

SAP BusinessObjects Business Intelligence Suite
Version: 4.1 SP5 (2014-12-11)

What's New



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1 About this document

The *What's New Guide for SAP BusinessObjects Business Intelligence Suite 4.1* provides an overview of the features and enhancements that have been added to the SAP BusinessObjects Business Intelligence Suite since the previous release. It directs you to the available product documentation to get you started using the new features.

2 SAP BusinessObjects Business Intelligence Suite 4.1

2.1 Welcome to SAP BusinessObjects Business Intelligence Suite 4.1

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 4.1 introduces the following enhancements:

- **System Configuration Wizard**
The System Configuration Wizard helps administrators configure SAP BusinessObjects Business Intelligence platform. The wizard makes it easier than ever to get your system up and running by guiding you through a set of essential post-installation configuration steps.
- **SAP Jam**
SAP Jam is a new collaboration tool that helps you connect your customers, partners, and employees with information, applications, and processes for social networking and applications, in the office or while mobile.
- **SAP HANA Business Layer Wizard**
The New SAP HANA Business Layer wizard automatically creates a data foundation and business layer based on selected SAP HANA views.
- **Analysis, edition for OLAP integration with SAP BusinessObjects Design Studio**
After you create a workspace in Analysis based on SAP BW or SAP HANA data, you can export it as a Design Studio analysis application for flexible use by mobile or desktop users.
- **Support for right-to-left display**
For many components of SAP BusinessObjects Business Intelligence Suite 4.1, you can now add support for some languages that read right-to-left, such as Arabic.

Note

To enable right-to-left support, ensure that you perform a full installation instead of an update installation.

- **And much more**
Read this guide for details. Products and applications are listed in alphabetical order.

Note

- For a list of supported platforms, databases, web application servers, web servers, and other systems supported by this release, see the *Product Availability Matrix (Supported Platforms/PAR)*, available on the SAP BusinessObjects section of the SAP Support Portal at: <https://service.sap.com/bosap-support>.
- To learn about features of previous releases, visit the SAP Help portal at <http://help.sap.com/bobi>.

2.2 SAP BusinessObjects Analysis, edition for OLAP

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

What's new in Analysis, edition for OLAP:

- New analysis functions
- Prompt functionality enhancements
- Improved SAP integration
- Support for additional data sources

2.2.1 Analysis functions

2.2.1.1 Custom groups (New)

Custom groups allow you to combine multiple members from one or more hierarchies belonging to the same dimension into a single group. You can add the group to the crosstab as a member of an existing hierarchy that it is based on, or view it as a separate hierarchy. Custom groups can be shared with other users in your organization who have access to the same data source. Custom groups are supported only for Microsoft Analysis Services and Oracle Essbase data.

2.2.1.2 Export to analysis application

Analysis, edition for OLAP is closely integrated with the new SAP BusinessObjects Design Studio product. After you create a workspace in Analysis based on SAP BW or SAP HANA data, you can export it as a Design Studio analysis application for flexible use by mobile or desktop users. Users can sort, drill, and change the members of background filters for an analysis application.

If necessary, application designers can also customize these analysis applications further in Design Studio.

2.2.1.3 Waterfall charts (New)

Waterfall charts, which can help illustrate a series of positive and negative changes across a single row, are now available in Analysis.

Waterfall charts are also known as bridge charts.

2.2.1.4 Filter by measure extended to new data sources (Changed)

Filtering by measure is now available for all types of data sources for Analysis, except SAP HANA. This feature allows you to filter dynamically based on data values in your analysis.

2.2.1.5 Enhanced conditional formatting for SAP BW (Changed)

You can now view and apply conditional formatting to individual data cells, row headers, or column headers. You can also define conditional formatting to display on a different measure than the one that the condition is based on.

2.2.1.6 Expand to level (New)

The Expand to Level function is now available for hierarchies in the crosstab. It allows you to quickly drill the entire hierarchy to a specific level.

2.2.1.7 Jumplinks to Web Intelligence documents (New)

You can now create jumplinks to Web Intelligence reports. Jumplinks allow you to open a related report from a column header, row header, or crosstab cell. You can choose to pass parameters such as SAP variables and row and column member text to the report so that it shows contextual data.

2.2.2 Prompt functionality enhancements

2.2.2.1 Prompt dialog box (New and changed)

The *Prompts* dialog box has been redesigned to make it easier to access prompts for all connections in the same window. From the *Prompts* dialog box, you can do the following:

- View required or optional prompts.
- Expand all optional prompts.
- Merge prompts to ensure that the same value is applied across all appropriate queries.
- Specify default prompt values for a workspace.
- Use SAP variants to set prompt values for SAP BW variables.
- Save prompt values with the workspace. The next time you open the workspace, the data source's default prompt values are filled with the values you specified in the *Prompts* dialog box.

2.2.2.2 SAP variants (New)

SAP variants are sets of saved values for SAP BW query prompts. You can save time by using a variant to specify the values for several prompts simultaneously. You can create variants in Analysis, edition for OLAP, or use existing SAP variants created in BEx Analyzer or Analysis, edition for Office.

2.2.2.3 Parameterized OpenDocument URLs (Changed)

OpenDocument URLs, which allow you to view an Analysis workspace without logging into the BI launch pad, can now include parameters that set prompt values for the workspace. Using parameterized OpenDocument URLs, you can open an Analysis workspace directly without being prompted for SAP variable values.

2.2.3 SAP integration

2.2.3.1 Report-Report Interface (New)

Analysis workspaces that use SAP BW data sources now support the Report-Report Interface (RRI). If RRI links have been configured for the SAP BW data used in a crosstab, you can jump from the crosstab to the RRI targets (for example, reports, other BEx queries, ABAP transactions, and web addresses). RRI targets can be context-sensitive, so that the target report reflects the member that you right-clicked in the crosstab.

2.2.3.2 BEx conditions (New)

Analysis workspaces that use SAP BW data sources now support conditions defined in SAP NetWeaver Business Explorer (BEx). If BEx conditions have been configured for the SAP BW data used in a crosstab, you can filter the data by enabling or disabling the conditions. By default, they are enabled.

2.2.3.3 Default BW filters (New)

In an analysis based on SAP BW data, you can now view and edit characteristic filters defined in SAP NetWeaver Business Explorer (BEx).

If a filter is defined in SAP NetWeaver Business Explorer (BEx) by restricting a characteristic to default values, and that characteristic is added to the "Free Characteristics" area in SAP BEx Query designer, it will appear in the "Background" filter area in Analysis.

2.2.3.4 HANA Single Sign-on (New)

Analysis, edition for OLAP now supports single sign-on (SSO) connections to SAP HANA data sources using SAML to authenticate users.

2.2.4 New data sources

2.2.4.1 Essbase (New)

You can now create connections to Oracle Essbase data sources.

2.3 BI Platform

2.3.1 Installation, upgrade, and deployment

2.3.1.1 Bundled CMS database (Changed)

Sybase SQL Anywhere is now the default, bundled database server for the CMS and Auditing Data Store.

If you are updating a 4.0 installation that uses the bundled IBM DB2 Workgroup edition or Microsoft SQL Server Express database server to 4.1 with the update installation program, your database is preserved and will still be used. You may continue to use this bundled database server with no further action. Or you can choose to migrate your existing databases to Sybase SQL Anywhere by following the steps described in "Migrating to Sybase SQL Anywhere" in the *SAP BusinessObjects Suite 4.1 Update Guide*.

2.3.1.2 Bundled Tomcat application server (Changed)

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

If you are updating a 4.0 installation that uses the bundled Tomcat 6.0 web application server to 4.1 with the update installation program, your system is automatically updated to Tomcat 7.0.

2.3.1.3 Upgrade management tool (Changed)

- This release removes the need to remap third-party users and groups (AD/LDAP) after migrating from a previous version of the deployment. All third-party users and groups are mapped properly at the end of the migration.

- This release adds automated checking of required services. Administrators are notified if a service required by a document type is not running (for example, Crystal Reports requires the Report Application Server and Explorer requires the Explorer Master Server).
- This release replaces existing server tracing parameters with `sap_log_level` and `sap_trace_level`. For more information, see the “Planning Upgrades” and “Preparing for Upgrades” chapters of the *SAP BusinessObjects Business Intelligence Platform Upgrade Guide*.

2.3.2 System administration

2.3.2.1 System Configuration Wizard (New)

The System Configuration Wizard helps administrators configure SAP BusinessObjects Business Intelligence platform. The wizard guides you through a set of essential post-installation configuration steps, such as:

- Selecting which products will be used
- Selecting a balance between performance and resource utilization
- Selecting a deployment template
- Configuring data folders

2.3.2.2 Server states (Changed)

In this release, fault reporting is improved. In the unlikely event of a service failure, the server state will reflect the failure by changing to “Started with Errors”. Or, in the case of all services failing, the server state will change to “Failed”. To help you with troubleshooting, failure details can be found on the server properties page in the Central Management Console.

2.3.2.3 Single sign-on to SAP HANA using SAML (New)

You can configure single sign-on (SSO) for SAP HANA database connections. SSO is implemented using SAML (Security Assertion Markup Language). Once you have established a BI platform session, you can generate a SAML ticket, which can be used to log into SAP HANA without requiring the user to provide a password.

2.3.2.4 Web Intelligence customization (New)

You can customize the appearance of Web Intelligence user interface elements based on user groups. For example, you can hide whole toolbars or specific items in a toolbar, for a specific user group.

2.3.2.5 Multitenancy Management Tool (Changed)

The Multitenancy Management Tool is a Java-based provisioning application that is used to create tenants for a multitenant BI platform deployment based on templates created in the CMC and through the properties file settings.

The following new features have been added:

- UNX is now supported.
- Tenant IDs are now recorded in auditing records.
- The `tenantConcurrentUserLimit` parameter has been added to the properties file as well as the CMC interface to allow you to set the maximum number of logins per tenant.

For more information, see the *Multitenancy Management Tool Guide*, “Running the Multitenancy Management Tool > Tenant on-boarding/provisioning configuration options > `tenantConcurrentUserLimit`”.

Multitenancy tenant management in the CMC

Tenants that have been added can be further configured and managed through the CMC. The CMC Home screen lists *Multitenancy* in the *Manage* section.

The available tenant management features are as follows:

- *Properties*
 - *Tenant name*
 - *Description*
 - *Keywords*
 - *Resource weight*
 - *Concurrent users*
 - Read-only values include *ID*, *CUID*, *Date created* and *Date last modified*
- *Manage user security*
 - *Add Principals*
 - *Set rights for tenant user groups*
- *Add groups to a tenant*
- *Manage user groups*
- *Delete a tenant*
 - All or partial object deletion

For more information, see the *Multitenancy Management Tool Guide*, “Managing tenants in the CMC”.

2.3.2.6 Promotion Management (Changed from Life Cycle Management)

- This release renames life cycle management to promotion management.

- This release adds WinAD support for promotion management.
- Version management and promotion management now support new content types: Analytical Application, Information Steward, Design Studio, and Desktop Intelligence.

i Note

The structure of the *SAP BusinessObjects Business Intelligence Platform Administrator Guide* has been improved and reorganized to reflect these changes. For more information, see the “Version Management”, “Promotion Management,” and “Visual Difference” chapters.

2.3.3 BI portals

2.3.3.1 Collaboration with SAP Jam (New)

Collaboration was expanded in Business Intelligence (BI) platform to include the SAP Jam application.

SAP Jam connects your customers, partners, and employees with information, applications, and processes for social networking and applications, in the office or while mobile. By adding collaboration to reporting, sales, and other processes, you can shorten sales cycles, increase customer and employee engagement, and reduce training costs. SAP Jam delivers a single, secure social foundation across your business, connecting all silos of collaboration.

You can use SAP Jam collaboration to perform the following tasks:

- Send or schedule Crystal reports and Web Intelligence documents to collaboration activities
- Monitor SAP Jam feeds
- Post comments on documents and instances and view comments posted by other SAP Jam users about public documents

CMC configuration options

Collaboration configuration options appear in the **► Applications ► Collaboration ▾** area of the Central Management Console (CMC) in BI platform. The *Properties: Collaboration* dialog box includes the following additions:

- *Enable Collaboration* check box
- *SAP Jam* and *SAP StreamWork* radio buttons

For information, see *SAP BusinessObjects Business Intelligence Platform 4.1 Integrating Collaboration Applications*.

BI launch pad collaboration features

After the collaboration application is configured in the CMC, SAP Jam feeds are available in BI launch pad. The *Documents* tab includes the following changes for collaboration:

- The list panel includes a *Collaboration* column.
- The feed panel drawer was renamed *Collaboration*.
- The *Send* and *Schedule* menus include a *Collaboration* destination.

For information about using SAP Jam, see the *SAP BusinessObjects Business Intelligence Launch Pad User Guide*.

2.3.3.2 Integration Option for Microsoft SharePoint documentation (Changed)

Documentation for the Integration Option for Microsoft SharePoint software has been revamped:

- The help and getting started guide were reorganized and updated with additional explanations, instructions, and images.
- The installation guide and configuration guide were combined, and the resulting guide was reorganized and updated. The new guide contains expanded explanations, new instructions, and new images.

2.4 Crystal Reports

The SAP Crystal Reports products include SAP Crystal Reports for Enterprise, SAP Crystal Reports 2013 viewer, and SAP Crystal Reports 2013.

What's new in SAP Crystal Reports products:

- Streamlined report design
- Improvements to data sources
- Mobile and viewer support
- OEM and developer features

2.4.1 Streamlined report design (New and Changed)

The SAP Crystal Reports for Enterprise designer introduces more efficient workflows and features focused on reducing the time required to create and format reports:

- Freehand SQL command object - customize the SQL to optimize the query to relational data sources.
- Verify database options - ensure the report query reflects the modifications to the underlying data source.
- Report on modelled and unmodelled data - use subreports to combine in a single report data from multiple data sources including authored/modeled and unmodelled data from relational database tables.

2.4.2 Data sources (New and Changed)

BI 4.1 provides enhanced performance and reliability for BEx queries accessed through Crystal Reports for Enterprise.

- In SAP BW, you can now perform the following tasks:
 - Persist variable values in query panel and consume in HTML viewer.
 - Define member selection based on relative depth for BW Hierarchy Node Variable.
 - Define member selection based on levels for BW Hierarchy Variable.
 - Toggle between technical name vs. member caption for BW variables.
- In SAP ECC, SAP ECC's optional parameters are now supported with no default value when accessed through an authored universe.

BI 4.1 also provides enhanced support for creating reports based on SAP HANA's relational and OLAP data structures, including the following enhancements:

- Authored relational universe.
- Direct OLAP access to Analytic and Calculated views including hierarchies and variables.
- Direct access through JDBC and ODBC.
- Single sign-on through SAML.
- Support for JDBC SSL.

Authored universes are now supported for XML and Odata.

2.4.3 Mobile and Viewers (New and Changed)

Interactive Crystal Reports are now available in SAP BusinessObjects Mobile BI. There is also OpenDoc support in Mobile BI.

HTML viewers now support right-to-left locales by providing the following enhancements:

- Mirrored interface based on product locale.
- Right-to-left reporting of Arabic.
- Bi-directional text support in a single report.

Other viewer enhancements include the following:

- Chunking list of values in HTML viewer.
- Setting default view action in BI launch pad.

2.4.4 OEM and developers (New)

Application developers can now use Opendoc API with a very long URL. Also, there is OEM support for Opendoc POST requests.

2.5 Dashboards

SAP BusinessObjects Dashboards is data visualization software that lets you create and export interactive dashboards from Excel spreadsheets or other external data sources such as BEx queries. These data sources are linked to various components on the dashboard, such as charts, graphs, and dials, which help the dashboard user visualize data and make more informed business decisions.

The 4.1 release of SAP BusinessObjects Business Intelligence platform introduces the following changes to Dashboards:

- Enhanced support for using dashboards on mobile devices.
- Improved functionality in the *Objects Browser* and *Components* browser.
- Mobile-specific improvements to the Dashboards Component SDK.
- Support for accessibility.

2.5.1 Mobile support (New and Changed)

- Dashboards can now be viewed on mobile devices running iOS or Android.

i Note

Due to the smaller screen and lack of mouseover capabilities, certain components and dashboard features are unsupported on mobile devices.

- The *Mobile Compatibility* panel has been added to the Dashboards user interface. If your dashboard contains features or components not supported on mobile, the *Mobile Compatibility* panel displays a warning.
- Dashboards can now be saved to an SAP BusinessObjects Business Intelligence platform deployment as mobile objects. These objects can be viewed on the consumer's mobile device and do not include any components or features unsupported on mobile devices.
- Two *Preview* modes have been added: *Mobile (Fit to Screen)* and *Mobile (Original Size)*.

2.5.2 Object Browser and Components browser (Changed)

- Components on the canvas can be searched by type or by name in the *Object Browser*.
- Components displayed in the *Components* browser can be filtered to display only components supported on mobile devices.

2.5.3 Dashboards Component SDK (Changed)

- Dashboards Component SDK now allows developers to create new components and connections for use on mobile devices using HTML5.
- A sample HTML5 add-on project has been added to the *Dashboards Component SDK* guide collection.

2.5.4 Accessibility (New)

- Certain components can now be navigated using the keyboard.
- Certain components now support assistive technology such as text-to-speech screen readers.

2.6 Data Access

The Data Access layer of the BI platform introduces the following changes:

- [Data Sources \(New\) \[page 17\]](#)
- [Single Sign-On \(New and Changed\) \[page 17\]](#)
- [SAP HANA Connections \(New\) \[page 18\]](#)
- [SAP ERP Connections \(Changed\) \[page 18\]](#)
- [Deprecated Connection Types \(Deprecated\) \[page 18\]](#)

See the *Data Access Guide* for more information.

2.6.1 Data Sources (New)

- The BI platform allows you to create connections to new data sources. See the *Product Availability Matrix* for more information.
- The BI platform provides new data access drivers for connecting to the following data sources:
 - OData 2.0 data sources, including services to SAP systems provided by SAP NetWeaver Gateway
 - XML documents
 - Web services with WSDL 1.1
- The BI platform allows the use of DataDirect ODBC 7.0 drivers for MS SQL Server connections on UNIX.

2.6.2 Single Sign-On (New and Changed)

- You can now connect to the following databases by using single sign-on authentication:
 - Teradata 13 and Teradata 14
 - Sybase IQ 15
- The BI platform uses either Windows AD with Kerberos or the SAML protocol to process single sign-on connections to the SAP HANA 1.0 database.

2.6.3 SAP HANA Connections (New)

- You can create connections to the new SPS 05 release of the SAP HANA 1.0 database.
- You can create OLAP connections to the SAP HANA database.
- You can create connections that use the SSL protocol to the SAP HANA database.
- You can create connections to the SAP HANA database through ODBC on 64-bit UNIX operating systems.
- You can retrieve data from the SAP HANA database by executing stored procedures through JDBC or ODBC.

See the *Data Access Guide*: [▶ Connection Reference](#) > [SAP HANA Connections](#) [▶](#).

2.6.4 SAP ERP Connections (Changed)

The SAP ERP driver provides a simplified mapping of ABAP function parameters to optional input columns.

2.6.5 Deprecated Connection Types (Deprecated)

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, and MS Analysis Services 2005
- Progress OpenEdge 10
- Sybase IQ 12.7, Sybase ASE 15, and Sybase SQL Anywhere 10

2.7 Desktop Intelligence

Desktop Intelligence is an integrated query, reporting, and analysis solution for business professionals that allows you to access the data in your corporate databases directly from your desktop and present and analyze this information in a Desktop Intelligence document.

Desktop Intelligence makes it easy to access this data, because you work in familiar business terms and nontechnical database terms like SQL. Once you have used Desktop Intelligence to access data, you can present information in reports as tables, or as sophisticated dynamic documents with drillable charts.

Desktop Intelligence lets you access data from a wide range of sources. You can access data from a number of sources:

- Universes
- Personal data files

-
- Stored procedures
 - Freehand SQL server
 - XML data provider
 - VBA data provider

2.7.1 What's new in Business Intelligence 4.1

You can migrate Desktop Intelligence documents from XI R2 and XI 3.1 to BI 4.1 using the Upgrade Management Tool(UMT). And now, you can view the Desktop Intelligence documents, which are currently in the BI 4.1 platform using the Desktop Intelligence Compatibility Pack(DCP). DCP is available in XI 3.1 Fix Pack 6.1 and later versions.

For more information on the prerequisites for working with the Desktop Intelligence Compatibility Pack, and on how to work with the DCP, refer to the Desktop Intelligence Compatibility Pack User guide available at the Analytics Knowledge Center.

2.8 SAP BusinessObjects 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 called Information Spaces. You can visualize the data in associated Exploration Views that can contain multiple charts to help you easily analyze and understand your data.

Added .UNV data source support

SAP BusinessObjects Explorer now allows you to access universes in both the .UNV and .UNX (relational sources only) formats.

Added SSO support

SAP BusinessObjects Explorer now supports SAML Single Sign-On (SSO) and SSO Kerberos.

Increased keyboard accessibility

SAP BusinessObjects Explorer now provides keyboard accessibility for both Information Spaces and Exploration Views. Keyboard access is always available to all users and does not require special installation or settings.

Improved Online Help

The Online Help has been rewritten and updated to facilitate access to information and examples for the creation and management of information spaces and exploration views, the personalization of information spaces, indexation, visualizing your data, and getting the most out of the Explorer user interface.

2.9 The Information Design Tool

The information design tool is an SAP BusinessObjects metadata design environment that enables a designer to extract, define, and manipulate metadata from relational and OLAP sources to create and deploy SAP BusinessObjects universes.

The following sections describe the new and enhanced features in the information design tool available in SAP BusinessObjects BI platform 4.1.

For more information, see the *Information Design Tool User Guide*.

Related Information

[Data federation layer \(New\) \[page 20\]](#)

[Migrate universes to SAP HANA \(New\) \[page 21\]](#)

[Help for new information design tool users \(New\) \[page 21\]](#)

[Data foundation enhancements \(New and Changed\) \[page 22\]](#)

[Enhancements to relational universes on SAP HANA \(New and Changed\) \[page 21\]](#)

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2.9.1 Data federation layer (New)

The federation layer, available only in multisource-enabled data foundations, lets you create federated tables that can include data from any of the data source connections defined in the data foundation. Federated tables can be inserted into the data foundation and used to define the schema on which the universe is built.

In the Data Foundation Editor, the new federation layer pane lets you graphically design a data flow composed of data source tables and federated tables.

2.9.2 Migrate universes to SAP HANA (New)

Universe Landscape Migration is an add-in to the information design tool that lets you migrate a relational, single-source universe created with the information design tool to a universe that connects to a database on SAP HANA. You can migrate universes based on the following types of relational connections: Oracle, Teradata, Microsoft SQL Server, and Sybase Adaptive Server Enterprise.

The universe's dependent reports (Web Intelligence and Crystal Reports) are also migrated. The security defined on the source universe and reports are applied to the SAP HANA universe and migrated reports.

The Universe Landscape Migration add-in is selected when installing the SAP Business Intelligence Client Tools and the information design tool. For more information, see the *Business Intelligence Platform Installation Guide for Windows*.

2.9.3 Help for new information design tool users (New)

When you open the information design tool for the first time, you see the welcome page that describes the resources you can create with the tool. From the welcome page you can access all the resource creation wizards, open existing resources, and link to help and training materials.

A new cheat sheet is available to help you create an OLAP universe.

The New Universe Wizard helps you create the resources you need to publish a local universe: either a single-source relational or OLAP universe. You can also select existing resources. At each step of the process, you can choose to create a resource or select an existing resource.

2.9.4 Enhancements to relational universes on SAP HANA (New and Changed)

The automatic creation of the underlying resources for relational universes on SAP HANA is enhanced. These enhancements help you build a more usable universe without needing to update the data foundation or business layer manually.

- The default process for creating a business layer on a data foundation containing SAP HANA views takes into account the metadata as defined in the SAP HANA information model. The New Business Layer wizard automatically creates the dimensions and attributes in each SAP HANA view in a business layer folder, and creates measures with the appropriate aggregation function.
- Variables and input columns defined in the SAP HANA information model are now included in the data foundation. When refreshing the data foundation, new, deleted, and updated variables in the data source are taken into account.
- When you insert a table corresponding to an SAP HANA view into the data foundation, for any metadata that was hidden in the SAP HANA information model, the corresponding columns are hidden in the data foundation.
- The New SAP HANA Business Layer wizard automatically creates a data foundation and business layer based on selected SAP HANA views. When multiple SAP HANA views are present in the data foundation, any dimensions and attributes that are common to different views are created as a single business layer object, and special aggregate-aware objects are generated to make queries on multiple views possible.

2.9.5 Enhancements to relational universes on SAP ERP (New and Changed)

The automatic creation of the underlying resources for relational universes on SAP ERP is enhanced. These enhancements help you build a more usable universe without needing to update the data foundation or business layer manually.

- The automatic detection of joins is supported for single-source data foundations. Joins are detected based on the relationships between primary and foreign keys.
- When you create a business layer, column descriptions in the data foundation are used for the object names in the business layer. The column descriptions are more user-friendly names from the SAP ERP database. For reference, column names in the data foundation become the object descriptions in the business layer.

2.9.6 Data foundation enhancements (New and Changed)

Several enhancements help you build a more coherent data foundation:

- To support features in new data sources, columns can be hidden in data foundation tables.
- You can now override the default delimitation for column names. You can manage column delimitation at the table level (all columns) and at the column level.
- It is now easier to assign values to input columns. For each input column, you select the type of assignment: no assignment, value assignment, or parameter assignment. For the value assignment, you can enter a blank value for input columns of character data type.
- New rules are added to check the integrity of the data foundation. These rules detect the following problems:
 - Mandatory input columns with no assigned value
 - Input columns that are assigned prompts that accept multiple values
 - Input columns that are assign parameters with incorrect data types
 - Unresolved loops inside the data foundation.

Several enhancements help you navigate the Data Foundation Editor: find objects in the data foundation, and find tables in the connections:

- In the connection and data foundation panes, a filter limits the display to only relevant SAP HANA views.
- When inserting tables into the data foundation, you can filter by table type or by SAP HANA view.
- The table types defined in the database now appear for multisource-enabled data foundations, both in the connection pane and in the table properties.
- When editing joins, you can filter by column name. This helps you navigate data foundation tables with many columns.
- Wildcard searches in the data foundation connection panel are now supported. You can search for tables using either database-specific wildcards, or using a "contains"-style search.
- When showing table and column values for a table corresponding to an SAP HANA Analytic View, the information design tool now aggregates the values in columns that represent measures by using the aggregation function defined in the SAP HANA information model.

2.9.7 Business layer enhancements (New and Changed)

Several business layer enhancements help you create objects faster, and make the business layer more usable in query and reporting applications.

- In a relational business layer, dimension attributes can be index aware. Index awareness lets you take advantage of the indexes on key columns in the database to improve query performance.
- You can now define attributes for measures in an OLAP business layer. This is used for measure currencies and units.
- You can share custom display formats for business layer objects between all business layers edited within the information design tool. You can create, edit, or delete the display format for multiple business objects at once.
- You can create a custom ordering of objects such as parameters and lists of values. The order is saved in the business layer and the universe outline in the Query Panel.
- You can easily change the business object type for multiple objects at once using the command to turn measures or dimensions into attributes, and the command to turn dimensions or attributes into measures. For measures, the proper projection function is automatically set depending on the selected aggregation function.
- You can create dimension and attribute keys with drag-and-drop from the data foundation table column. You can edit keys in place without needing to activate the entry box.
- One-click SELECT or WHERE validation is available so that expressions for business objects can be validated without needing to open the SQL or MDX Assistant.
- After you search the business layer for a filtered set of objects, all actions on business objects can also be done from the search panel.

2.9.8 Local Projects View enhancements (New and Changed)

Several enhancements to the Local Projects View help you navigate your local resources:

- You can now filter and search for resources in the Local Projects View.
- The list of recently-opened resources is available, both in the File menu and on the welcome page.
- Right-click commands make it faster to create resources, for example, you can right-click a relational connection and select *New Data Foundation* from the contextual menu.
- You can right-click connections and connection shortcuts to test and edit connections without needing to open the corresponding editor.
- You can display the file properties of information design tool resources.

2.9.9 Query stripping (new for relational universes)

Query stripping is now available for relational universes (including universes on SAP HANA) as well as OLAP universes.

Query stripping is a reporting feature that can be used to optimize performance by automatically rewriting the query to retrieve only objects included in the report. It is used only by SAP BusinessObjects Web Intelligence.

For relational universes, you must activate the option to allow query stripping in the business layer. For OLAP universes, query stripping is active by default.

2.9.10 Connections for new data sources and new connection parameters (New and Changed)

You can now create connections to OData, XML, and Web Services data sources. For more information on these connections, see the *Data Access Guide*.

You can now create Direct Access connections for SAP HANA. This connection can be published to a repository and allows for direct access to SAP HANA information models from SAP Crystal Reports for Enterprise.

New connection parameters are available to more easily define relational and direct access connections to SAP HANA.

New relational connection parameters are available that let you define custom ID program mapping and gateways for SAP NetWeaver BW connections.

2.9.11 Security profile setting for OLAP replacement connections (New)

You can now define replacement connections for OLAP connections as well as relational connections. Use the Business Security Profile Connections setting to define a replacement OLAP connection that can override the OLAP connection defined in the universe.

2.10 SAP BusinessObjects Mobile

2.10.1 Functional Enhancements

This section describes the new functional capabilities that have been introduced in the Mobile server on the SAP BusinessObjects BI platform 4.1.

2.10.1.1 Server Package does not include MobileOTA14.war (Changed)

The mobile server package no longer includes the MobileOTA14.war file (for BlackBerry, Symbian and Windows 6.1 client applications). You can access this WAR file through SMP. For more information on the BlackBerry client application, see: http://help.sap.com/businessobject/product_guides/boexir4/en/xi4sp4_mobile_user_en.pdf.

2.10.1.2 Support for sample Mobile server documents (New)

Sample Mobile server documents are now supported.

2.10.1.3 Mobile server support on Unix OS (Changed)

Along with Windows and LINUX operating systems, the Mobile server files can also be automatically deployed on AIX and Solaris operating systems.

2.10.1.4 View Mobile client audit files (Changed)

Using the Audit log files, you can view the activities performed specifically by Mobile client applications.

2.10.1.5 Dedicated folder for Mobile server logs (Changed)

This version stores Mobile server logs in a dedicated folder. To debug Mobile server errors, access this Mobile server logs folder.

2.10.1.6 Security Policies feature with Mobile Configuration server (New)

You can configure server policies in the server.properties file. The server policies configured in the configuration server will be applied to the clients connecting to any connection via this configuration server.

2.11 Report Conversion Tool

The Report Conversion Tool converts SAP BusinessObjects Desktop Intelligence XI R2 and XI 3.0 reports to Web Intelligence 4.1 format and publishes the converted reports to the 4.1 CMS.

Once converted, you can publish the Web Intelligence documents (.wid) to the same folder as the original Desktop Intelligence report or to a different folder.

The tool may not convert all the Desktop Intelligence features, as some features may prevent the report from being converted. The level of conversion depends on the features in the original report. Some features may be modified, re-implemented, or removed by the tool during conversion.

The tool assigns one of three statuses to each report:

Fully Converted

Partially Converted

Not Converted

The Report Conversion Tool helps you audit your converted reports by identifying reports that cannot be fully converted by the Report Conversion Tool and explaining why.

In BI 4.1, some functional enhancements have been made to the Report Conversion Tool and the BI platform. They are explained in the following sections.

2.11.1 Functional Enhancements

This section describes the new functional capabilities that have been introduced in the Report Conversion Tool on the SAP BusinessObjects BI platform 4.1.

2.11.1.1 Capability to Convert Document Instances (New)

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* available on the SAP Help portal: http://help.sap.com/boall_en

2.11.1.2 Hosting source (Desktop Intelligence) documents on the target 4.1 platform (New)

Your XI 3.1 and XI R2 Desktop Intelligence (.rep) source reports can now be hosted on the SAP BusinessObjects BI platform 4.1. The Report Conversion Tool in BI 4.1 can have a 4.1 CMS as its source and publish the converted reports (.wid) to the same 4.1 CMS as the target.

Below is enhanced version support matrix for source and target CMS systems:

| Source CMS version | Target CMS version (for publishing .wid documents) |
|--------------------|--|
| XI R2 | BI 4.1 |
| XI 3.0 or XI 3.1 | BI 4.1 |
| BI 4.1 | BI 4.1 |

i Note

1. When the source CMS is a BI 4.1 system, the same 4.1 CMS should also be the target. If the target 4.1 CMS is a different machine, the conversion does not work.
2. A 4.0 CMS system cannot be the source CMS for conversion.

2.12 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. Improvements made for this release are listed in this section.

2.12.1 Improved user documentation for users analyzing Web Intelligence documents (Changed)

User-friendly documentation navigation

The Web Intelligence user guides previously contained many chapters with no regard to the needs of the various user profiles. Now, the documentation is organized to reflect the following user needs:

- A chapter on queries for the query designer.
- A chapter on report design for report designers.
- Chapters on creating, configuring and sharing reports for report designers.
- A chapter on analyzing data in documents for the user who analyzes reports.

Documentation for users analyzing Web Intelligence reports

In the *Analyzing data in Web Intelligence reports* section of the Web Intelligence user guides, you can find out about the features available in the "Reading" mode of Web Intelligence.

2.12.2 Customizable Web Intelligence application interface (New)

In the CMC, the BI administrator can change how Web Intelligence appears for specific user groups. The BI administrator can customize interface elements such as toolbars or items within a toolbar, and customize access to specific document modes. The *Customization* panel is available in the *Properties* panel for a user group.

2.12.3 Table headers, columns and rows can be frozen (New)

When you view a Web Intelligence report in *Quick Display* mode, you can freeze headers, rows, or columns in tables to keep them displayed as you scroll through data. You can freeze one or more zones of your table, depending on the type of table. The new *Freeze* button appears in the main toolbar.

2.12.4 Custom color palettes and color assignment in charts (New)

You can personalize the appearance of charts in Web Intelligence reports by defining colors to dimension objects by using customized color palettes. You can set this color assignment on one or more dimension objects throughout all of the charts in a document using the *Set as Default Colors* option.

The automatic color assignment to a chart's legend items generated by a palette can be made set to all instances of a chart in a document using the "Set as Default Colors" option. The default colors do not change when you apply refresh on open, drilling or filtering to a document.

2.12.5 Enhanced object merging in the Available Objects list (Changed)

You can add and remove additional objects in a group of merged objects in the *Available Objects* list in the Side Panel.

2.12.6 Merged hierarchies can be used in reports (New)

You can now use merged hierarchies in reports. When objects in the same hierarchy are merged, the merged object replicates the hierarchy. A hierarchy merged with a flat dimension gives a hierarchy as the merged object.

Members with different parents in different merged hierarchies are replicated for each different parent in the merged object, along with their descendants.

2.12.7 The Member Selector in the Query Panel allows you to define hierarchy depth (New)

Level based member selection on the default hierarchy can now be defined for BEx Hierarchy Node Variables. The hierarchy has to be set in the variable manager, otherwise no levels are available.

Only levels of the selected hierarchy are displayed; you cannot merge or set the maximum number of levels from all hierarchies.

i Note

Levels must start from the root.

i Note

You cannot skip levels.

2.12.8 Web Intelligence usability enhancements (New)

Web Intelligence usability has been enhanced in the following ways:

- You can fold and unfold tables in *Reading* mode in the Web Intelligence HTML interface.
- An object value selector is now available in the *Formula Editor*. When you are editing a formula that contains an object that has a list of values, you can display the available values by double-clicking values in the *Available Objects* pane. This makes the *List of Values* selector appear and you select the values you want to use in the *Formula Editor*.
- In the toolbar above the Side panel, there is now an *Edit data provider* button that allows easier access to the *Query Panel*.
- In the *Query Panel*, you can now execute a newly-added query without having to refresh all existing queries.

2.12.9 Auto-refresh is available at the server and document level (New)

When you activate the *Auto-refresh* option in the document properties, the document is automatically refreshed.

The *Auto-refresh* option applies to the use of delegated measures. When this option is selected, the document is refreshed automatically when an object is added to or removed from the query, or when a different value is selected from a list in the *Report Filter* bar.

2.12.10 Query stripping support for relational data sources (New)

Query stripping is a reporting feature that can be used to optimize performance. Query stripping is used only by Web Intelligence.

For relational universes, the BI administrator must enable the following parameters:

- The *Allow query stripping* option is selected in the business layer properties in the information design tool (unselected by default).
- The *Enable query stripping* option is selected in the document properties in Web Intelligence (selected by default).
- The *Enable query stripping* option is selected for the data provider in the query properties in Web Intelligence (selected by default).

2.12.11 Right-to-left alignment in Web Intelligence (New)

In the Web Intelligence Applet interface and Web Intelligence Rich Client, the alignment of the application interface and document data is from right-to-left (RTL) when you select certain language locales.

Product locale and Right-to-Left interface alignment

When you choose Arabic for the Product locale, the Web Intelligence application interface elements are always right-to-left (RTL), in effect mirroring the left-to-right (LTR) alignment. For example, the side panel for an RTL locale is on the right, whereas in an LTR locale, the side panel is on the left.

Preferred viewing locale and Right-to-Left alignment

When you choose Arabic, Hebrew, Farsi, Urdu, or Divehi for the Preferred viewing locale, the elements and data in documents created in this locale are right-to-left (RTL). For example, in a cross table, in an LTR locale the side header column is on the left. In an RTL locale, the side header column is on the right.

2.12.12 Documents can be saved in CSV format in an archive file (New)

In Web Intelligence Rich Client and the Web Intelligence Applet interface, you can save document data to the CSV archive format, which generates an archive file (.zip) that contains one CSV file per report. Each CSV file contains the report data without any headers, footers, or charts. You can have all or some of the reports in the CSV archive file.

2.12.13 Improved behavior regarding the #UNAVAILABLE message (Changed)

The number of situations where the #UNAVAILABLE message appears has been reduced. When a smart measure (a database delegated measure) is used in a context of a dimension that is a formula, the expected value is returned. Previously, the #UNAVAILABLE error message was returned.

2.12.14 Enhanced Web Intelligence RESTful services SDK (Changed)

Web Intelligence RESTful services SDK can now be used from:

- any languages (Java, .Net, and so on)
- any computer or mobile device

The RESTful services SDK now has increased functionality in the following areas:

- Managing Documents (enhanced)
You can:

- Create a blank document
- Add a report in a document and set its report specification
- Delete a report from a document
- Get/Create/Delete/Update Alerters
- Get/Create/Delete/Update Styles
- Get/Create/Delete/Update Skins (background images)
- Get/Create/Delete/Update Variable expression
- Manage drill and create drill snapshot
- Get custom format number from the document
- Get font mappings, CSS styles, format numbers, default skins, supported operators
- Managing the document lifecycle (enhanced)
You can:
 - Get/Create/Delete/Update Track Data Change
 - Manage document state through storage token (snapshot)
- Managing reports (enhanced)
You can:
 - You can access and export report elements (.xls(x), .pdf, .xml, .html)
 - List of Values management (including hierarchical) in prompt workflows
 - Manage Prompt on SAP variables (including optional/mandatory, key dates)
 - Nested prompts support
- Managing data providers (enhanced)
You can:
 - Get query statement generated by query on universes (SQL or MDX)
 - Get data source query capabilities
 - Change data provider source workflow: UNV > UNV, UNV > UNX, UNV OLAP BW > BEX, UNX > UNX
- Managing BW connections and BEx queries (new)
You can:
 - Browse list of BEx connections and BW BEx queries
 - Get details of a BEx query
- Scheduling and refreshing documents (enhanced)
You can refresh documents with support of Date and Date-Time (scheduling).
- Managing Universes (enhanced)
You can get enhanced detailed information about a universe.

2.12.15 Report header and footer properties have been reorganized (Changed)

There is a new specific property panel for the report header/footer settings, including the border property settings.

2.12.16 Single Sign-on support for HANA (New)

You can now use Single Sign-on to connect to a HANA data source.

2.12.17 Enhanced universe support (Changed)

- ERP optional parameters that do not have a default value are now supported. ERP parameters can be consumed within Web Intelligence reports as optional prompts.
- OLAP UNX universes can have their connection overloaded by a Business Security Profile. Web Intelligence reports created on this kind of universe take into account this security requirement.

3 SAP BusinessObjects Business Intelligence Suite 4.1 SP2

3.1 Welcome to SAP BusinessObjects Business Intelligence Suite 4.1 SP2

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.

For a list of supported platforms, databases, web application servers, web servers, and other systems supported by this release, see the Product Availability Matrix (Supported Platforms/PAR), available on the SAP BusinessObjects section of the SAP Support Portal at: <https://service.sap.com/bosapsupport>.

To learn about features of previous releases, visit the SAP Help portal at <http://help.sap.com/bobi>.

3.2 SAP BusinessObjects Business Intelligence Platform

RESTful SDK enhancements

The SAP BusinessObjects BI Semantic Layer RESTful Web Service SDK is now delivered as part of the SAP BusinessObjects BI platform. It allows a client tool to browse universe metadata, and submit and run queries. Query results can be retrieved in XML or JSON format using the OData protocol.

The following features are supported:

- Retrieving a list of universes, universe metadata, business views, query capabilities, link groups of a universe
- Creating a query, get the details of a query, get the list of queries, delete a query
- Get the OData flow metadata, get the OData flow content (query results)

SAP BusinessObjects BI Semantic Layer Java SDK enhancements

- You can refresh the structure of a data foundation.
- In multisource universes you can:
 - Create multisource-enabled data foundations.
 - Add a data source to a multisource-enabled data foundation.
 - Create database-specific derived tables in multisource-enabled data foundations.

- You can create contexts, primary keys, and relational native filters in data foundations.
- You can retrieve implicit tables of business layer items.
- You can retrieve and set column properties.
- You can create custom properties in business layers and business layer items.
- You can create business layer views.
- You can create data security profiles with the *Tables* setting.
- You can create business security profiles with the *Create Query* or *Display Data* setting.

3.3 Web Intelligence Enhancements

- In a table in a Web Intelligence report, you can collect the values of a dimension into aggregated groups. A variable object for this aggregated group is created in the Available Objects tab on the Side Panel and allows you to manage the group configuration.
- A new option, *Use BEx query defined default values at runtime*, was added in the BEx Variable Manager of the Query Panel. This option allows users to choose how to manage the default value of the prompt created from the variable at the first execution, or at refresh, after a purge prompt action. When the option is enabled, Web Intelligence uses the default value defined in the underlying BEx query. When the option is disabled, Web Intelligence uses the default value that is defined in the Variable Manager.
- You can now get the Prompt list in the Formula Editor.
- The Numbers icon in the Standard Actions Group toolbar has been enhanced to offer better access to percentage, currency, and decimal formatting.
- You can create a dynamic background image for a report and control its format, appearance and location using controlled by a complex formula in the Format dialog box. This can also be applied to the report headers, footers, sections, tables and even specific cells in tables.
- When you insert a free-standing cell in a report, you can select a pre-defined cell. The list of pre-defined cell is extended with pre-defined cells on query prompt. A pre-defined cell based on a query prompt displays the user prompt selections at the last refresh or *Run Query* action. There is a predefined cell for each query prompt listed in the Prompt predefined list.
- In Waterfall charts, you can assign specific colors to initial values, totals, subtotals, or positive/negative variations.
- In the *Result Objects* pane of the Query Panel, there is a specific dialog box containing a description, and in the Web Intelligence Rich Client and Web Intelligence Applet interfaces, you can press **Control** + **C** to copy the text to the clipboard. This content can be pasted into other applications.

4 SAP BusinessObjects Business Intelligence Suite 4.1 SP3

4.1 Welcome to SAP BusinessObjects Business Intelligence Suite 4.1 SP3

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
- customizing your own unique solutions

For a list of supported platforms, databases, web application servers, web servers, and other systems supported by this release, see the Product Availability Matrix (Supported Platforms/PAR), available on the SAP BusinessObjects section of the [SAP Support Portal](#).

To learn about features of previous releases, visit the SAP Help portal at <http://help.sap.com/bobi>.

4.2 SAP BusinessObjects Business Intelligence Platform Enhancements for SP3

Session Management

You can view and terminate user sessions in the Central Management Console (CMC). For example, you may want to see which users are using multiple sessions. Administrators may want to terminate old sessions, and sessions consuming too many system resources. You might also need to terminate sessions when preparing for system downtime or upgrades.

Direct to folder linking

The right-click menu for all folders allows users to get folder links they can share with other users. These links will directly access specific folders in BI launchpad, similar to the behavior of OpenDocument links.

Promotion Management removal of derby database

Promotion Management overrides are now stored in the CMS database. This will enable future enhancements of this service, such as clustering and failover.

Promotion Management multiple server support

Support has been added for multiple Processing Job Servers for the Promotion Management service.

Promotion Management documentation

The user documentation has been updated with best practices for full repository migration using the promotion management tool..

Version Management Servers

Administrators now have new options for configuring clustered Processing Job Servers for Subversion and ClearCase.

Multitenancy Tool universe support

With improved SDK support in the semantic layer, the Multitenancy Tool can now support multi-source universes.

4.3 SAP BusinessObjects Analysis, edition for OLAP enhancements

Export to XLSX

Analysis workspaces can now be exported as XLSX files (Microsoft Excel 2007 or later).

4.4 SAP Crystal Reports Enhancements

Prompt Reordering

In SAP Crystal Reports for Enterprise, you can customize the order of your Data Source prompts (such as prompts from a BEx query), as well as restoring the default order of prompts used by the Data Source.

4.5 SAP BusinessObjects Web Intelligence Enhancements

Automatic Formula Rewrite solution

When you migrate documents from XI 3.x versions, the system now uses the Automatic Formula Rewrite solution to automatically rewrite those formulas. This ensures that, for certain formulas, you receive the results that correspond to the previous document version. For more details see the white paper at <http://scn.sap.com/docs/DOC-39973>.

SAP HANA query prompts in Web Intelligence

In Web Intelligence, SAP HANA universes behave like any other relational UNX universe; HANA variables and input parameters in SAP HANA information models are associated with the corresponding tables in the data foundation.

When you run a query that includes HANA variables and input parameters in the Query Panel or when a document is refreshed, prompts appear that require you to specify values for those variables and parameters. The values available in the prompts come directly from the HANA source.

Ranking in SAP HANA universes

You can now set the ranking of data in an SAP HANA universe. Queries based on objects with universe-level ranking will take less time to fetch data.

Allowing the selection of all values in Input Controls

In the *Choose Control Type* dialog box for an input control, the *Allow selection of all values* property allows a report designer to show or hide the *All Values* option in that input control. This allows report designers to simplify the selection of values in reports.

Duplicating a report duplicates its input controls

When you duplicate a report in a Web Intelligence document, the input controls from the original report are duplicated in the new report.

Queries based on Excel data sources can be refreshed

In the *Query Properties* side pane of the Web Intelligence Rich Client and Applet interfaces, designers can enable a refresh option for queries based on an Excel data source.

Enhanced charting abilities in Web Intelligence

- In Line charts, you can adjust line thickness.
- In Waterfall charts, you can activate or deactivate a reference line and set the spacing between objects in the Waterfall chart plot area.
- Long chart titles can be displayed, even if they exceed the width of the chart.
- The Web Intelligence user guides now explain data intervals based on colors in *Tree Map*, *Heat Map*, and *Tag Cloud* charts, as well as information on *Custom Range Coloring*, *Gradient-based Palette Coloring*, *Gradient-based Palette Coloring Using Measure Polarity*, and *Palette Coloring* methods.

Right-to-left effect on the interface and document locales in Web Intelligence

- In the Web Intelligence applet interface and Web Intelligence Rich Client, the alignment of the application interface is from right to left (RTL) when you select Arabic or Hebrew for the Product locale. For example, the side panel for an RTL locale is on the right, whereas in an LTR locale, the side panel is on the left.

Note

RTL alignment is not available in the Web Intelligence HTML interface.

- The alignment of the document content may be RTL, depending on the system settings selected by the BI administrator. As of Support Package 3, the document content alignment is specified by the BI administrator in the CMC Web Intelligence system configuration, and cannot be changed for individual users.

Documentation about the differences between the Web Intelligence interfaces

The Web Intelligence user documentation now provides an overview of the main functional differences that exist between all the Web Intelligence interfaces as of BI 4.1 Support Package 03.

Web Intelligence enhancements in Sharepoint

- Users can now deploy Web Intelligence Web Services for a site, either manually or using the wizard.
- When BI administrators activate SSL they need to update the configuration file of the Web Intelligence Web Services, switching some settings (binding, service behavior, and endpoints) from the HTTP to HTTPS configuration.

Web Intelligence Applet interface loading performance

The number of .jar files that make up the Web Intelligence Applet interface has been significantly reduced and consequently the Web Intelligence Applet interface loads faster.

4.6 SDK Enhancements

SAP BusinessObjects BI Semantic Layer

- **RESTful Web Service SDK**
 - You can get contexts and parameters of .unx universes.
 - You can respond to contexts and parameters.
- **Java SDK**
 - You can create parameter objects, custom properties, and lists of values in data foundations and business layers.
 - You can associate a list of values with a business object or a parameter object.
 - You can retrieve and set the SQL options for a data foundation.
 - You can retrieve and set the query options of a business layer.

SAP BusinessObjects Web Intelligence

- **RESTful Web Service SDK now lets you:**
 - get the datapaths and the dataset of a report element.

-
- create table report elements that including sorting and ranking
 - create and edit Input Controls.
 - manage custom properties of a report element.
 - **UI Extension Points enhancements**
 - We've expanded the range of JavaScript methods you can use to call the SAP BusinessObjects Web Intelligence RESTful Web Service SDK.

5 SAP BusinessObjects Business Intelligence Suite 4.1 SP4

5.1 Welcome to SAP BusinessObjects Business Intelligence platform 4.1 SP4

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
- customizing your own unique solutions

For a list of supported platforms, databases, web application servers, web servers, and other systems supported by this release, see the Product Availability Matrix (Supported Platforms/PAR), available on the SAP BusinessObjects section of the [SAP Support Portal](#).

To learn about features of previous releases, visit the SAP Help portal at <http://help.sap.com/bobi>.

5.2 SAP BusinessObjects Analysis, edition for OLAP Enhancements

Support for the Translation Management Tool

Analysis, edition for OLAP now supports the Translation Management Tool. This allows the metadata contained in an Analysis workspace, such as component names and sheet names, as well as the Analysis workspace filename and file description to be displayed in alternate languages. For more information on how to use this capability, refer to the Translation Management Tool User Guide.

5.3 SAP BusinessObjects Web Intelligence Enhancements

Default hierarchy levels in a report table

You can now choose the default level of hierarchy that is visible in a table. In the past, the table hierarchy automatically closed to the root hierarchy level each time you refreshed a document, changed the roots of the hierarchy, or purged and refreshed a document.

If you use this option, the default level that you set is visible when you open a document, or even after you refresh, or purge and refresh a document, or change the root members in your hierarchy.

To configure this new behavior, right-click a report table and select *Hierarchical Navigation* from the contextual menu.

Scheduling Web Intelligence documents with dynamic BEx variables

Normally, when you schedule a Web Intelligence document with prompts, you need to select the prompt values when you configure the schedule parameters. However, if there is a dynamic prompt, then you need to allow for the data source to enter dynamical values for that prompt.

If there is a prompt on a BW mandatory, dynamic variable, the BI administrator can now allow the BW data source to automatically enter a value for that prompt when the scheduled document is executed. If the BI administrator configures the property that allows this action, then when a user schedules a document with a prompt on a dynamic variable in the BI launch pad *Schedule* dialog box, the user can for a prompt on a dynamic variable click the new *Clear* button, clearing the prompt value field. The BW data source can then provide a prompt value for each scheduled document.

Flattening zero values in 100% stacked bar and column charts

You can now set bars or columns with zero values to be flat against the value axis using the *Flatten zero values* option in the **Plot Area > Design** chart area of the *Format Chart* dialog box.

Normally in a 100% stacked chart, the measure data is stacked in bars or columns, and any values equaling 0 will be expanded to the full height or length of the chart.

When you flatten the zero values, then any columns with zero values are flattened to the value axis, and in effect do not appear to clutter up the chart. You then only see the bars or columns with valid data.

Unlocking a value axis in a dual axis chart

In a chart that uses dual axes, you can unlock the axes so that each has its own grid and origin. Normally the axes are locked and synchronized to the same origin, and if one axis has positive values and the other axis has positive and negative values, the chart results can appear flat.

Instead you can have separate axes, and improve the data context. For example, if you have a chart where the bar has data that is positive in increments of .5 and the line represents points that are negative in increments of 5, then the bars are extremely flat compared to the lines and give little context. Once you have unlocked the origins, then the bar and column each have their own scale and the context is clearer.

You can find the new *Unlock the Axis* option in the *Value Axis 2* chart area of the *Format Chart* dialog box.

i Note

In a XI 3.1 document migrated to BI 4.1 SP 4 or greater, this setting is automatically activated.

5.4 SDK Enhancements

Web Intelligence SDK Enhancements

- RESTful Web Service SDK now lets you:
 - Save a document on the user machine.
 - Get and update the query plan of a data provider.
 - Manage grouping variables.
- UI Extension Points enhancements now lets you:
 - Add custom features to the Status Bar of the Web Intelligence interface.
 - Use an expanded range of JavaScript methods to call the SAP BusinessObjects Web Intelligence RESTful Web Service SDK .

5.5 Data Access

The Data Access layer of the BI platform introduces the following changes:

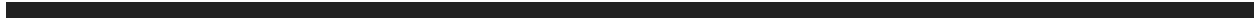
Data Source (New)

Simba JDBC4 driver support to both Apache Hadoop Hive, and Cloudera Impala database

For More Information, See Product Availability Matrix (PAM).

JVM Settings (New)

An option to set the “processor” attribute is available in this release.



For More Information, See Data Access Guide.

6 SAP BusinessObjects Business Intelligence Suite 4.1 SP5

6.1 Welcome to SAP BusinessObjects Business Intelligence platform 4.1 SP5

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
- customizing your own unique solutions

For a list of supported platforms, databases, web application servers, web servers, and other systems supported by this release, see the Product Availability Matrix (Supported Platforms/PAR), available on the SAP BusinessObjects section of the [SAP Support Portal](#).

To learn about features of previous releases, visit the SAP Help portal at <http://help.sap.com/bobi>.

6.2 SAP BusinessObjects Business Intelligence platform

SAP Lumira integration with the BI Platform

SAP Lumira is now listed as an application in CMC, which enables you to manage rights related to data acquisition and content sharing functionality of SAP Lumira for each user or user group. Refer to the latest SAP Lumira What's New guide for information on which version of SAP Lumira Desktop supports the SAP Lumira integration with the BI platform feature.

For more information, see the *Business Intelligence platform Administrator Guide*.

Platform search enhancements

- You can now search Analysis Office and Lumira document types in BI launch pad.
- Metadata search is now supported in Hebrew and Arabic locales.

Customization of Web Intelligence user interface elements based on user groups and folders

You can now customize Web Intelligence user interface elements based on user groups and folders. Earlier, the customization of Web Intelligence user interface elements was based on user groups only.

For more information, see the "Customizing Web Intelligence interface elements" section in the *Business Intelligence Platform Administrator Guide*.

6.3 SAP BusinessObjects Web Intelligence

BW manual prompt entry enhancements

You can now do the following actions in the prompt dialog box for a BEx characteristic variable of type *Selection Option*:

- You can manually enter a variable value in the *Prompts* dialog box. Previously, you had to search for the values in the prompt list of values. Now, you can manually enter the variable value in the *Type a value* text box and add it to the selected values list.
- Normally, you use the *Selection Option* variable to select interval values. For example, if you wish to have values from A through Y, then you enter A as the start value, and Y as the end value in the prompt dialog box. As of SP05, the BI administrator can apply a new option that allows you to select any values. For example, you may only want the A and R values. You select from the values list or manually enter "A" in the *Type a value* text box and add the value to the selected value list. You repeat this action with "R". Then only A and R values appear in the selected objects list.

An OK button for input control checkboxes

For an input control that uses the checkbox format, you can activate an *OK* button, so that when you select multiple values in an input control list, you can click *OK* to refresh the data displayed in the report. You activate this button in the input control in the *Choose Control Type* panel when editing or adding an input control.

Simplification of the Web Intelligence user guide collection

You can now access information on the Web Intelligence Rich Client, HTML, and Applet interfaces in the *SAP BusinessObjects Web Intelligence User's Guide*. Previously the Web Intelligence Rich Client had its own guide.

Additionally, the information in the standalone *Building SAP BusinessObjects Web Intelligence queries based on BEx queries* will no longer exist, because its contents have always been available in the *SAP BusinessObjects Web Intelligence User's Guide*.

This important change means that, for example if you are creating a BEx query in Web Intelligence Rich Client, then you have only one guide to consult, instead of three.

Runtime configuration information for BEx queries is now available in the SAP BusinessObjects Web Intelligence User's Guide

You can now understand the configuration options that you can use for changing the behavior of BW Direct Access when it runs by referring to the *Runtime Configuration* section in the *SAP BusinessObjects Web Intelligence User's Guide*.

For example, you may need to have MDX compliance information appear or have the BI system access the BW system with an RFC call at runtime.

New format_string information is available in the Using functions, formulas and calculations in Web Intelligence guide

In the *Using functions, formulas and calculations in Web Intelligence* guide, you can now find examples of how to use the `format_string` parameter in a `FormatDate` formula.

Date formats can change from one country to the next, for example, for dates, France uses a day/month format and the US uses a month/day format. If you are in the US and preparing a report for a European company, then you prefer to format a date to appear in the European format.

You need to understand the types of `format_string` syntax you can use in your formulas. You can now find several examples in the *Format_string examples for FormatDate syntax* topic.

Visual chart examples are available in the SAP BusinessObjects Web Intelligence User's Guide

You can now understand better the different charts in the *Chart types* section of the *SAP BusinessObjects Web Intelligence User's Guide* thanks to the addition of sample images of each chart type. These sample images give you an impression of how your data can be represented in a chart.

6.4 SAP BusinessObjects Web Intelligence and BI Semantic Layer SDKs

Creation of a new developer guide for Web Intelligence and the BI Semantic Layer

You can now access information on customizing SAP BusinessObjects Web Intelligence and making the best use of the BI Semantic Layer in the new *SAP BusinessObjects BI Developer's Guide for Web Intelligence and the BI Semantic Layer*. This document provides information on the newly released Web Intelligence Embedded Applet and how to create and use Web Intelligence UI extension points. As a consequence, the *SAP BusinessObjects Web Intelligence UI Extension Points User Guide* no longer exists.

Creation of a JavaScript API Reference for Web Intelligence UI Extension Points

An HTML reference is now available for the JavaScript methods that you use to create UI extension points.

SAP BusinessObjects BI Semantic Layer

- **RESTful Web Service SDK**
 - You can retrieve an aggregated list of granted objects from a UNX universe, even if the master view is denied.
- **Java SDK**
 - You can access an object from its path in the business layer.
 - You can create aggregate incompatibilities in the business layer.
 - You can use business filters in aggregate awareness.
 - You can create calculated columns with expressions.
 - You can add "Connections" settings to data security profiles.
 - You can check the integrity of a local data foundation, business layer, or connection.

SAP BusinessObjects Web Intelligence

- **Web Intelligence Embedded Applet**

You can now embed Web Intelligence into your own portal.
- **RESTful Web Service SDK now lets you:**
 - Manage report elements of type chart.

- Retrieve a chart as a picture.
- Retrieve raw data of a report element.
- Get the background image of a report element.
- Refresh data providers independently of the document.
- Manage data providers based on Microsoft Excel spreadsheets.
- Manage data providers based on free-hand SQL scripts.
- Get schedules with full details.
- Schedule documents with new types of recurrences.
- Use custom palettes.
- Retrieve an aggregated list of granted objects from a UNX universe, even if the master view is denied.
- **UI Extension Points enhancements**
 - You can now make an extension available to specific folders.
 - We've expanded the range of JavaScript methods you can use to call the SAP BusinessObjects Web Intelligence RESTful Web Service SDK.

6.5 SAP BusinessObjects Dashboards and Presentation Design

You can now add a pie chart to the canvas, and then by increasing the *Inner Radius* property, you can change the pie chart to a donut chart. You can also move or explode the pie slice out from the rest of the chart. The pie slice that is selected will be moved away from the rest of the pie slightly.

6.6 SAP Crystal Reports for Enterprise

BW manual prompt entry enhancements

You can now do the following actions in the prompt dialog box for a BEx characteristic variable of type *Selection Option*:

- You can manually enter a variable value in the *Prompts* dialog box. Previously, you had to search for the values in the prompt list of values. Now, you can manually enter the variable value in the *Type a value* text box and add it to the selected values list. Pattern matching during manual entry is also supported for *Selection Option* variables.
- The following variable types are supported:
 - Single value variable
 - Multi single value variable
 - Interval (range) value variable
 - Single keydate variable
 - Selection option variable
 - Formula variable

i Note

When using *Selection Option* variable based prompts, the prompt can be shown as a multi-value prompt instead of an interval prompt by making the following entry in the configuration

```
file:sap.sl.bics.variableComplexSelectionMapping=multivalued
```

6.7 Data Access

Following are the new features supported in this release:

- Simba ODBC driver support to Apache Hadoop Hive, Amazon EMR Hive and Cloudera Impala databases
- JDBC4 support for Amazon EMR Hive
- Progress10 is re-introduced

For More Information, See Product Availability Matrix (PAM)

6.8 Report Conversion Tool

Web Intelligence Free-Hand SQL (FHSQL) support

Conversion of Desktop Intelligence documents that are based on a Free-hand SQL will no longer require the generation of a universe on-the-fly.

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