in a cascading style in the folder `<installation_drive>\Program Files\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\images\WebiDefaultStyleSheet.css` on the server, or on the local machine in the case of Interactive Analysis Desktop.

6.3.6.1.6 Formula language

The formula language contains a set of new functions and operators that operate on hierarchical data. Some existing aggregation functions also accept sets of hierarchy members to provide the calculation context of a measure.

6.3.6.1.7 New charting capabilities

The following are the new charting capabilities introduced in this release:

New chart types

- Pie chart with depth
- Scatter charts
- Bubble charts
- Box plot
- Heat map
- Tree map

Support for hierarchical display

- Dedicated hierarchical charts (treemap)
- Visual display of hierarchies in axis labels
- Hierarchical levels are supported as feeds

New workflows for building charts

- No need to go to Structure Mode to feed a chart
- Charts displayed in gray when feeding is incomplete

Flexible visualization

- Bar and Line charts can share the same value axis
- Use of Measure Name Dimension allows new configurations (for example Measure Name as a category axis)
- Independent axis stacking allows definition of stacked bar and line charts
- More control in feeding (for example, associating a dimension to region shape in the scatter)
- Flexible measure type transformation (Bar, Line, Area)
- Possibility of stacking measures

Interactivity

- Tooltips
- Chart Rotation
- Chart areas are selectable for editing

Formatting

- Automatic adjustment of chart properties to the object size
- Quick formatting using the Toolbox (palette and style)
- Dialog box for advanced formatting
- More choices for display
 - Formulas in titles / axis scaling Min/Max values
 - More control on Data Values
 - More attractive bar types, more control on line and markers
 - Light and shadow effects
 - Transparency and gradients

- Legend items can be grouped by dimension
- Grid display of hierarchies or stacked dimensions
- Height and width of chart areas are adjustable (as an absolute or relative value) – allows better management of long axis labels

More display choices

- Formulas in titles / axis scaling Min/Max values
- More control of data values
- More attractive bar types, more control on line and markers
- Light and shadow effects
- Transparency and gradients
- Legend items can be grouped by dimension
- Grid display of hierarchies or stacked dimensions
- Adjustable height and width of chart areas (as absolute or relative values) to allow better management of long axis labels

6.3.6.2 Interactive Analysis Desktop

Interactive Analysis Desktop (also known as Web Intelligence Rich Client), is the desktop interface for SAP BusinessObjects Interactive Analysis.

In-repository editing

Interactive Analysis Desktop now allows you to edit documents directly while they are in the repository.

6.3.6.3 Personal Data Provider

Personal Data Provider provides the following new features:

Excel 2007 support for Personal Data Provider

Interactive Analysis Desktop supports creating interactive analysis documents using Excel 2007 as a data source.

Refreshing Interactive Analysis documents based on PDP/CDP data sources

You can refresh an interactive analysis document created from personal data providers such as text, Excel files, and from custom data providers such as Web Services from BI launch pad on all UNIX platforms. In previous release, this was possible only from the Windows platform.

Configuration and Deployment changes for CDP Framework Plug-ins

- In the previous release, the `webi_customds_extension.xml` configuration file was used for plug-in identification and loading. In XI 4.0, the configuration file is removed and the plug-in look-up and loading is done by parsing plug-in configuration file in the resource directory `META-INF/services` of the plug-in binary file. The name of the configuration file is a fully-qualified binary name of the plug-in's entry point implementation. The plug-in's class-path dependency is fetched from `MODULE-PATH` attribute in `META-INF/MANIFEST.MF` file of the plug-in binary. The other details of the plug-in are fetched from the implementation of the `CDSExtensionDescriptor` and `CDSExtensionBaseDescriptor` interfaces.
- In the previous release, you could deploy plug-in binaries in any location. In XI 4.0, you must deploy the plug-in binaries in `<SAP_BOBJ_INST_DIR>\SAP BusinessObjects Enterprise XI 4.0\java\lib\PersonalDPPlugins` folder.
- In the previous release, it was not necessary to have the User Interface entry point implementation. The default User Interface implementation was provided if the plug-in had entries in the configuration file for the Data Provider Source entry point. In XI 4.0, the User Interface entry point implementation is mandatory.

6.3.7 Live Office

Live Office Panel for Microsoft Outlook

In Microsoft Outlook, a new Live Office Panel allows users to access BI content directly from email messages. From within the panel, users can search for content, associate files with email threads, and add documents to a favorites list. Based on this information, the Live Office Panel also suggests documents that might be relevant to the email message.

The Live Office Panel supports the following document types for Search, Associate, Add to favorites, Suggest, and Insert as Live Office object:

- SAP Crystal Reports 2011
- SAP BusinessObjects Interactive Analysis
- Universe queries

The following document types are supported for Search, Associate, Add to favorites, and Suggest. They cannot be inserted as Live Office objects:

- Dashboard Design
- Microsoft Office (2003 and 2007)
- Adobe Acrobat (PDF) version 8 and 9
- Info Spaces
- BI Workspace
- Object Package
- Flash
- TXT
- RTF

Enhanced performance in Microsoft Excel

Users can insert Live Office objects into Microsoft Excel documents easily.

Auditing events included SAP BusinessObjects Enterprise

Refresh and prompt selection events from Live Office are now recorded in SAP BusinessObjects Enterprise auditing. (Event type IDs 10,700-10,799). Live Office create, delete, modify, logon, and logoff events are recorded as CMS events with the same name. For more information about auditing in SAP BusinessObjects Enterprise, see the “Monitoring” section in the *SAP BusinessObjects Enterprise Administrator's Guide*.

Explore Excel Data

In Microsoft Excel, users can easily upload data to SAP BusinessObjects Explorer Premium edition and use the visualization and search functionality to examine the data in selected areas or complete Excel worksheets. They can then download the results (data and visualizations) to use in other applications such as Word, Excel, PowerPoint, and Outlook.

6.3.8 The translation management tool

Translatable resource types

You can now translate the following resources:

Resource type	Description
Web Intelligence reports	Stored locally or in the CMS repository
Universes created by the universe design tool	Stored locally or in the CMS repository
Data Foundations or Business Layers created with the information design tool	Stored locally or in the Shared Projects folder of the CMS repository
Crystal Reports documents	Stored in the CMS repository
Dashboards created with Dashboard Design documents	Stored in the CMS repository
Workspaces created with BI workspace and most InfoObjects	Stored in the CMS repository

XLIFF status

The translation management tool supports the following XLIFF statuses:

Category	XLIFF status	Description
Needs Translation (This content is not displayed to the end-user)	NEW	Indicates that the content is new. For example, content that was added to or edited in a previously translated document.
	NEEDS_TRANSLATION	Indicates that the content needs to be translated.
	NEEDS_ADAPTATION	Indicates only non-textual information needs adaptation.
	NEEDS_L10N	Indicates text needs translation and non-textual information needs adaptation.
Translation Visible (This content can be displayed to the end-user)	NEEDS_REVIEW_ADAPTATION	Indicates only non-textual information needs review.
	NEEDS_REVIEW_L10N	Indicates translation and adaptation of non-textual content needs review.
	NEEDS_REVIEW_TRANSLATION	Indicates that translated content needs to be reviewed.
	TRANSLATED	Indicates that the content has been translated.
	SIGNED_OFF	Indicates that changes are reviewed and approved.
	FINAL	Indicates the terminating state.

Concurrent translation

With concurrent translation, you can manage the translation of a document into different languages at the same time.

In order to allow several translators to work in parallel on the same document, but on different languages, the management of locale publication has been improved.

The translation management tool exports the following locales:

- Locales that have been added by the translators with the translation management tool (the locale is added to the resource).

- Locales that have been modified by the translator with the translation management tool (the locale is updated if there are no synchronization issues).

XLIFF file format compatibility

The translation management tool follows XLIFF specification version 1.2.

Translating standalone resources

In standalone mode, you can work without connection to the repository. To do this, the content to translate must be stored locally.

Translating resources stored in the repository

You can translate objects stored in the repository. To do this, you must have the rights to translate the objects, and you must authenticate with the CMS before translating.

Safe publish

The tool verifies the content of a document you have edited with the previous version and ensures that work is not lost when the document is published to the original location.

Managing objects and translation versions

The tool compares the translated document with the original source document to detect any changes that might have been made to the source document.

When the translation management tool retrieves translatable properties from a source, the source is not locked. If the source changes during translation, when the tool exports the new translation to the source, checks are performed to validate the synchronization and consistency between the source and the translated document.

When inconsistencies are found, the tool provides three options:

- Update the content stored in the translation management tool with the source (recommended).
- Cancel the whole export. In this case, nothing is done. There is no change in the metadata opened in the translation management tool, and no change in the source.
- Force the export of the translated strings.

Publishing a single locale

You can publish one locale at a time. This enables translators to submit their work at any time.

6.3.9 The Universe Design Tool

Universe Design Tool API

The following classes and methods are new or modified in the Universe Design Tool API:

- New or modified classes: CustomLoVDP, CustomLoVObject, CustomLoVObjects, CustomLoVQueries, CustomLoVQuery.
- New or modified methods: CustomLoVDP method of the ListofValues Class.

- Updated Object Model diagrams: New diagram "Classes and Objects 3 of 3".

Refer to the *Universe Design Tool API reference* online help, and the *Universe Design Tool OMD* .pdf document for detailed information.

Connection folder management

The Universe Design Tool interface has been updated to manage connection folders. In any location where a secured connection is displayed or managed, the corresponding connection folders are displayed.

6.3.10 Report Conversion Tool

The Report Conversion Tool supports the following new features:

Fit to Page

In the Page setup options, you can apply the Fit to page feature to your Interactive analysis report in Page layout mode.

If you apply Fit to page feature to your Desktop Intelligence report and convert it to Interactive analysis report using Report Conversion Tool, the report is fully converted and the Fit to page feature is available in your Interactive analysis report.

Note:

- If page size values entered is below 10 percent or above 400 percent, after conversion, Report Conversion Tool will adjust the page size to 100 percent since the valid value for scaling in Interactive analysis is from 10 percent to 400 percent.
- If Fit to page and margins are applied to your Desktop Intelligence report, then, during conversion, Report Conversion Tool will set the margin values to the default values in your Interactive analysis report.

Fold or Unfold

You can view or apply the Fold or Unfold feature in Outline view.

After conversion of your Desktop Intelligence report to Interactive analysis report using Report Conversion Tool, the folded sections, tables, crosstabs, and breaks will be unfolded in Interactive analysis report. You can then fold them manually. The conversion status is Fully converted since Fold/Unfold feature is supported in Interactive analysis.

Show Hide/Unhide

Using the Show/ Hide feature, you can hide sections, tables, cross tables, charts, cells, dimensions, and measures to your Desktop Intelligence report. You can also hide these through conditions.

After conversion of your Desktop Intelligence report to Interactive analysis report using Report Conversion Tool, the objects that are hidden in your Desktop intelligence report will also be hidden in your Interactive analysis report. The conversion status is Fully converted since Show/Hide feature is supported in Interactive analysis.

Note:

Hiding Measure in Desktop Intelligence report will remove Measures from the Interactive analysis report after conversion using Report Conversion Tool. However, the object is available under the Data tab in the left pane of your Interactive analysis report and you can drag-drop this object to your report to view the values in the table.

Query on Query

After conversion of your Desktop Intelligence report to Interactive analysis report using Report Conversion Tool, the Query on Query feature applied to your Desktop intelligence report will be reflected in the converted Interactive analysis report. The conversion status is Fully converted since Query on query feature is supported in Interactive analysis. Query on query in Interactive analysis supports the following operators:

- InList / NotInList
- EqualTo
- NotEqualTo
- GreaterThan
- GreaterThanOrEqualTo
- LessThan
- LessThanOrEqualTo

The other operators apart from the operators listed above, do not support Query on query in Interactive analysis.

6.3.11 SAP BusinessObjects Mobile

SAP BusinessObjects Mobile XI 4.0 provides the following new functionalities:

Mobile documents on "Home" page

When you log onto a mobile application, SAP BusinessObjects Mobile displays the home page containing the list of documents that can be opened on your mobile device. This reduces the number of clicks required to access documents each time you log on.

For more information about the mobile category and SAP BusinessObjects Mobile "Home" page, see the *Mobile category and document access* section in the *SAP BusinessObjects Mobile Installation and Deployment guide*.

Searching BI documents

SAP BusinessObjects Mobile allows you to search BI documents in the Enterprise Repository. It provides quick and easy access to BI documents.

For more information about searching BI documents from a mobile device, see the *Searching documents* section in the *Using SAP BusinessObjects Mobile* guide.

Mobile Server Configuration Tool

Mobile Server Configuration Tool is a wizard that simplifies the configuration of the Mobile server. In addition, it enables administrators to edit previously-selected Mobile server parameters without manually editing any of the configuration files.

For more information about the Mobile Server Configuration Tool, see the *SAP BusinessObjects Mobile Installation and Deployment guide*.

SAP BusinessObjects Mobile installation package

SAP BusinessObjects Mobile XI 4.0 is delivered as part of the SAP BusinessObjects Enterprise installation package by default. However, we recommend that you install SAP BusinessObjects Mobile on a dedicated server for optimum performance. To install SAP BusinessObjects Mobile on a dedicated server, you must use the **Custom** installation option.

For custom installation instructions, see the *Installing the SAP BusinessObjects Mobile server* section in the *SAP BusinessObjects Mobile Installation and Deployment guide*.

Sending a link of the BI document by email

You can send the URL of the BI document by email and the recipient can open the document on his or her desktop browser by accessing the openDocument URL in the e-mail body.

For more information about sending the URL of the BI document by e-mail, see the *SAP BusinessObjects Mobile User Guide* guide.

Mobile rights for users and groups

SAP BusinessObjects Mobile supports the following application rights for selected users and groups:

Right	Description
Log on to SAP BusinessObjects Mobile application	Grants access to log into SAP BusinessObjects Enterprise through the mobile application and view documents
Subscribe to document alerts	Grants access for subscribing to document or recurrence alerts
Save documents to the device's localstore	Grants access for saving documents on the mobile device
Send documents from device as an e-mail	Grants access for sending reports by e-mail

For more information about mobile rights, see the *SAP BusinessObjects Mobile Installation and Deployment guide*.

CVOM support

SAP BusinessObjects Mobile supports viewing CVOM-based charts.

Embedding multiple local actions in a particular cell in the report

You can embed multiple local actions in a particular cell in the report, thus enabling users to perform several actions on the cell content. You can simultaneously embed "phoneto", "smsto", and "mailto"

local actions in the cell content, and the mobile client displays a contextual menu with call, sms, and email local actions.

For more information, see the *Designing BI documents for Mobile Users* guide.

Single-click support for touch-based smart phones

With touchscreen smart phones, you can open the document or folder or report with a single click on its title.

New local actions: elookup and plookup

SAP BusinessObjects Mobile provides the following new local actions:

Action	Description
elookup	Allows you to retrieve an email address from the address book
plookup	Allows you to retrieve a phone number from the device address book

For more information about commands and syntax, see the *Designing BI documents for Mobile Users* guide.

Managing Mobile servers in the Central Configuration Manager (CCM)

SAP BusinessObjects Mobile enables you to start or stop Mobile servers using the CCM.

Enhanced preconfiguration support

You can configure the mobile client application with connection settings details (such as Mobile server, VAS port number, CMS name, and the authentication type) before deploying the client on the device. This eliminates the need for setting connection settings manually.

For more information, see the *Preconfiguring mobile client application with connection settings details* section in the *SAP BusinessObjects Mobile Installation and Deployment guide*.

Enhanced platform support

SAP BusinessObjects Mobile supports the following client platforms:

- BlackBerry: BlackBerry OS 4.2.1, 4.3, 4.5, 4.6, and 4.7
- Symbian: S60 3rd Edition and 5th Edition
- Windows Mobile: Windows Mobile 6.0 and 6.1

For more information about supported platform and databases, see the Products Availability Report at: <http://service.sap.com/bosap-support>

6.3.12 Widgets for SAP BusinessObjects Enterprise

The Widgets for SAP BusinessObjects Enterprise component provides the following new features and enhancements.

6.3.12.1 Widgets with SAP BusinessObjects Interactive Analysis content

Copy content from Interactive Analysis widgets

After creating a widget from SAP BusinessObjects Interactive Analysis content, users can now copy tables or charts from the widget and paste them into Microsoft Office applications (Excel, Word, PowerPoint, Outlook).

Modify prompt values for Interactive Analysis widgets

For widgets created from SAP BusinessObjects Interactive Analysis data, users can view the current prompt values, modify those values, and refresh the widget using the new prompt values.

Active hyperlinks from Interactive Analysis widgets

If widgets based on SAP BusinessObjects Interactive Analysis data contain hyperlinks, users can now click the hyperlinks to access the target sites in a new browser window.

6.3.12.2 Widgets with SAP Web Dynpro content

Access to Web Dynpro applications

Widgets for SAP BusinessObjects Enterprise can now connect to SAP NetWeaver Application Servers and retrieve applications created in Web Dynpro and registered as widgets. These applications can then be added to the desktop as widgets.

Connect to both SAP BusinessObjects Enterprise and SAP NetWeaver Application Servers

In addition to connecting to SAP BusinessObjects Enterprise repositories, widgets can now connect to SAP NetWeaver Application Servers and create desktop widgets based on data from either system. Widgets can connect to both systems at the same time and even have multiple, simultaneous connections to each system.

Execute SAP business transactions from widgets

Widgets can now connect directly to SAP transactional systems. Rather than just reviewing analytical data, users can take direct action from within widgets, such as creating requisitions from the data, for example: e-recruiting.

Customizable widgets

Users can customize widgets to suit their personal preferences without affecting the source application. They can show or hide tables, columns, or Web Dynpro controls, and they can define a data refresh schedule. These changes are maintained for the user even if they close the widget.

Create visual representations of data

Widgets now allows users to easily create visual representations of table data. Users select the data they want to include, choose a chart type, and click **Visualize** to transform the selected data into a chart.

View data in the portal

Users can easily navigate to the portal or original Web Dynpro application in the browser to access additional features and functions for working with the data.

6.4 SAP Crystal Reports

6.4.1 SAP Crystal Reports for Enterprise

SAP Crystal Reports for Enterprise is a newly designed version of the Crystal Reports designer. The objectives of the SAP Crystal Reports for Enterprise solution are to streamline the report creation process, provide significantly better support for the SAP BusinessObjects Semantic Layer, and to take advantage of better connectivity to SAP BW. In addition, there are a few new features which customers can use to leverage the SAP BusinessObjects platform in its Enterprise, Edge, or Crystal Reports Server form.

It is important to understand that there are a few significant differences between the initial version of SAP Crystal Reports for Enterprise and SAP Crystal Reports 2008 / 2011. These gaps should be understood clearly and taken into consideration before you decide whether to leverage SAP Crystal Reports for Enterprise as your reporting solution. Another document will be made available which clearly defines these differences and how you can decide which version to leverage now and in the future.

Note:

The new SAP BusinessObjects Enterprise platform will be able to process both SAP Crystal Reports 2011 and SAP Crystal Reports for Enterprise reports.

New streamlined interface

SAP Crystal Reports for Enterprise offers a streamlined interface which allows you to quickly deliver reports to your users with a reduced amount of effort.

- New and existing users will benefit from the new tabbed organization of report design features. Upon opening the designer, users will see three tabs - Insert, Format, and Data. Under each of these tabs is a series of buttons which provide features specific to the tab selected.
- Insert and manage report components like totals, groups, and sorts using a reduced number of clicks.

- Insert and design charts with minimal effort using the new chart design UI which consists of a single window for chart creation that overlays the chart preview. This way, you can see what the chart will look like as you are designing it.
- Easily modify the layout of objects in a report using the new Smart Guidelines feature which allows for simple resizing and reordering of columns of objects.
- Create and maintain reports more easily with smart default formatting: when a new object is inserted into the report the SAP Crystal Reports for Enterprise designer will detect how other similar objects in the report are formatted, and apply the same formatting to the newly inserted object.
- The designer will now attempt to warn you of potential report design flaws by leveraging information available in the Common Semantic Layer. For example, you will see a warning message if you try to apply an incorrect aggregation to a measure object in your report.

The new Common Semantic Layer

Create beautiful and compelling reports which leverage the new SAP BusinessObjects Common Semantic Layer and the improved connectivity to SAP BW.

- Using the new query panel, which is common to multiple SAP BusinessObjects client tools, you can drag and drop objects to create a query which can be used to build your reports.
- The new Common Semantic Layer is hierarchy aware, which means that you can continue to build highly formatted reports against hierarchical sources.
- Another benefit of the new Common Semantic Layer is that it sits on top of multiple sources of data. This means that you can continue to build reports which combine data from multiple sources while leveraging the benefits of the semantic layer.
- When opening an existing report built in a version prior to SAP Crystal Reports for Enterprise XI 4.0, a wizard is provided which will walk you through the process of connecting your existing report to the new semantic layer as a data source.
- Leveraging new technology available to the SAP BusinessObjects Enterprise Suite, you can now provide suite consistent access to both SAP InfoCubes and InfoQueries.
 - From SAP Crystal Reports you can connect directly to an SAP BEx query using the SAP BICS connectivity. This connection is managed by the platform.
 - You can also access SAP BW InfoCubes from SAP Crystal Reports by connecting to a Universe which is created for the InfoCube.

Multiple improvements to the platform

Take advantage of the improvements across the platform to effectively deliver reports which allow your users to get the information they need, when they need it.

- Perform OLAP analysis using the new Advanced Analysis client and then format your analysis for information distribution and mass consumption. Once you have completed your analysis in Advanced Analysis, you can save your work and then create a Crystal Report from your analysis.
- Build on the multi-lingual capabilities already offered by Crystal Reports and go further by further translating all text-based elements (i.e., prompts, tool tips, any text element, and so on). In addition, all translations can be managed and scheduled at the platform level by the Translation Management tool.
- Deliver information to your users only when they need to see it by leveraging alerts hosted by the SAP BusinessObjects Enterprise platform. Your users manage their alert subscriptions on their own thus reducing management overhead on your report designers.

- Take advantage of the power of 64-bit architecture for your enterprise reporting deployment. The new SAP BusinessObjects Enterprise platform is 64-bit native.
- Use the SAP BusinessObjects Lifecycle Manager to carry your BI content from development to QA to production all from a single tool.

6.4.2 SAP Crystal Reports 2011

SAP Crystal Reports 2011 continues to build on the powerful reporting features and success of Crystal Reports 2008 while also providing new features of specific interest to standalone report designers and application developers. Using the new read-only report format and export to XSLX features you can continue leveraging those features from Crystal Reports 2008 which you have become familiar with, while providing access to your reports in new ways. Through our integration with Visual Studio 2010, application developers can update their applications to the new features available from Microsoft while continuing to embed the flexible and interactive reporting features of Crystal Reports.

The new read-only format

Leverage the new read-only Crystal Report format to protect your investment and secure your intellectual property within your reports.

- Protect the investments made in the design of your reports by leveraging the new read-only report format. This is useful for standalone report designers and application developers who want to distribute their reports without worrying about them being modified after distribution.
- Export your reports to the read-only report format (RPTR) from SAP Crystal Reports 2011.
- The reports are no longer able to be opened in the Crystal Reports designer and are only accessible from the viewer.

Export reports to the Excel 2007 workbook

Export your reports to the Microsoft Excel 2007 workbook format from either the designer or the viewer.

- Export your reports to the new Microsoft Open XML Excel format which allows for smaller overall Excel files via the Office 2007 compression technology.
- Leverage the new XSLX format to export up to 1 million rows from a Crystal Report.
- Export to a Microsoft Excel 2007 (XLSX) workbook from a Crystal Report through the designer or the viewer.

Build custom applications using Crystal Reports for Visual Studio

Continue to build custom applications which embed Crystal Reports content using Crystal Reports for Visual Studio.

- The Crystal Reports integration with Visual Studio has now been made a separate product from the core Crystal Reports product. As such, it is available as a separate download which is installed on top of Visual Studio. This allows SAP to better serve the needs of the Visual Studio developer market and ensures that we have the flexibility to deliver the features that developers find valuable.

6.4.3 SAP Crystal Reports viewer 2011

The SAP Crystal Reports Viewer has been updated to ensure that it has the necessary features to display and interact with content created by both SAP Crystal Reports for Enterprise and SAP Crystal Reports 2011.

Key New Features

- Enhanced print dialog for Windows clients.
- Can open reports built in either SAP Crystal Reports for Enterprise or SAP Crystal Reports 2011.
- Breadcrumbs, the navigation path, is now located at the top of the report rather than in the status bar.
- Export your reports to Microsoft Excel 2007 workbook format directly from the viewer.

More Information

Information Resource	Location
SAP BusinessObjects product information	http://www.sap.com
SAP Help Portal	<p>Navigate to http://help.sap.com/businessobjects and on the "SAP BusinessObjects Overview" side panel click All Products.</p> <p>You can access the most up-to-date documentation covering all SAP BusinessObjects products and their deployment at the SAP Help Portal. You can download PDF versions or installable HTML libraries.</p> <p>Certain guides are stored on the SAP Service Marketplace and are not available from the SAP Help Portal. These guides are listed on the Help Portal accompanied by a link to the SAP Service Marketplace. Customers with a maintenance agreement have an authorized user ID to access this site. To obtain an ID, contact your customer support representative.</p>
SAP Service Marketplace	<p>http://service.sap.com/bosap-support > Documentation</p> <ul style="list-style-type: none"> • Installation guides: https://service.sap.com/bosap-instguides • Release notes: http://service.sap.com/releasenotes <p>The SAP Service Marketplace stores certain installation guides, upgrade and migration guides, deployment guides, release notes and Supported Platforms documents. Customers with a maintenance agreement have an authorized user ID to access this site. Contact your customer support representative to obtain an ID. If you are redirected to the SAP Service Marketplace from the SAP Help Portal, use the menu in the navigation pane on the left to locate the category containing the documentation you want to access.</p>
Docupedia	<p>https://cw.sdn.sap.com/cw/community/docupedia</p> <p>Docupedia provides additional documentation resources, a collaborative authoring environment, and an interactive feedback channel.</p>
Developer resources	<p>https://boc.sdn.sap.com/</p> <p>https://www.sdn.sap.com/irj/sdn/businessobjects-sdklibrary</p>

Information Resource	Location
SAP BusinessObjects articles on the SAP Community Network	https://www.sdn.sap.com/irj/boc/businessobjects-articles These articles were formerly known as technical papers.
Notes	https://service.sap.com/notes These notes were formerly known as Knowledge Base articles.
Forums on the SAP Community Network	https://www.sdn.sap.com/irj/scn/forums
Training	http://www.sap.com/services/education From traditional classroom learning to targeted e-learning seminars, we can offer a training package to suit your learning needs and preferred learning style.
Online customer support	http://service.sap.com/bosap-support The SAP Support Portal contains information about Customer Support programs and services. It also has links to a wide range of technical information and downloads. Customers with a maintenance agreement have an authorized user ID to access this site. To obtain an ID, contact your customer support representative.
Consulting	http://www.sap.com/services/bysubject/businessobjectsconsulting Consultants can accompany you from the initial analysis stage to the delivery of your deployment project. Expertise is available in topics such as relational and multidimensional databases, connectivity, database design tools, and customized embedding technology.