What's New
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1 About this document

The What’s New Guide for SAP BusinessObjects Business Intelligence Suite 4.0 provides a complete list of the new features and platforms for the SAP BusinessObjects Business Intelligence Suite available in the latest release. You can find information about all the new products and features that are supported in this release.
2 SAP BusinessObjects Business Intelligence Suite 4.0

2.1 Welcome to SAP BusinessObjects Business Intelligence platform 4.0

SAP BusinessObjects Business Intelligence platform 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 Business Intelligence platform 4.0 provides full web-based administration and configuration of the entire system.

SAP BusinessObjects Business Intelligence platform 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 Business Intelligence Suite to meet your evolving reporting needs, from providing web access to Web Intelligence, to improving SAP Crystal Reports interactivity and personalization.
- Facilitates migration from SAP BusinessObjects Enterprise 5.x and 6.x to SAP BusinessObjects Business Intelligence platform 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 Business Intelligence Suite 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 Business Intelligence Platform 4.0, Supported Platforms document, available on the SAP BusinessObjects Business Intelligence platform support section of the SAP Service Marketplace at: http://service.sap.com.

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

2.2 Installation and web application deployment

The following components are now integrated into the BI platform installation program, and no longer require a separate installation:
• Add-ons for Enterprise Resource Planning Systems
  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 Add-ons for Enterprise Resource Planning systems [page 16].

• Lifecycle management
  The Lifecycle Management Console is now included in BI platform and enables you to move 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 BI platform 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 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 BI platform.

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

  **Note**
  The SAP BusinessObjects Business Intelligence platform installation program no longer includes Client Tool components. To install Client Tools, use the dedicated SAP BusinessObjects Business Intelligence platform 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.
2.3 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 Business Intelligence platform licensing data.

2.4 New applications introduced in SAP BusinessObjects Business Intelligence Suite 4.0

2.4.1 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 Business Intelligence platform.

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.

2.4.2 Monitoring

Monitoring is a new tool in SAP BusinessObjects Business Intelligence platform 4.0. This application provides the ability to capture the runtime and historical metrics of SAP BusinessObjects Business Intelligence platform 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: the KPIs for monitoring activities and resources 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 platform 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 platform applications: the BI platform monitoring application can be integrated with other platform applications like SAP Solution Manager and IBM Tivoli.

2.4.3 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 Business Intelligence platform 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 4.0
• SAP Crystal Reports for enterprise 4.0
• SAP BusinessObjects Explorer 4.0
• SAP BusinessObjects Dashboard Design 4.0

Dimensional universes

The information design tool automatically generates OLAP universes for Microsoft Analysis Services 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 list 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 Business Intelligence platform 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 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 subfolders.

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 Analysis, edition for OLAP.

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.

2.5 New and modified features in existing SAP BusinessObjects Business Intelligence platform products

SAP BusinessObjects Business Intelligence platform 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 Business Intelligence platform 4.0.

2.5.1 Administration

2.5.1.1 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.
2.5.1.2 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 Business Intelligence platform, as follows:

- 32-bit Microsoft Windows
- 64-bit Microsoft Windows and UNIX flavors (Linux, 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 Business Intelligence platform also provides a 32-bit remote Connection Server to access data sources 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 data sources remotely. For more information, see the SAP BusinessObjects Business Intelligence Platform 4.0 Planning Guide.

New properties in the CMC

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

- Enable jobs and middleware tracing.
- Select the data sources 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 data sources 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 Business Intelligence platform 4.0 Administrator 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 Business Intelligence platform 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 Business Intelligence platform.
Documentation of stored procedure limitations

The Data Access layer does not support all stored procedures as data sources. 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 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 Business Intelligence platform 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 data sources. For more information, see the Data Access Connection Java SDK Developer Guide.

Data source support

For more information about data source support, see the Product Availability Matrix.

2.5.1.3 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.
2.5.1.4  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 Business Intelligence 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 Business Intelligence platform 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 Business Intelligence platform 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.

2.5.1.5  Add-ons for Enterprise Resource Planning systems

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

2.5.1.6  Licensing

A licensing model based on user roles has been introduced for SAP BusinessObjects Business Intelligence platform.

- 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.
2.5.1.7  Lifecycle Management Console

2.5.1.7.1  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.

2.5.1.7.2  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 Business Intelligence platform to another BI platform.

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

2.5.1.7.3  Override Settings

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

2.5.1.7.4  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.

2.5.1.8  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, Widgets for SAP BusinessObjects Business Intelligence platform 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.

### 2.5.1.9 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 Business Intelligence platform 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.
2.5.2 Developer Flexibility

2.5.2.1 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 Business Intelligence platform Java SDK, see the SAP BusinessObjects Business Intelligence platform Java SDK Developer Guide. This SDK includes the following enhancements:

- Support for alerting
- Support for data security
- 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 Business Intelligence platform Web Services Developer Guide.

2.5.3 End User Experience

2.5.3.1 SAP BusinessObjects Analysis, edition for OLAP

SAP BusinessObjects Analysis, edition for OLAP is the successor to SAP BusinessObjects Voyager and the premium alternative to SAP BEx Analyzer. 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 subanalysis independently from the main analysis.
- You can reorder members to make comparisons easier.

Sorting

You can sort by member names and values.

Search

SAP BusinessObjects 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). SAP BusinessObjects 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

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

Sharing

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

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 Business Intelligence platform, 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.

2.5.3.2 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 a Web Intelligence 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**, the object opens.
- If you click **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 Business Intelligence platform, 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 Guide available on the SAP Help Portal at http://help.sap.com.

2.5.3.3 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 Business Intelligence platform 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.

i 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 Business Intelligence platform 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 Business Intelligence platform 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 Web Intelligence component to target prompts and filters within target Dashboard Design, Crystal Reports, or Web Intelligence documents on composite BI workspaces.
• Granular mapping: You can view the data used in Dashboard Design, Web Intelligence, 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 Business Intelligence platform 4.0, see the Getting Started Creating BI Workspaces Guide or SAP BusinessObjects Business Intelligence Platform Workspaces User Guide.
2.5.3.4 Dashboard Design

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

Dashboard Design caching and processing servers

A new data processing layer is available for platform 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, users 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 Business Intelligence platform. 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 Business Intelligence platform 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, Web Intelligence 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 BI platform 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.

2.5.3.5 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 Business Intelligence platform 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 BI platform 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 Business Intelligence Platform Administrator 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.
2.5.3.6  Web Intelligence

2.5.3.6.1  SAP BusinessObjects Web Intelligence

SAP BusinessObjects 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.

2.5.3.6.1.1  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.

2.5.3.6.1.2  New data sources

You can now build queries on the following data sources:

- Universes in the new (UNX) universe format.

  i  Note

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

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

UNX universes

Universes with the new UNX file extension are created using the information design tool, new in SAP BusinessObjects Business Intelligence Suite 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 Web Intelligence 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.

SAP BusinessObjects Analysis workspaces

You can build queries on analysis views exported from SAP BusinessObjects Analysis. Analysis views appear in the query panel as standard universe objects.

2.5.3.6.1.3 Redesigned interface

The SAP BusinessObjects Web Intelligence 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 Analysis.

2.5.3.6.1.4 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 Web Intelligence Desktop.

2.5.3.6.1.5 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 Web Intelligence Desktop.
2.5.3.6.1.6 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.

2.5.3.6.1.7 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
2.5.3.6.2 Web Intelligence Desktop

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

In-repository editing

Web Intelligence Desktop now allows you to edit documents directly while they are in the repository.

2.5.3.6.3 Personal Data Provider

Personal Data Provider provides the following new features:

Excel 2007 support for Personal Data Provider

Web Intelligence Desktop supports creating Web Intelligence documents using Excel 2007 as a data source.

Refreshing Web Intelligence documents based on PDP/CDP data sources

You can refresh a Web Intelligence 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 releases, 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 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 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 4.0, the User Interface entry point implementation is mandatory.

2.5.3.7 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 Web Intelligence
- 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 in SAP BusinessObjects Business Intelligence platform

Refresh and prompt selection events from Live Office are now recorded in SAP BusinessObjects Business Intelligence platform 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 Business Intelligence platform, see the “Monitoring” section in the SAP BusinessObjects Business Intelligence Platform Administrator 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.

2.5.3.8 The translation management tool

Translatable resource types

You can now translate the following resources:

Table 1:

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

XLIFF status

The translation management tool supports the following XLIFF statuses:

Table 2:

<table>
<thead>
<tr>
<th>Category</th>
<th>XLIFF status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needs Translation (This content is not displayed to the end user)</td>
<td>NEW</td>
<td>Indicates that the content is new. For example, content that was added to or edited in a previously translated document.</td>
</tr>
<tr>
<td></td>
<td>NEEDS_TRANSLATION</td>
<td>Indicates that the content needs to be translated.</td>
</tr>
</tbody>
</table>
### 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.

2.5.3.9 SAP BusinessObjects Mobile

SAP BusinessObjects Mobile 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 BI platform 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 4.0 is delivered as part of the SAP BusinessObjects Business Intelligence platform 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 email body.

For more information about sending the URL of the BI document by email, see the SAP BusinessObjects Mobile User Guide.
Mobile rights for users and groups

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

<table>
<thead>
<tr>
<th>Right</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log on to SAP BusinessObjects Mobile application</td>
<td>Grants access to log into BI platform through the mobile application and view documents</td>
</tr>
<tr>
<td>Subscribe to document alerts</td>
<td>Grants access for subscribing to document or recurrence alerts</td>
</tr>
<tr>
<td>Save documents to the device’s localstore</td>
<td>Grants access for saving documents on the mobile device</td>
</tr>
<tr>
<td>Send documents from device as an e-mail</td>
<td>Grants access for sending reports by e-mail</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>elookup</td>
<td>Allows you to retrieve an email address from the address book</td>
</tr>
</tbody>
</table>
### plookup

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>plookup</td>
<td>Allows you to retrieve a phone number from the device address book</td>
</tr>
</tbody>
</table>

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](http://service.sap.com/bosap-support)

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**2.5.3.10 Widgets for SAP BusinessObjects Business Intelligence platform**

The Widgets component for SAP BusinessObjects Business Intelligence platform provides the following new features and enhancements.
2.5.3.10.1 Widgets with SAP BusinessObjects Web Intelligence content

Copy content from Web Intelligence widgets

After creating a widget from Web Intelligence 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 Web Intelligence widgets

For widgets created from Web Intelligence data, users can view the current prompt values, modify those values, and refresh the widget using the new prompt values.

Active hyperlinks from Web Intelligence widgets

If widgets based on Web Intelligence data contain hyperlinks, users can now click the hyperlinks to access the target sites in a new browser window.

2.5.3.10.2 Widgets with SAP Web Dynpro content

Access to Web Dynpro applications

Widgets for SAP BusinessObjects Business Intelligence platform 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 Business Intelligence platform and SAP NetWeaver Application Servers

In addition to connecting to BI platform 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.

2.5.4 SAP Crystal Reports

2.5.4.1 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 Business Intelligence platform.

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 or 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 Business Intelligence 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 detects how other similar objects in the report are formatted, and applies the same formatting to the newly-inserted object.
- The designer attempts to warn you of potential report design flaws by leveraging information available in the Common Semantic Layer. For example, you 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 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 BI platform, you can now provide suite consistent access to SAP 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.
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 Analysis client and then format your analysis for information distribution and mass consumption. Once you have completed your work in Analysis, you can save your analysis and then create a Crystal report from it.
- Build on the multi-lingual capabilities already offered by Crystal Reports and go further by further translating all text-based elements (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 BI 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 platform reporting deployment. The new BI 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.

2.5.4.2 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 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 Crystal Reports read-only 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.

2.5.4.3 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.
3 Support Package and Feature Package enhancements

The extended platform support and application enhancements delivered in Support Packages and Feature Packages for SAP BusinessObjects Business Intelligence Suite 4.0 are provided below.
4 SAP BusinessObjects Business Intelligence Suite 4.0 SP1

4.1 Supported platforms (4.0 SP1)

For full details of the supported versions of SAP and related third-party software, see the SAP Product Availability Matrix available at: https://support.sap.com/release-upgrade-maintenance/pam.html

**Note**
Type the following string into the Search field to find the Supported Platforms document for version 4.0 SP1: SBOP BI Platform 4.0.

The Supported Platform documents for the SAP BusinessObjects portfolio are also available at: https://support.sap.com/home.html

4.2 Application enhancements (4.0 SP1)

Some enhancements to SAP BusinessObjects Business Intelligence Suite applications are delivered in this Support Package.

**SAP BusinessObjects Advanced Analysis**

Advanced Analysis, Web edition is rebranded to Analysis, edition for OLAP. The application now supports SAP BusinessObjects Extended Analytics v7.5 and SAP BusinessObjects Extended Analytics v10.

**SAP BusinessObjects Mobile**

The ability to use touch gestures at the report level to select cells and perform drill analysis brings improved ease of use on touchscreen devices. To drill, you need to touch and hold the respective cell. If you tap the cell, then the particular cell is selected or highlighted.

You can now view demo documents without connecting to the platform repository or CMS. When you launch the SAP BusinessObjects Mobile app on your device, the Welcome page is displayed with the following options: you can view the demo document without connecting to platform repository or you can connect to the platform repository and view server documents. However, if you do not want to see this page each time you log on to the app, you can choose the **Do not show this screen again** option and you will be redirected to login credential page.
Note

This feature is only available on BlackBerry devices.

Sample mobile documents are provided. These need to be imported to the platform repository so they can be viewed on local devices. The mobile sample document is now made available in the lcbiari file located at <SAP_BOBJ_INST_DIR>/Mobile14/Sample folder. The lcbiari file contains the Mobile Sample report folder with the Mobile feature 480X360 report (best viewed in mobile with resolution 480 X 360) and the mobile category. If you want to view this sample document on your mobile device, you need to import the lcbiari file to your platform repository, connect to the platform repository from your mobile, and use the Mobile Ready documents link on the home page.
5 SAP BusinessObjects Business Intelligence Suite 4.0 SP2

5.1 Supported platforms (4.0 SP2)

For full details of the supported versions of SAP and related third-party software, see the SAP Product Availability Matrix available at: https://support.sap.com/release-upgrade-maintenance/pam.html

Note
Type the following string into the Search field to find the Supported Platforms document for version 4.0 SP2: SBOP BI Platform 4.0.

The Supported Platform documents for the SAP BusinessObjects portfolio are also available at: https://support.sap.com/home.html

5.2 Additional BI Suite applications (4.0 SP2)

Some additional SAP BusinessObjects BI Suite applications are delivered in this Support Package.

Integration Option for Microsoft SharePoint

In SAP BusinessObjects BI Suite 4.0, Service Pack 2, the Integration Option for Microsoft SharePoint software supports both the Microsoft Office SharePoint Server 2007 and the Microsoft Office SharePoint Server 2010. The required platform architecture is 64-bit and SharePoint administrative services should be in running state.

Note
Since SAP BusinessObjects Desktop Intelligence was deprecated in SAP BusinessObjects BI Suite 4.0, Desktop Intelligence reports are no longer supported by the Integration Option for Microsoft SharePoint software, 4.0, Service Pack 2.

New features include:

- A ready-to-use out-of-the-box site template called SAP BusinessObjects Site Definition provides seven Web-pages and five essential Web parts. It is structured such that you can carry out all basic activities required for viewing, managing and interacting with the BI platform content conveniently from within the SharePoint environment. IT administrators can readily use the template to create a dedicated BusinessObjects site for the user without the need of performing basic configuration settings.
● The software provides a new feature of discussing a report with other business users. A user can post his/her thoughts and views related to a report on the User Actions Web page of the SAP BusinessObjects site, and other users can reply back to your post with their comments, thus participating in a mutual discussion.

● The Web-parts have been renamed to include a prefix of "IOMS-" in this release. For example, the Content Explorer is now called as "IOMS-Content Explorer" and this is how it shows up in the Web part gallery.

● InfoView is no longer a part of the BI Suite. As such, the dashboard Web part has been removed.

● Advanced Search Web-part has been replaced with IOMS-Search Web-part. The advanced search fields as seen in XI 3.1, like "Search by Title", "Search by keyword" etc. are no longer there. IOMS-Search provides all the basic search capabilities with certain new features as well. These new features include hit highlighting, paginated search results, query term suggestions etc.

● The Integration Option for Microsoft SharePoint software provides the following new Web-parts in 4.0, SP02-
  ○ IOMS-Announcements- This Web-part basically displays the product advertisement. It consists of an image banner with text beside it, that highlights the overall capability of the software.
  ○ IOMS-Recent Searches- This Web part lists the keywords that you entered for your most recent searches. Each keyword represents a search and on clicking any item listed in this Web part, you are routed to the Search results page that displays the search results corresponding to the keyword.
  ○ IOMS-Recently Viewed This Web part lists the reports that are recently viewed by the user.

The above two Web parts are collectively called "Helpful Units" as they aid the user in quickly retrieving some of the recently or frequently accessed reports without needing to search for them all over again.

● The software provides a new feature called breadcrumb for easy navigation through the BusinessObjects site. It appears on top of every page except the Help and the Logon page. At any point of time, the breadcrumb displays the entire navigation path starting with the Site name, followed by the folder hierarchy up till the name of currently accessed file or folder. All elements displayed in the breadcrumb are clickable and can be accessed directly.

● User Actions Web part has been removed from the Integration option for Microsoft SharePoint software. Instead, all user actions are performed on a new Web-page called as the User-Actions Web-page. The user is routed to this page, whenever he/she performs any action such as scheduling an object, viewing object history, setting object properties, assigning a category to an object, sending an object etc.

● The IOMS-Content Explorer Web part has been revamped to make it better aligned with the SharePoint look and feel. As such, it's structure and tool-bar have certain changes that are as follows-
  ○ There is no separate Tree and Details panel in the body of explorer. Only a single "List" panel displays the objects in rows and the object properties in columns.
  ○ The tool-bar of Content Explorer has been changed for most of the tabs and options.

    The 'Switch to Folders' and 'Switch to Categories' options have been replaced with a single 'View Mode' drop down item that is aligned to the right end of the tool-bar. The drop-down menu has two options ('Folder View' and 'Category View') that can be selected as needed.
    The 'Refresh' option has been removed as explicit refresh is not needed on report data. Every time a report is clicked, it automatically displays the latest data from the BI platform Universe.
    The 'Add' button has been removed.
    An 'Upload' option has been added for uploading local documents to any location within the directory structure.
    'Organize' and 'Send To' have been placed inside 'Actions' option through which 'Cut', 'Copy', 'Paste' and 'Send' actions can be performed.
    The user actions like 'Schedule', 'Properties', 'View history', 'Discuss' etc. can now also be performed through the File Contextual Menu that appears next to the object in the List Panel.
There is no Search option in the tool-bar now.

- When the platform is SharePoint 2010, the IOMS-Content Explorer also provides a ribbon menu for performing various actions on the files and folders. Rather than using the tool-bar for performing various actions, you can use the ribbon menu that appears at the top of site page.

- The user can customize IOMS-Content Explorer and IOMS-Search Web Parts by setting the Properties of these Web Parts.

- The User Preference options on the User Preferences page have got changed.
  - The General Preferences now includes only the Product Locale, Current Time Zone, Preferred Viewing Locale and the Password settings. Since InfoView is no longer there, all its related settings have also got eliminated.
  - For Web Intelligence User Preferences- The ‘Select a default view format’ setting option is no longer there. Only one tool (Rich Internet Application) will be there to interact with the document.
  - For Crystal Report User preferences- A new check-box option- ‘Show SAP Variable Technical Name (SAP Crystal Reports 2011 only)’ has been added to the list. It is for report with SAP data sources. During prompts while using the application, the technical name instead of the description will be shown for the values available to choose from if this box is checked.

- There is no separate authentication page for logging into the SharePoint site and for connecting to the Central Management Server (CMS). A common logon page authenticates the user credentials for logging in to the site and connecting to the CMS.

- Crystal Report scheduling-
  - A new scheduling option has been added for Crystal Reports - called ‘Languages’. A report can be scheduled in multiple languages.
  - The ‘Parameters’ scheduling option has been renamed to ‘Prompts’.

### 5.2.1 Installation pre-requisites for Microsoft SharePoint

In SAP BusinessObjects 4.0, Support Package 2, the Integration Option for Microsoft SharePoint software supports both the Microsoft Office SharePoint Server 2007 and the Microsoft Office SharePoint Server 2010. The required platform architecture is 64-bit and SharePoint administrative services should be in running state.

Before installing the Integration Option, one of the following software applications should be installed on the system:

- Microsoft SharePoint Server 2010
- Microsoft SharePoint Foundation 2010
- Microsoft Office SharePoint Server 2007
- Windows SharePoint Services 3.0

### Updates to the system requirements

Operating system:
• For SharePoint Server 2007 - 64 bit Operating systems supported
• For SharePoint Server 2010 - Windows 2008 supported

RAM:
• For SharePoint Server 2007: 3GB (minimum) or 4GB (recommended)
• For SharePoint Server 2010: 8 GB

Minimum disk space: 1.3 GB

Free Space required for installation with all Language Packs: 1.4 GB on both SharePoint 2007 and SharePoint 2010
6 SAP BusinessObjects BI Suite 4.0 FP3

For information about the enhancements provided by SAP BusinessObjects Business Intelligence Suite 4.0 FP3, see the separate section, *What’s New in SAP BusinessObjects Business Intelligence Suite 4.0 FP3*.

6.1 Welcome to SAP BusinessObjects Business Intelligence Suite 4.0 FP3

The SAP BusinessObjects Business Intelligence suite is a comprehensive set of tools for transforming your data into useful information and delivering it to the people who need it most. The suite includes tools for: reporting off of data; scheduling and delivering documents; analyzing and exploring data; viewing and visualizing information; managing all of these tasks; and customizing your own unique solutions.

SAP BusinessObjects Business Intelligence Suite 4.0 FP3 includes the following enhancements:

- **New developer tools**
  The FP3 release introduces RESTful web services for Crystal Reports and the Business Intelligence platform. It also includes a new JavaScript API for displaying Crystal reports in embedded web applications, and a new Semantic Layer Java SDK for developing Java applications which perform administration and security tasks on universes and connections.

- **SAP HANA support**
  Support for the SAP HANA database has been introduced across the suite.

- **SAP BW integration**
  SAP BW integration with the suite’s client tools has been enhanced, including: new crosstab display features in Analysis, edition for OLAP; improved support for SAP BW queries in Crystal Reports, Web Intelligence documents, and Dashboards; enhanced lifecycle management for managing BW systems in your landscape; and more.

- **Backup and system copy for BI platform**
  You can now perform a Hot Backup of your BI platform data while the system is still active. And you can create a complete copy of an existing BI platform deployment.

- **OEM enablement**
  It is now easier to customize the user interface and installation programs for Crystal Reports and the Business Intelligence platform, and it is easier to retain your customizations between software updates.

- **Platform search**
  The search facility in the BI platform includes improved multilingual support, new search syntax options, and more.

- **Monitoring**
  Significant enhancements have been made to the BI platform’s monitoring feature, including a new dashboard, reminder alerts, new search options, and more.

- **SAP StreamWork support**
  SAP StreamWork is now more widely integrated across the suite, including integration with BI launch pad and BI workspaces. And you can now manage your SAP StreamWork configuration settings through the Applications tab of the Central Management Console (CMC).
6.2 New products and applications

6.2.1 Business Intelligence platform RESTful web service

The Business Intelligence platform RESTful web service lets you access the BI platform using the HTTP protocol. You can use this web service to log on to the BI platform, navigate the BI platform repository, access resources, and perform basic resource scheduling. You can access this web service by writing applications that use any programming language that supports the HTTP protocol, or by using any tool that supports making HTTP requests.

For more information, see the Business Intelligence Platform RESTful Web Service Developer Guide.

6.2.2 Crystal Reports JavaScript API

The SAP Crystal Reports JavaScript API, allows you to display Crystal reports content in an embedded web application without any client-side component installation. The JavaScript API lets you customize the report viewer, and add interactivity to your Crystal reports content. You can develop your web application in any language that uses JavaScript, because reports are generated in DHTML.

6.2.3 Crystal Reports RESTful web services

SAP Crystal Reports RESTful web services allow report data managed in a SAP BusinessObjects Business Intelligence Platform repository to be consumed and embedded in mobile devices and web-enabled technology. You can fetch report content in XML or JSON format, and manipulate a report using the RESTful API and OData services. RESTful web services allow you to create applications using the development language of your choice.
6.2.4 Semantic Layer Java SDK

The Semantic Layer Java SDK allows you to develop a Java application that performs administration and security tasks on universes and connections. For example, you can implement services for publishing a universe to a repository or retrieving a secured connection from the repository to your workspace. This application can be embedded within Business Intelligence solutions that integrate the SAP BusinessObjects Business Intelligence platform as OEM.

**Note**
The Semantic Layer Java SDK comes with the BI platform 4.0 Feature Pack 3. It is not delivered as a patch for previous releases.

For more information, see the following documentation:

- Semantic Layer Java SDK Developer Guide
- Semantic Layer Java SDK HTML reference

6.3 Existing products and applications

6.3.1 Analysis, edition for OLAP

SAP BusinessObjects Analysis, edition for OLAP is a powerful, web-based OLAP analysis tool that can help you to gain insight into business data and make intelligent decisions that impact corporate performance.

What’s new in Analysis, edition for OLAP:

- New analysis features
- Support for additional data sources

6.3.1.1 New Features

These new analysis features are available in SAP BusinessObjects Analysis, edition for OLAP:

- **Focused Analysis**
  Focused analysis lets you select a subset of your main crosstab data, and display only that subset in a sub-analysis chart or crosstab. This lets you focus on data that might have been obscured by other data in the main crosstab, without having to redefine the view in the main crosstab.
  The sub-analysis can be thought of as a bookmark or snapshot, that you can unlink from the main analysis and continue analyzing later.

- **Pivot With**
  When you find an anomaly in your data, you can use the Pivot With feature to explore the data to uncover the underlying cause of the anomaly. The Pivot With feature lets you freeze, or filter, a member that is currently in the crosstab, simultaneously replacing that member’s hierarchy with another hierarchy that you want to investigate.
• Support for display attributes (with SAP BW and SAP HANA data sources only)
  Display attributes are additional metadata associated with each hierarchy. You can include display attributes in a crosstab, to help you with your analysis, or you can use them to help you select and filter members.
• Compact axis display (with SAP BW data sources only)
  When there are nested hierarchies on an axis, you can merge the hierarchies into one. Compacting an axis collapses the hierarchies into a tree structure, which takes up much less space on the axis and allows you to more easily navigate through the members.

6.3.1.2 New Data Sources

SAP BusinessObjects Analysis, edition for OLAP now supports these additional data sources:
• SAP HANA (In-Memory Computing)
• SAP BusinessObjects Planning and Consolidation for the SAP NetWeaver Platform 10
• SAP BusinessObjects Planning and Consolidation for the Microsoft Platform 10
• SAP BusinessObjects Profitability and Cost Management 10

6.3.2 Business Intelligence platform

SAP BusinessObjects Business Intelligence platform supports the entire range of performance management, reporting, querying, and analysis applications. It provides architecture and platform support for semantic layers, data integration, and security. The BI platform also provides full web-based administration and configuration of the entire system.

This section describes new and enhanced features for this release.

6.3.2.1 Installation, upgrade, and deployment

• Upgrade management tool
  ○ During an incremental upgrade from one CMS to another, or from a .BIAR file to a CMS, you can exclude connections and universes from being overwritten. This option can be used if connections or universes have changed since the last upgrade and you want to overwrite only the report documents while the connections or universes that are depended upon already exist on the destination CMS.
  ○ During an incremental upgrade, you can now explicitly select or deselect user folders. This option can be used if you want to import users, but not their dependent user folders.
  For more information, see the “Incremental Upgrades” chapter of the Business Intelligence Platform Upgrade Guide.
• SQL Anywhere
  ○ BI platform now supports SQL Anywhere 12.
  ○ On Unix deployments, you must create an odbc.ini file and source it before you can use SQL Anywhere as an ODBC data source for node management operations. For more information, see the “Managing Nodes” chapter of the Business Intelligence Platform Administrator Guide.
6.3.2.2 System administration

- Hot Backup: You can now perform a backup of your BI platform data while the system is still active. For more details, refer to the “Backing Up and Restoring” chapter of the SAP BusinessObjects Business Intelligence Platform Administrator Guide.
- System Copy: System Administrators can now create a complete copy of an existing BI platform deployment. This copy can then be run alongside the original and used for testing or backup purposes. See the “Copying your deployment” chapter of the SAP BusinessObjects Business Intelligence Platform Administrator Guide.
- Delegated Administration: A system administrator who wants to focus only on high-priority tasks can create delegated administrators and assign subsets of management tasks to them. Delegated administrators perform a limited set of tasks and have fewer rights on objects in the system. To improve user experience and workflow, a system administrator may hide any of the CMC tabs that a delegated administrator (or a principal) is not expected to use. For more information, see the “Managing CMC tab access” chapter of the Business Intelligence Platform Administrator Guide.
- Insight to Action: The Insight to Action framework offers a common interface for SAP Crystal Reports and SAP BusinessObjects Dashboards that use SAP BW Query as a data source to access the Report-Report Interface (RRI). You can configure the Insight to Action service, which is a service of the Adaptive Processing Server, through the CMC. For more information, see the “Insight to Action framework” section of the SAP BusinessObjects Business Intelligence Suite Master Guide.
- The SAP StreamWork Integration Configuration application has been added to the Application management area in the CMC. This application is used by system administrators to configure security parameters to enable the integration of SAP StreamWork with BI launch pad.
- The User Attribute Management area has been added to the CMC to enable system administrators to add or map additional attributes for BI platform users. The extended attributes can be used for reporting purposes, or by developers using the SDK.

6.3.2.3 BI launch pad

- SAP StreamWork integration: Social media and activity collaboration features from SAP StreamWork are integrated into BI launch pad. You can customize your home tab with an SAP StreamWork feed, post and track comments on public documents, and send or schedule documents to an SAP StreamWork activity. For more information, see the “Working with SAP StreamWork” section of the SAP BusinessObjects Business Intelligence Launch Pad User Guide.
- Personalized placeholders for publication source documents: You can personalize the names of source documents in a publication based on the parameters used to filter the documents for particular recipients. For more information, see “Personalized placeholders for publication source document names” in the SAP BusinessObjects Business Intelligence Launch Pad User Guide and the SAP BusinessObjects Business Intelligence Platform User Guide.
- Personalized placeholders for publication destinations: You can personalize email destination options based on the parameters used to filter documents for particular recipients. For more information, see “Personalized placeholders for email fields” in the SAP BusinessObjects Business Intelligence Launch Pad User Guide and the SAP BusinessObjects Business Intelligence Platform User Guide.
- Bcc field: You can specify undisclosed recipients in the Bcc field when you choose email as the destination for publishing, scheduling, or sending objects or instances.
6.3.2.4 Lifecycle management

In the 4.0 FP3 release of SAP BusinessObjects Business Intelligence Suite, lifecycle management is split into two applications: the promotion management application and the version management application. The promotion management application in SAP BusinessObjects Enterprise 4.0 FP3 provides the ability to move business intelligence (BI) resources from one repository to another, manage dependencies of the resources, roll back the promoted resources at the destination system. The version management application enables users to manage different versions of BI resources.

The 4.0 FP3 release of SAP BusinessObjects Business Intelligence Suite introduces the following enhancements to this area:

- **Usability improvements**: integrated content in the UI, promotion of new objects (completed instances, inbox and favorites content), test promotion filters, importing a job without overwriting an existing job, versioning an LCM job, updating contents in a recurring job dynamically, new schedule options, the new Test VMS and Delete options in VMS, and upgrading Subversion content.
- **Security improvements**: a new set of rights that provide users with more granular control of what you can promote and version.
- **Configuration settings**: import a normal BIAR file, export or import an LCMBIAR to an FTP location, version universe and overloads, use the new CTS settings option to add web services and manage the BW systems in your landscape.

6.3.2.4.1 Usability improvements

- **LCM - CMC Integration**: LifeCycle Manager is now integrated into the CMC as two separate tabs called promotion management and version management.
- **Support for inbox and Favorites promotion**: You can now promote Inbox and Favorites content.
- **Promote completed instances**: You can now promote completed instances in a job. Once you have enabled the option.
- **Test promotion filters**: separate filters for success, failure, partial success, and warning have been added in Test Promotion for easier access to the test promotion status of an object.
- **Import with a new CUID**: It is possible to import a job without overwriting an existing job in the repository.
- **Recurring jobs promoting new content dynamically**: If a job is a recurring one and new content is added in the job location, the new content will be dynamically added to the job at the next run-time.
- **Override Settings scan**: The new Scan option in Override Settings enables users to view the list of overrides in the Job Summary, when promotion of overrides fails.
- **New Schedule options**: You can now schedule the export of an LCMBIAR file for promotion. Also, new schedule options have been added and the schedule options now support most of the options provided in CMC.
- **New Delete option in VMS**: The new Delete option in the Version Management System enables you to delete all versioned content from the VMS repository.
- **Test VMS option in VMS**: The new Test VMS option in the Version Management System enables you to validate the VMS settings before you finish configuring your VMS settings.
- **Versioning of LCM job**: LCM Job is enabled for version in Version Management.
- **Integration of VisualDifference in Version Management**: You can view the differences between two versions of a versioned BI resource. Currently, comparison of two versions of an LCM Job is supported.
• Performing VMS actions from CMC and Promotion tab: It is now possible to perform version management activities like add, check-in, get revision, and so on from the CMC and Promotion tabs.
• Upgrade Subversion content: If you have old subversion content that was created using a previous version of the BusinessObjects platform, you can upgrade your content to the latest version.

6.3.2.4.2 Security improvements

• New rights for Promotion and Version management: A new set of rights have been provided and these rights provide you more granular control of what you can promote and version.

6.3.2.4.3 Configuration settings

• Import a normal BIAR: You can now import a normal BIAR file. All the contents of the BIAR file are added as primary objects in the job. You cannot identify dependents.
• Export or import an LCMBIAR to an FTP location: Exporting or importing content from an FTP location is now supported in the promotion management application.
• HTTP protocols for subversion: You can now use HTTP protocol to access the subversion repository. You can switch between the HTTP and SVN protocols.
• CTS+ Settings Option: The CTS Settings option is available in the promotion management application. You can use this option to add web services and manage BW systems in your landscape.
• Version universe and overloads: When a universe is versioned, its overloads are also versioned. By default, any VMS operation performed on the universe will also be performed on its overloads as well.

6.3.2.5 Monitoring

The monitoring application in SAP BusinessObjects Enterprise 4.0 FP3 captures the runtime and historical metrics of Business Intelligence servers for reporting and notification.

The 4.0 FP3 release of SAP BusinessObjects Business Intelligence Suite introduces the following enhancements to the Monitoring component:

• Usability improvements: a new dashboard with a topology module, advanced features to manage watches, graph snapshots, reminder alerts, and the ability to search for watches easily.
• Functional improvements: create and manage your probes, use the new monitoring universe to generate intuitive reports, create derived metrics, and more.

6.3.2.5.1 Usability improvements

• New dashboard: The new Monitoring dashboard contains the SAP Business Intelligence Platform Landscape, Overall Health Status, KPIs, recent alerts, and recent failures.
• Topology module on dashboard: On the dashboard, you can view the BOE deployment based on the Server Groups, Service Categories, and Enterprise Nodes in both graphical and tabular manner.

• Mini View window: The Mini View in the Dashboard enables you to select a peer or parent node of an object and view its corresponding details.

• Consolidated health status: The new Overall Health status pane indicates the overall health status of the entire Business Intelligence platform deployment. You can directly drill down to the status of each service from here.

• Recent Alerts: The alert status is listed in the Recent Alerts tab.

• Add a watch to KPI list: You can right-click and add a watch to the KPI list. This watch will be listed in the Select KPI list.

• Create watch from metrics page: Users can select multiple metrics and use the Create a Watch option to quickly create a new watch.

• Delete multiple watches: Users can select multiple watches and perform the following actions:
  ○ add or remove them from the KPI list.
  ○ add or remove from Favorites.
  ○ disable/enable several watches.
  ○ delete several watches simultaneously.

• Graph snapshots and annotations: You can use graph snapshots of a metric as an aid during trouble shooting. For example, you can record an interesting graph pattern, its cause and action and retrieve the same later if a similar pattern occurs. This helps you easily identify the cause and action of the issue.

• KPI Status pane: The KPI Status pane displays KPIs based on your choice. You can customize the KPIs displayed and leverage the information to perform root cause analysis.

• Alerts: Alerts have been enhanced to include metrics information. Email notifications can also be configured based on alerts.

• Reminder alerts: Reminder alerts are sent when a user has not responded to the first alert. For example, assume that an alert was send after a watch reached its threshold; if you do not confirm the alert after the first instance it was sent, you will receive reminder alerts. You can set the frequency at which reminder alerts should be sent.

• Search: You can search for an existing watch using the watch name or a metric name.

• Watch: Users can now see the overall graph of metrics related to the watch in the watch properties page. The Watch Rule page lists the graphs related to individual metrics and the Drilldown tab in this page displays the list of executed jobs.

6.3.2.5.2 Monitoring functional improvements

• Ability to register new probes: Administrators can now create their own scripts, run them as probes, and use them to create metrics. Administrators can also add Java-based and script probes. Script probes can be added through the CLI as well.

• Manage probes: Users can now schedule, edit, and delete probes.

• Support for different trending DB: The monitoring application now supports multiple databases. If auditing is set for that database, then trending can also be set for the same database. You can now choose one of the following supported databases to store your auditing data:
  ○ DB2
  ○ MySQL
  ○ Sybase DB
  ○ MS SQL
- Max DB
- Oracle DB
- SQL Anywhere DB

- New Monitoring universe: You can use the Monitoring universe, which is now a part of the package, to create intuitive reports and see Monitoring information such as reporting Watch data, trending of watches, watch behavior over a period of time, probe trending, drill down a watch to its metrics, and so on.
- Derived metrics: Administrators can create derived metrics from metrics across servers. Users can also delete the created derived metrics in the UI.
- Monitoring metrics: The CMS Query Metrics are now displayed in the Metrics list.
- Migrating old data: You can migrate historical information from your previous deployment scenarios by using the new Export options in the Monitoring application.

6.3.2.6 Platform Search

The Platform Search application in SAP BusinessObjects Enterprise 4.0 FP3 enables users to search content within the SAP BusinessObjects Enterprise repository.

The 4.0 FP3 release of SAP BusinessObjects Business Intelligence Suite introduces the following enhancements to the Platform Search application:

- Functional improvements: multilingual support, support for new artifacts, search using name or email ID or CUID, enhanced search syntax, and the new Online Hot Backup tool.

6.3.2.6.1 Functional improvements

- Support for new artifacts: Platform Search now supports the search for new artifacts like BIW and CR Next Gen content.
- Enhanced search options: Users can search for an artifact by using the CUID or ID of the document. Users can also search for content by using the user name and email ID attributes.
- Normalizing the Search Results Ranking: Platform Search now allows administrators to decide which categories should be preferred, to generate superior ranking results.
- Enhanced Search syntax: The new enhanced search syntax provides more effective search results by:
  - Providing support for lexical operators (like AND, OR, and BRACKET (that is, {})). Multiple brackets are now supported thereby allowing users to provide different conditions for a search.
  - Using OR as the default operator instead of AND. As a result, more results are generated and this increases the probability of finding the exact artifacts.
- Multilingual Support: Platform Search offers multilingual support to index content, retrieve search results, and get suggestions in your desired language. Search is based on the Client’s Product Locale setting and retrieved search results give more importance to content from the Client Product locale.
- Enhancement to facets: A new facet ‘ALL’ has been added under the ‘Refresh time’ category. This option displays all of the documents regardless of refresh time.
- Online Hot Backup tool: The Online Hot Backup tool generates a backup of the index and associated data files in Platform Search and enables users to return to a specified restore point.
6.3.3 BI workspaces

BI workspaces is a web application that is integrated into BI launch pad. It enables you to assemble and maintain the information that you need to monitor and track your business activities and performance.

The 4.0 FP3 release of BI workspaces includes the following enhancements:

- Improved performance:
  - Enhancements to streamline the functionality of BI workspaces
- Focus on usability:
  - Changes in the user interface, to improve accessibility and user friendliness
- Enhanced features:
  - New capabilities added to existing functions
- New features:
  - New functionality that broadens the scope of BI workspaces

For more information about BI workspaces, see the Getting Started Creating BI Workspaces Guide, or the BI Workspaces User Guide for SAP BusinessObjects Business Intelligence platform.

6.3.3.1 Improved performance

- As of this release, the BI workspace servers – Dashboard server and Analytics server – have been removed from the CMC. This functionality has been replaced by the Java BI workspace bundle. The results include:
  - Reduced TCO by streamlining installation through the elimination of server configuration
  - Improved performance and scalability, through the removal of the communication layer
- Users can now view BI workspace logs and traces, listed separately, in the SAP log viewer.
- BI workspaces now runs on Mozilla Firefox 4, and in Microsoft Internet Explorer 9.
- Other improvements to enhance performance, including migration of applet editors to HTML, to reduce editing time.

6.3.3.2 Focus on usability

- Concurrent editing of both workspaces and modules is now possible. This enables multiple users to open and edit the same workspace or module at the same time. Notifications are sent to a user who attempts to save or change a module, workspace, or workspace tab that has already been modified by another user in the same session.
- Workspace, tab, and sub-tab names can be translated using the Translation Management Tool. If a user selects the PVL of a target language, the data is displayed with that PVL. If the user selects a PVL that is not a target language, the data is displayed automatically in the default locale.
- The following accessibility gaps have been handled:
  - JAWS announces module names.
  - JAWS announces tab names, rather than treating them as links. This clarifies the workspace structure.
  - Workspace navigation has been improved, using the Up key, Down key, Left key, Right key, and space bar.
- The Private Modules tab has been added to the Module Library.
• The Edit Contents dialog box for external modules/reports and the Viewer module itself include the following improvements:
  ○ The Document list option displays a tree of both the Private Folder and the Public Folder for selecting the report to display.
  ○ The Report-specific options have been updated for each report type.
  ○ A Refresh option updates the contents of the displayed tree on-the-fly.
• You can now edit a report module directly from the Edit Contents dialog box of the Navigation List module.

6.3.3.3 Enhanced features

• The content linking function in BI workspaces now allows you to use both in-port and out-port parameters of a Web page module. The URL parameters of the page are exposed as IPC parameters. Furthermore, granular mapping is used to map other module out-port parameters to the in-port parameters of the Web page. This enables you to connect reports to external sites or custom developments.
• It is possible to print the displayed workspace. Printing standalone modules is not supported.

6.3.3.4 New features

• BI workspaces now supports the customization of a BI launch pad home page to match the style defined for BI launch pad. Customization is accomplished by changing the CSS file of a BI workspace or module to match the layout, colors, and fonts of the different BI launch pad themes, with the option of adding images as well. Customization is implemented per deployment.
• You can now integrate an SAP StreamWork Feed module into a BI workspace or compound module, in order to create an alternative BI launch page home page. The StreamWork module is added to the workspace or module from the second tab (BI Launch Pad Modules) of the Module Library.

6.3.4 Crystal Reports for Enterprise

SAP Crystal Reports for Enterprise has a few new features in this release.
• There are three new chart types available in Crystal Reports for Enterprise:
  ○ Tag Cloud - displays a cloud of dimensions
  ○ Treemap - importance of dimension by size
  ○ Box Plot - charts five dimensions at once
• When drilling down on data in a report, the navigation path will now be shown as a breadcrumb trail instead of a series of tabs. A history of the drills will be saved in the viewer.
• Relational Connections on the SAP BusinessObjects Business Intelligence platform (BI platform) allow for simplified report authoring, deployment, and administration. Create the connection once and use across multiple Crystal Reports for Enterprise designers.
• In addition to using the Relational Connection data sources on the BI platform, you can create reports that bypass the BI platform by connecting directly to one of the following data sources:
- ODBC
- JDBC
- MySQL
- OLEDB
- DB2
- Microsoft SQL Server
- Microsoft Access
- Microsoft Excel
- Sybase
- Teradata

- An online catalog provides several report templates that you can use as a starting point when you create your own charts. This catalog will be updated regularly.
- When changing from one data source to another, you choose whether to map fields to the new data source. The workflow provides limited automatic mapping for fields that have a definite match in the data source. For the remaining fields, you can map them manually, or use a placeholder formula to preserve the report location for any fields that do not have a valid match.
- You can now bind actions to report objects, and invoke actions from the report. This is supported for reports that are based on BEx Queries.
- Crystal Reports offline content is available through SAP BusinessObjects Mobile for iPad. You can view the latest instance or refresh Crystal Reports content as PDF documents within SAP BusinessObjects Mobile.

6.3.5 Dashboards

Dashboards is data visualization software that lets you create interactive dashboards from Excel spreadsheets or other external data sources, and then export them. These dashboards contain various components, such as charts, gauges, and dials, which are connected to data sources.

The 4.0 Feature Pack 3 release of SAP BusinessObjects Business Intelligence platform introduces the following enhancements to Dashboards:

- Newly supported external connections, including third-party OLAP sources, connectivity to the BI platform through BEx queries, and connectivity to Web Dynpro applications using your model as a Flash Island.
- Support for hierarchical data: you can now bind hierarchical data to Hierarchical Table and Query Prompt Selector components.
- Enhanced chart components: visual alerts can be enabled in a Combination Chart component displaying multiple series data, and the Waterfall Chart component has been added.
- Add-on components can now be developed in Adobe Flex 4.

6.3.5.1 External connections

- Connectivity to third-party OLAP sources is now available. Connect to universes (UNX files) on the SAP BusinessObjects Business Intelligence platform through Dashboards’ Query Builder panel.
- Connectivity to SAP NetWeaver Business Warehouse is now available. Connect to BEx queries on the Business Warehouse through Dashboards’ Query Builder panel. Connectivity requires SAP BusinessObjects Business Intelligence platform, but does not require a NetWeaver Java BI Server.
Connectivity to NetWeaver Flash Islands is now available. Embed your exported Dashboards model (SWF file) in a Web Dynpro application as a Flash Island.

### 6.3.5.2 Support for hierarchical data

- You can now select hierarchical result objects from BEx queries or universe files using Dashboards' Query Browser panel. You can select members individually or by hierarchy level, configure query prompts, and set values for BW variables defined in BEx queries for these result objects.
- The Query Prompt Selector component is now available. Query Prompt Selectors can display data in a hierarchy, and users can browse through the hierarchy, expand and collapse different levels, and choose members individually or select entire sets of child entries.
- The Hierarchical Table component is now available, allowing users to view hierarchical query data. This component can be configured to insert one or more entries selected by the user to the embedded spreadsheet or to a query prompt.
- If your model uses a BEx query data source, a Hierarchical Table component can also act as a Report-Report Interface sender. From each row in the table, users can open a list of external resources and jump to one of those resources. The Report-Report Interface can also pass contextual information from the table row to the destination resource, so that users view contextual information relating to the row.

### 6.3.5.3 Enhanced chart components

- In previous versions of Dashboards, visual alerts were only available for charts with a single series of data. You can now configure alerts for Combination Chart components with multiple data series, helping users evaluate several metrics with a single chart.
- The Waterfall Chart component is now available. This chart allows users to analyze the cumulative effect of several changes to an initial data value. The initial and final values are displayed as full columns, while the other values are partial columns showing the positive or negative change from the previous value.

### 6.3.5.4 Adobe Flex 4 add-on development

- Add-on components created for Dashboards can now be developed using Adobe Flex 4.

**Note**

Existing add-ons developed in Adobe Flex 2 must be upgraded to Flex 4 to operate with Dashboards 4.0 Feature Pack 3.
6.3.6 Data Access

Connection Server is the data access software that manages the connection between an SAP BusinessObjects application and a data source. See the Data Access Guide for more information.

6.3.6.1 Data sources

- New data sources are supported in this release. See the Product Availability Matrix for more information.
- New data access drivers are available for the following connectivities:
  - SAP ERP systems (SAP R/3 Release 4, mySAP ERP 2004, and SAP ERP 6) with SAP JCo 3.x API on all platforms
  - CSV files through BusinessObjects OpenConnectivity
- Connection Server supports Oracle stored procedures inside a package.

6.3.6.2 Single sign-on

The SAP BusinessObjects Business Intelligence platform now provides single sign-on (SSO) authentication for these connectivities:

- Oracle EBS through OCI on all platforms
- SAP ERP systems through SAP Java Connectivity (JCo) 3.x on all platforms
- SAP HANA database 1.0 SP3 through JDBC on MS Windows and Linux platforms

6.3.6.3 Performance monitoring

End-to-end tracing with CA Wily Introscope is provided for SAP HANA connections through ODBC and JDBC.

6.3.6.4 Connectivity services

- Connection Server implements a load balancing mechanism in server mode.
- Native Connectivity Service (64-bit) can use HOARD memory allocation functionality on MS Windows.

6.3.6.5 Data types

- The data access drivers support large variable length data types for binaries and characters through ODBC, JDBC, OCI, CTLib, DB2 CAE, and OLE DB network layers.
6.3.7 Explorer

SAP BusinessObjects Explorer is a data discovery application that lets you quickly retrieve answers to business questions from corporate data. You use an intuitive search tool to find relevant data within consistent, meaningful datasets called information spaces. You explore and visualize the data with charts, tables, graphs, and other visual aides to optimize how your data is presented. Explorations on information spaces are saved as information views, and these are organized thematically within folders called Information view sets. Information spaces and view sets are easily accessible and modifiable according to your developing information needs.

The 4.0 FP3 release of SAP BusinessObjects Business Intelligence Suite introduces Exploration views. These let you save and organize explorations on information spaces. Also new is a geographical analysis type that allows you visualize data directly on a physical geographical map. Data analysis has been improved as you can now include a second dimension in your analysis for certain charts. There are also improvements in the user interface, and the search capabilities have been extended.

The enhancements are described in the following sections. For more information, see the SAP BusinessObjects Explorer Online Help.

6.3.7.1 Exploration views

- Exploration view: An Exploration view is a saved exploration on an information space. You can now create one or multiple exploration views to expose, explore, and save targeted analyses and visualization of your data. An exploration view is based on a single data source and saved within an exploration view set.

- Exploration view set: Exploration views are saved and organized within an Exploration view set. You can create an exploration view set as a container for a thematically-grouped series of exploration views. An exploration view set can contain exploration views individually accessing either the same or different data sources. Exploration view sets are accessed from the Explorer Home page along with information spaces.

- View element: A visual object that allows the organization of data within an exploration view. Within exploration views, you can customize have tables, charts, and graphs and you can optimize the visual analysis of data.

6.3.7.2 Geographical map representation of data

- Geography analysis type: A new Geography analysis type has been added to allow the representation of data directly on a corresponding geographical map. For example, you can now view differences in regional sales for countries in Europe directly on a geographical map of Europe. This is available for geography dimensions from either a universe or an Excel data source with the type defined as Geography.
6.3.7.3  Search enhancements

- Search results: Ranking results for search queries have been improved.
- New “Did you mean” feature: Spelling corrections are suggested for search queries. Explorer will now suggest, and in certain cases, automatically execute alternative queries with spelling corrections on the original query for all metadata and information space data based on universe data sources. However, this feature does not currently support HANA and Business Intelligence Accelerator (BIA) data.

6.3.7.4  Second dimension analysis

You can now add a second dimension to the following type of charts:

- Trend line chart
- Bar chart

Adding a second dimension to a chart allows you to visualize a second axe of analysis for your data within the same chart. You can continue to add and change measures as you would for a single dimension, the operations are affected to both dimensions.

6.3.7.5  Usability enhancements

- Improved Home tab: The Home tab now lists information spaces and the new exploration view sets available for exploration. A new properties pane allows a more intuitive view of properties for information spaces, view sets, facets, and measures.
- Improved Manage Spaces: A Properties sheet has been added to the Objects tab that shows details for selected facets and measures.
- Analysis types: A new Geography analysis type has been introduced for geographical map representation of data. There are also new and improved line and bar charts.

6.3.8  Information Design Tool

The information design tool is the SAP BusinessObjects design environment for creating and publishing new SAP BusinessObjects universes and connections. The 4.0 FP3 release of SAP BusinessObjects Business Intelligence Suite introduces support for new data sources and enhancements to the information design tool. The enhancements are described in the following sections. For more detailed information, see the Information Design Tool User Guide.

6.3.8.1  New data sources for universes

- Support for universes on SAP ERP relational connections: InfoSets, SAP Queries, and ABAP functions in the data source are exposed as tables in the information design tool. Input columns are created to map the ABAP
function input parameters. You can create a multisource-enabled data foundation to take advantage of the
support of joins between tables. You can create a single-source data foundation for applications requiring a
locally-published universe.

- Support for Essbase OLAP connections: Business layer objects are generated automatically from the objects
in the Essbase cube. The resulting universe includes support for User Defined Attributes, hierarchies,
attribute hierarchies, substitution variables, and flexibility in defining the measures.
- Support for single-source relational universes on Apache Hadoop HIVE connections. These universes can be
queried in SAP Crystal Reports for Enterprise, SAP BusinessObjects Explorer, SAP BusinessObjects
Dashboard Design, and SAP BusinessObjects Web Intelligence.

### 6.3.8.2 Object definition enhancements

- User Attributes: Using the @Variable function, you can include User Attributes defined in the User Attribute
Management area of the Central Management Console (CMC) in the following definitions:
  - SQL or MDX definitions for data foundation or business layer objects.
  - Filter definitions in the Query Panel.
  - Filter definitions in Data and Business Security Profiles enabling dynamic and generic security conditions.
- Query Panel filters: You can now use the @Variable function in a filter definition.
- Editing input columns: An input column in a data foundation table is mapped to a parameter in the data
source that expects a value. In the data foundation, you can edit input columns and either enter values or
assign columns to a parameter that is prompted to the user at query run time.
- Name delimitation: When a query is sent to the database, depending on the requirements of the data source,
the application delimits the table names, column names, qualifiers, and owners. The requirements for
delimited names are stored with the data foundation table properties and displayed in the data foundation.
For single-source tables, you can override the default delimitation.

### 6.3.8.3 Usability enhancements

- Member selection: In the Query Panel, when creating queries on an OLAP source, you can implicitly select all
hierarchy members up to a named level or a given number of levels from the root.
- Data foundation table search: When browsing the connection panel in the data foundation, you can search for
table names to create a filtered list of tables. You can insert tables into the data foundation from the filtered
list.
- Filtering connections by table type: Some connections have different table types (for example, in an SAP
HANA connection, you can have several table types, including Analytic View and Calculation View). When
browsing a connection in the data foundation, you can select table types to filter the list of tables displayed.
- Cheat sheet: If you are new to the information design tool, you can use a cheat sheet to help you create a
relational universe. The cheat sheet describes the steps to take and provides links to the appropriate
application wizards and to additional help.
- Online tutorials: A new command on the Help menu links to the official product tutorials for the information
design tool on the SAP Community Network.
6.3.8.4 Security enhancements

- To maintain confidentiality, some sensitive secured connection parameters (for example username and password) remain stored in the repository. By default, queries for secured connections are run from the server using the server middleware. A preference in the information design tool lets you use the local middleware driver if you have the appropriate connection right granted in the Central Management Console.

6.3.9 Universe design tool

The Business Objects universe design tool is a software tool that allows you to create universes for Web Intelligence users.

The 4.0 FP3 release of SAP BusinessObjects Business Intelligence Suite introduces the following enhancement to the universe design tool:

- Security: Connection objects have an additional administrator-defined security right called “Download connection locally”. The administrator defines the security associated with the connection, for example, you might want to define who can download the connection information locally.

6.3.10 Web Intelligence

Web Intelligence is a reporting tool that uses queries to build and publish reports. You can create and edit reports based on data you want to analyze, or you can open existing documents. Depending on your license and security rights, you can then analyze the data in your reports by, for example, drilling down to reveal more details, merging data from different data sources, displaying data in charts, or adding formulas.

You can use the Java or HTML interface of SAP BusinessObjects Web Intelligence to perform interactive analysis from the BI launch pad. Which interface is launched depends on your preference settings in BI launch pad.

You can also use Web Intelligence Rich Client to perform interactive analysis. Web Intelligence Rich Client allows you to work locally without a connection to a repository. Additional information is available in the SAP BusinessObjects Web Intelligence Rich Client User’s Guide.

The 4.0 FP3 release of SAP BusinessObjects Business Intelligence Suite introduces the enhancements to Web Intelligence described on the following pages.

For more information see the SAP BusinessObjects Web Intelligence User’s Guide and the SAP BusinessObjects Web Intelligence Rich Client User’s Guide.

6.3.10.1 Security

New security setting for local connections

Connection objects have an additional administrator-defined security right called “Download connection locally”. The administrator will need to define the security associated with the Connection; for example, you may need to
define who can download sensitive connection information locally. When opening a .wid document from Business Intelligence platform 4.0.x, the connection must be opened in the new Business Intelligence 4.0 FP3 platform and saved to activate the new secured format.

Secure 'Refresh on open' option

The "Refresh on open" option is dependent on two CMS settings (document-related and user-related security settings): "Check automatic refresh on open" in the CMC/Application/WebI properties and the "Disable automatic refresh on open" in the CMC/Application/user security settings.

6.3.10.2 Rich Client

Quick Launch feature

Web Intelligence Rich Client now has a Quick Launch feature, which becomes available the first time you open and close a .wid document. The Quick Launch button appears in the lower right of the main pane.

Query Panel improvements

The Query Panel and Member Selector have been improved for Web Intelligence Rich Client. Web Intelligence Rich Client now has the same functionality as Web Intelligence:

- BEx Query Scaling factor information is displayed in measure names, and the scaling factor is displayed as a measure attribute.
- The Query Panel indicates which hierarchy is activated in a BEx Query.
- BEx conditions are not supported.
- Techname is displayed in reports.
- When there is a default hierarchy, other hierarchies are not visible in the query panel.
- Prompt on member selection is available in the query panel.
- You can implicitly select all hierarchy members to a specified depth.
- You can select members based on level.

6.3.10.3 Queries

In queries, you can define input controls from hierarchical objects with BICS or UNX connections.
Can define input controls from hierarchical objects

In reports, input controls can manage data coming from hierarchical objects.

Prompts can be used on BW queries

The "Query Panel" can now use BW queries that contain prompts.

Changing query source from .unv to BICS

When the source for a query is a universe (.unv file), you can change the source to a BICS source for the query. You must remap objects to their corresponding object type in the new source.

Known restrictions

Member selection based on levels is not available for characteristics having a hierarchy variable.

Prompts on member selection does not behave like a hierarchy node variable: if user selects a node, the members of the node will not be automatically selected.

Refer to the user documentation for further details about restrictions.

6.3.10.4 Charting

Harmonized charting and graphics terms

Certain charting and graphics terms have been harmonized to match Crystal Reports user interface terms.

Waterfall charts

Waterfall charts (also known as Bridge charts) can be used to display vertical bars.

Hierarchical navigation

Hierarchical navigation is now available in charts.
Color synchronization

Color synchronization (or color assignment) is available via the toolbox.

Chart area formatting (Java only)

Formatting chart areas can be performed using the toolbox (Java only).

Report output (save as text)

You can save reports in .txt format.

Known restrictions

No custom palettes. Corporate palette in the configuration file only. Refer to the user documentation for further information.
Hierarchical navigation: CVOM auto-layout may hide axis labels for lower levels; only the data bars are generated.
Only one key figure is allowed.
Localization in charts is not supported.
Series transparency is not exposed in Web Intelligence.
No sharing between chart objects / no format painter.
Feedback on selected chart instance is available only in Web Intelligence Rich Client and Applet.
Rich Internet Application (DHTML): no series selection feedback. Formatting chart areas using the toolbox.
Report Output limitation: Some font format combinations are not supported (for example, Arabic + Italic).

6.3.10.5 Reports

CSS stylesheet for formatting reports

CSS formatting stylesheets are provided for easy formatting of your reports. The WebIDefaultStyleSheet.css file contains these stylesheets; it is located (in a default installation) in C:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\images. This CSS replaces and enhance the defaultconfig.xml file. The values from this .css file are used to define the default values of format properties of all report elements except charts.
Change Document Default Style (Embedded CSS) with Applet.

Resolution (dpi) can be defined when exporting reports

When exporting a report, you can choose the resolution (DPI) so that the file generated will be smaller. This is especially useful when a report contains several charts.

Input Controls

Input Controls can be used on Hierarchical Objects.

6.3.10.6 Linking to other documents

You can now link to the following types of documents: target documents that refer to BEx queries; .unx universes; or .unv universes that contain prompts that use Index Awareness. There are additional parameters to set in the Create Hyperlink dialog. Refer to the user documentation for further information.

6.3.10.7 Calculator new features

Merge on attribute is possible, allowing you to synchronization through a key attribute.
You can choose to hide/show rows when measure values = 0 (equivalent to 0 BEx suppression).

6.3.10.8 Data provider server

SAP NetWeaver BI (BW) new features:
Scaling Factor: The scaling factor value is displayed as a key figure attribute.
Hierarchy display is available in the outline.
Hierarchy variable exists: can remove hierarchies from query panel other than default hierarchy.
Disabled member selection when Hierarchy Node variable exists to prevent data inconsistency.
New icon for hierarchy that is active in the underlying BEx Query.
Member selection based on levels is possible.
Implicit member selection from a node until a specified depth is possible.
Prompts on member selection is possible.
You can Prefix Key and Name attributes with parent name.
7 SAP BusinessObjects BI Suite 4.0 SP4

7.1 Supported platforms (4.0 SP4)

For full details of the supported versions of SAP and related third-party software, see the SAP Product Availability Matrix available at: https://support.sap.com/release-upgrade-maintenance/pam.html

Note

Type the following string into the Search field to find the Supported Platforms document for version 4.0 SP4: SBOP BI Platform 4.0.

The Supported Platform documents for the SAP BusinessObjects portfolio are also available at: https://support.sap.com/home.html

7.2 Application enhancements (4.0 SP4)

Some functional enhancements to SAP BusinessObjects Business Intelligence Suite applications are delivered in this Support Package.

**BEx queries on Crystal Reports, Dashboards and Web Intelligence**

Prior to SP4, the BI Consumer Services (BICS) transient universe, used to connect to BEx queries on a BW system, was built independently of the BI query being refreshed. As a result, all the metadata associated with the BEx query was being loaded, even though this metadata was not required to refresh the report. This resulted in slower performance and was especially noticeable when a large number of characteristics, key figures and hierarchies were included in the BEx query.

Starting with SAP BusinessObjects BI 4.0 SP4, the BI query is analyzed to determine exactly what metadata is required for the report refresh. The BW system is then queried for only the required metadata. This greatly increases the number of RFC calls, the size of the metadata returned by the BW system, and the time it takes to refresh the query.

This concept is referred to as a Lean Universe as it strips away the excess objects and optimizes the queries for better performance during refresh. There are no user interface changes related to this enhancement so the end user does not need to change their workflow. It is important to note that this change only applies to the refreshing of documents and does not change performance during the creation process.
**Note**

SAP recommends you tailor your BEx queries to your reporting needs by creating BEx queries that service multiple, similar reports. It is not recommended to create large, all-encompassing BEx queries that can be used for multiple report requirements as this increases report design and refresh time.

**Note**

If you require help designing BEx queries for your reporting needs or guidance on how to size your BI Platform environment, SAP recommends you involve a consultant. For more details, see SAP Note 83020.

## Web Intelligence

- The new **Purge last selected prompt values** feature means that when a query containing a prompt is refreshed, the last used prompt values can be purged so that the user gets the default value (if any). When this isn’t selected, the user is proposed the last used values for the prompt, but can (depending on rights) use other allowed values.
- The new document property attribute **Merge/Unmerge prompts (BEx variables)** means that BEx variables with the same technical name can be merged or unmerged (if they were already merged).

## Analysis, edition for OLAP

- Hierarchies and prompts are now supported for SAP HANA data sources.
- You can connect to Microsoft SQL Server 2012 Analysis Services data sources.
- To improve performance, some operations that Analysis, edition for OLAP handled in previous versions are now delegated to the OLAP server. These include
  - expanding and collapsing parent members
  - filtering out null and zero values

Because these operations are handled on the OLAP server, Analysis can fetch and display data in smaller chunks, and the performance, responsiveness, and usability of the product is improved. As a result of this change, some analyses can be filtered to remove null values only, and asymmetric drilling cannot be performed on nested hierarchies.

## Information Design Tool

- The new `<@Execute>` function provides more options for specifying SQL query script. The `<@Execute>` function lets you define a preliminary query that provides a list of values in a SELECT predicate to be included in the main query.
- The new system variable, `<DOCID>`, retrieves the document identifier using `<@Variable>`. 
8 SAP BusinessObjects BI Suite 4.0 SP5

8.1 Supported Platforms (4.0 SP5)

For full details of the supported versions of SAP and related third-party software, see the SAP Product Availability Matrix available at: https://support.sap.com/release-upgrade-maintenance/pam.html.

Note
Type the following string into the Search field to find the Supported Platforms document for version 4.0 SP5: SBOP BI Platform 4.0.

The Supported Platform documents for the SAP BusinessObjects portfolio are also available at: https://support.sap.com/home.html.

8.2 BI Suite Enhancements (4.0 SP5)

This release delivers the following enhancements to the Business Intelligence Suite:

New Windows shortcut menu location

The Windows shortcut menu where SAP BusinessObjects Business Intelligence software is located has changed. The new shortcuts are under the Start All Programs SAP Business Intelligence root node.

Add or remove languages during a modify installation

You may now add or remove a language by modifying your SAP BusinessObjects BI product installation. You no longer have to remove and re-install the product to select new languages. This change applies to all SAP BusinessObjects BI product installation programs, including:

- SAP BusinessObjects Business Intelligence platform server
- SAP BusinessObjects Business Intelligence platform Client Tools
- SAP BusinessObjects Dashboards
- SAP BusinessObjects Explorer
- SAP BusinessObjects Integration Option for Microsoft SharePoint software
- SAP BusinessObjects Live Office
SAP Crystal Reports for Enterprise
SAP Crystal Reports 2011
SAP Crystal Reports Viewer 2011

To add or remove a language:

- On new version of Windows (such as Windows Server 2008), go to Start > Control Panel > Programs and Features, select your product and click Uninstall/Change. Select the Modify option and add or remove languages from the Choose Language Packs screen.
- On older versions of Windows (such as Windows Server 2003), go to Start > Control Panel > Ad or Remove Programs, select your product and click Change. Select the Modify option and add or remove languages from the Choose Language Packs screen.
- On UNIX (BI platform server installations), run the modifyOrRemoveProducts.sh program, select your product and then the Modify option, and add or remove languages from the Choose Language Packs screen.

SAP BusinessObjects Business Intelligence platform, SAP Crystal Reports 2011 and the Install customization tool

The new baselinePath parameter replaces the baselinePackages parameter for customizing Patch or Support Package installation programs.

For details on the new behavior and examples, see the SAP BusinessObjects OEM Customization Guide.

8.3 BI Platform Enhancements (4.0 SP5)

This release delivers the following enhancements to the Business Intelligence platform:

Information Design Tool

The turn into measure feature is enhanced.

In the business layer, the Turn into Measure with Aggregation Function command also sets the appropriate projection function.

Data access

The following new parameters are available:
### Semantic Layer SDK

The following new features and enhancements are delivered in SP5:

- Global API redesign
- Major new functionality: editing data foundations and business layers
- New samples

See the *Semantic Layer Java SDK Developer Guide* for more information.

### RESTful web service SDK

- The CMC WACS (Web Application Container Server) RESTful Web Service now includes support for Cross-Origin Resource Sharing Configuration (CORS). A new *Allow Origins* setting permits listing of domains that may be accessed and timeout values.
- Command line parameters now includes support for adding acceptable Methods and Headers.
- Support for the JSON format has been expanded.
- The RESTful Web Service documentation now includes a listing of the RWS class of error messages.

### BI platform .NET SDK

The new *CrystalDecisions.Enterprise.SecurityInfo2* class allows you to assign roles, rights, and limits on objects to users and user groups. For details on this new .NET API, see the *Business Intelligence platform .NET API Reference*.

### 8.4 BI Application Enhancements (4.0 SP5)

Some functional enhancements to SAP BusinessObjects Business Intelligence Suite applications are delivered in this Support Package:
SAP BusinessObjects Analysis, edition for OLAP

Support for Teradata OLAP data sources - using Teradata’s XMLA interface, Analysis supports Teradata Database 13.0, 13.10, and 14.0.

Manual entry for hierarchy node prompts - In the “Prompts” dialog box for an SAP BW data source, you can manually type values for hierarchy node prompts.

SAP BusinessObjects Dashboards

The following enhancements are delivered in this release:

- Mobile compatibility - dashboards can now be viewed on mobile devices such as the iPad. Because of the smaller screen and lack of mouseover capabilities, certain components and dashboard features are unsupported on mobile devices.
- “Object Browser” searching - components can be searched by type or by name in the "Object Browser”.
- “Components” browser filtering - the "Components” browser can filter its list to only display components supported on mobile devices.
- Mobile Preview modes - The Preview functionality now has two new options for displaying dashboards as they would look on a mobile device: (Fit to Screen) and (Original Size).

SAP BusinessObjects Explorer

The following enhancements are delivered in this release:

- Change data source - You can change the data source for an information space. This allows an information space to be connected to another data source if the original has been moved, changed, or deleted. The data sources that can be changed are BWA, Hana, and universes (.UNX).
- New Preferences pane - A new preferences node in Manage Spaces opens a pane that allows you to specify how facets are displayed in an information space. The facet display order is now in this pane, as well as a new option Hide the facet panel when opening the information space. This allows you to display facets when required for an exploration. See the next item in this list for more information.
- New facet filter - A new preference option Hide the facet panel when opening the information space allows a user to filter the facets available to display only the ones that needed for an exploration. When this option is selected, the facet panel is not displayed when an information space is opened. An arrow is displayed instead, when clicked, a facet list appears allowing the user to select the facets required for the exploration. This optimizes the opening time for an information space when it contains many facets.
- Updated administration documentation - The Explorer administration guide has improved documentation on configuring SSO, including a new section on SAP SSO. The guide also contains information on creating new customized geography repositories. These allow you to add both new cities and city aliases to the location values available for geography dimensions.
SAP BusinessObjects Web Intelligence

The following functionality enhancements are delivered in this version of Web Intelligence and Web Intelligence Rich Client:

- BW hierarchy version support -- the version of the hierarchy use at creation time is displayed in the hierarchy and in the reports
- **Extend to Level** (the Administrator sets the level to which data is retrieved from BEx queries)
- Levels are now prepended by their relative level in the hierarchy (1, 2, 3...)
- Query stripping is activated by default for BEx queries in the properties panel
- Text wrap is now available for pie charts

In Web Intelligence, when SAP NetWeaver BW hierarchies are displayed, the version of the hierarchy is also displayed (BW records versions of hierarchies when they are modified in BW).

Web Intelligence RESTful service SDK

The Web Intelligence RESTful web service SDK is an API used for manipulating the following:

- manipulating Web Intelligence documents and reports
- retrieving data from a dataprovider
- retrieving a list of available universes and details of universes
- scheduling documents

**Note**

It cannot be used to edit/create SAP Web Intelligence documents.

The Web Intelligence RESTful web service SDK relies on the BI platform RESTful web services API for session management and repository access.

SAP Crystal Reports for Enterprise and SAP Crystal Reports 2011

Enhancements for SAP NetWeaver BW -- several BW-related improvements are delivered for Crystal Reports for Enterprise:

- Level selection in query panel for multi lingual environments
- Improved support for Hierarchy versions

Mobile availability -- Interactive Crystal Reports content is now available in SAP BusinessObjects Mobile BI 4.4.0.

For information on interactive Crystal Reports content in Mobile BI, consult the *SAP BusinessObjects Mobile for iOS 4.4.0 User Guide*.

Administration enhancements -- the **Smart View** setting in the Central Management Console allows an administrator to change BI launch pad report viewing behavior from viewing the latest instance of a report to refreshing report content from the data source.
1. In the Central Management Console, click **Applications**.
2. On the **Applications** page, double-click **Crystal Reports Configuration**.
3. The **Properties: Crystal Reports Configuration** dialog box appears.
4. Under **Properties**, select **BI launch pad**.
5. Under **Smart View**, perform one of the following actions:
   ○ To view the last successful instance when you double-click a publication in BI launch pad, select **View Latest Instance**. If no successful instance exists, the publication is refreshed against its data source. This is the default view.
   ○ To always refresh a publication against its data source (regardless of whether an instance exists) when you double-click the publication in BI launch pad, select **View Object**.
6. Click **Save & Close**.

**SAP BusinessObjects Mobile**

In SAP BusinessObjects Mobile 4.0 SP5, the following changes have been introduced:

- Mobile servers ("MobileBIServers.war" and "MOBIServer.war") are automatically deployed on Windows and Linux operating systems.
- Implementation changes:
  ○ Mobile Authentication server (VAS) and Mobile Job server (VMS) are replaced by the Mobile BI Web application server (MobileBIService.war). Therefore, all the server requests from the mobile client devices, including Android device (smart phone or tablet), iOS, and BlackBerry are now handled by this Web application server. As a result:
    ○ Authentication and synchronization databases that stored data from VAS and VMS are no longer used. This functionality is now handled by the MobileBIService.war file.
    ○ The cluster.config files and server.config files that were required to configure VAS and VMS are no longer required. The MobileBIService.war file handles the configuration of the Mobile server. For more information, see the Upgrading the Application section in the Server Installation and Deployment Guide: SAP BusinessObjects Mobile 4.0 Service Pack 5 available on the SAP Help portal at: [http://help.sap.com/bomobile40](http://help.sap.com/bomobile40).
    ○ No processes use the port numbers 11011 (default port for VAS) or 11711 (default port for VMS). Therefore, any firewall changes to enable communication through these ports can be safely reverted.
    ○ XI3MobileAuthServer and XI3MobileJobServer Windows services are no longer required and are therefore not created by the 4.1 installation.

9 SAP BusinessObjects BI Suite 4.0 SP6

9.1 Supported Platforms for 4.0 SP6

For full details of the supported versions of SAP and related third-party software, see the SAP Product Availability Matrix available at: https://support.sap.com/release-upgrade-maintenance/pam.html

Note

Type the following string into the Search field to find the Supported Platforms document for version 4.0 SP6: SBOP BI Platform 4.0.

The Supported Platform documents for the SAP BusinessObjects portfolio are also available at: https://support.sap.com/home.html

9.2 BI Application Enhancements for 4.0 SP6

Data access

New data sources - The BI platform allows you to create connections to new data sources. See the Product Availability Matrix for more information.

Deprecated connectivities - Existing connections to the following data sources continue to work but you cannot create new connections to them:

- DB2 for z/OS v8, DB2 UDB v8 and DB2 v9.1
- GreenPlum 3
- MS Access 2003, MS Excel 2003, MS SQL Server 2005
- Progress OpenEdge 10
- Sybase IQ 12.7 and Sybase SQL Anywhere 10

SAP Web Intelligence RESTful web service SDK

Document Management - The following document-related functions have been updated:

- Properties
- Styles
- Functions
- Operators
• Variables
• Alerters
• Change tracking
• Attachments
• Links

For more information, see Section 3.2 of the User’s Guide.

Document lifecycle management - New methods and options concerning the document state and creating/ managing snapshots have been added. For more information, see Section 3.3 of the User’s Guide.

Report management - The following report-related functions have been updated:
• Export
• List
• Drill
• Structure

For more information, see Section 3.4 of the User’s Guide.

Managing data providers - The following report-related functions have been updated:
• Data provider details
• Mappings
• Moving data providers
• Flow information
• Query specifications

For more information, see Section 3.5 of the User’s Guide.

Document scheduling - The following methods have been updated:
• Add a schedule
• Delete a schedule
• Cancel a schedule
• Get the list of schedules
• Get the details of a schedule

For more information, see Section 3.6 of the User’s Guide.

Refreshing documents - The following methods have been updated:
• Get the refresh parameters
• Refresh a document
• Cancel the refresh of a document

For more information, see Section 3.7 of the User’s Guide.

Managing universes - You can now get the query capabilities of a universe. For more information, see Section 3.8 of the User’s Guide.
10  SAP BusinessObjects BI Suite 4.0 SP7

10.1  Supported Platforms for 4.0 SP7

For full details of the supported versions of SAP and related third-party software, see the SAP Product Availability Matrix available at: https://support.sap.com/release-upgrade-maintenance/pam.html

i Note
Type the following string into the Search field to find the Supported Platforms document for version 4.0 SP7:
SBOP BI Platform 4.0.

10.2  BI Suite Enhancements for 4.0 SP7

New features introduced in this version.

Web Intelligence

Enhanced charting features: You can now adjust the color, color opacity and data label position of pieces or points in Bar, Column, Line, Pie, Scatter, Bubble, and Point charts.

Data Access

New connectivities: The Data Access layer supports the use of DataDirect ODBC 7.0 drivers for MS SQL Server databases on all UNIX platforms. Please see the Product Availability Matrix for more details.

RESTful Web Services SDK

New exporting file support: You can now export a report in paginated mode in HTML format in a zipped file, or export a page of a report in HTML format in a zipped file.
Report Conversion Tool

New Capability to Convert Document Instances: In addition to converting Desktop Intelligence documents to Web Intelligence documents, the Report Conversion Tool now allows you to convert instances of the Desktop Intelligence documents to Web Intelligence format. For information on how to convert Desktop Intelligence report instances to Web Intelligence instances, refer to the chapter "Converting Desktop Intelligence Report Instances to Web Intelligence Instances" in the Report Conversion Tool Guide for 4.0, Support Package 7.
11 SAP BusinessObjects BI Suite 4.0 SP8

11.1 Supported Platforms for 4.0 SP8

For full details of the supported versions of SAP and related third-party software, see the SAP Product Availability Matrix available at: https://support.sap.com/release-upgrade-maintenance/pam.html
12 SAP BusinessObjects BI Suite 4.0 SP9

12.1 Supported Platforms for 4.0 SP9

For full details of the supported versions of SAP and related third-party software, see the SAP Product Availability Matrix available at: https://support.sap.com/release-upgrade-maintenance/pam.html

12.2 BI Suite Enhancements for 4.0 SP9

Web Intelligence RESTful Web Service SDK

- For .unv universes, the Data Source Identifier is now linked to the Data Provider exposed through the SDK. The details of the Data Provider contain the data source prefix for data source object identifiers.
- You can now export a Web Intelligence document as a zipped HTML file.
- When you export a document or report as a zipped HTML file, you can now specify the name of the zip file in the HTTP call.
13  SAP BusinessObjects BI Suite 4.0 SP10

13.1  Supported Platforms for 4.0 SP10

For full details of the supported versions of SAP and related third-party software, see the SAP Product Availability Matrix available at: https://support.sap.com/release-upgrade-maintenance/pam.html

13.2  Web Intelligence Enhancements for 4.0 SP10

This section lists the new features available for Web Intelligence 4.0 SP10.

The following user guides contain information on runtime configurations for BEx queries:

- SAP BusinessObjects Web Intelligence Users Guide
- SAP BusinessObjects Web Intelligence Rich Client Users Guide
- Building SAP BusinessObjects Web Intelligence queries based on BEx queries

i  Note

This information is only available for SP10 in the English versions of the PDFs. The translated versions will be available in the Web Intelligence PDFs and application online help as of SP11.
14  SAP BusinessObjects BI Suite 4.0 SP11

14.1  Supported Platforms for 4.0 SP11

For full details of the supported versions of SAP and related third-party software, see the SAP Product Availability Matrix available at: https://support.sap.com/release-upgrade-maintenance/pam.html

14.2  Data Access

The following are the databases supported in this release:

- HANA SPS 09
- Teradata 15 direct ODBC and JDBC support
- IBM DB2 for i7.2 ODBC support

For more information, see Product Availability Matrix (PAM) http://service.sap.com/pam
15 SAP BusinessObjects BI Suite 4.0 SP12

15.1 Supported Platforms for 4.0 SP12

For full details of the supported versions of SAP and related third-party software, see the SAP Product Availability Matrix available at: https://support.sap.com/release-upgrade-maintenance/pam.html

15.2 SAP BusinessObjects Business Intelligence Platform

**Tomcat 7 bundled web application server**

Tomcat 7.0 is now the default, bundled web application server.

If you are updating a you existing setup that uses the bundled Tomcat 6.0 web application server to 4.0 SP 12 with the update installation program, your system is automatically updated to Tomcat 7.0.

**Upgrade Management Tool**

Included a note in Before you Start section under Performing Upgrades section. For more Information, see SAP Note 2203527.
Important Disclaimers and Legal Information

Coding Samples

Any software coding and/or code lines / strings (“Code”) included in this documentation are only examples and are not intended to be used in a productive system environment. The Code is only intended to better explain and visualize the syntax and phrasing rules of certain coding. SAP does not warrant the correctness and completeness of the Code given herein, and SAP shall not be liable for errors or damages caused by the usage of the Code, unless damages were caused by SAP intentionally or by SAP’s gross negligence.

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