



# Data Services Release Summary

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## Contents

Introduction

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chapter

## Business Objects information resources

A global network of Business Objects technology experts provides customer support, education, and consulting to ensure maximum business intelligence benefit to your business.

Useful addresses at a glance:

Address	Content
Customer Support, Consulting, and Education services <a href="http://service.sap.com/">http://service.sap.com/</a>	Information about Customer Support programs, as well as links to technical articles, downloads, and online forums. Consulting services can provide you with information about how Business Objects can help maximize your business intelligence investment. Education services can provide information about training options and modules. From traditional classroom learning to targeted e-learning seminars, Business Objects can offer a training package to suit your learning needs and preferred learning style.
Data Services Community <a href="https://www.sdn.sap.com/irj/sdn/businessobjects-ds">https://www.sdn.sap.com/irj/sdn/businessobjects-ds</a>	Get online and timely information about Data Services, including tips and tricks, additional downloads, samples, and much more. All content is to and from the community, so feel free to join in and contact us if you have a submission.
Forums on SCN (SAP Community Network) <a href="https://www.sdn.sap.com/irj/sdn/businessobjects-forums">https://www.sdn.sap.com/irj/sdn/businessobjects-forums</a>	Search the Business Objects forums on the SAP Community Network to learn from other Data Services users and start posting questions or share your knowledge with the community.
Blueprints <a href="http://www.sdn.sap.com/irj/boc/blueprints">http://www.sdn.sap.com/irj/boc/blueprints</a>	Blueprints for you to download and modify to fit your needs. Each blueprint contains the necessary Data Services project, jobs, data flows, file formats, sample data, template tables, and custom functions to run the data flows in your environment with only a few modifications.

Address	Content
Product documentation <a href="http://help.sap.com/">http://help.sap.com/</a>	Business Objects product documentation.
Documentation mailbox <a href="mailto:documentation@businessobjects.com">documentation@businessobjects.com</a>	Send us feedback or questions about your Business Objects documentation. Do you have a suggestion on how we can improve our documentation? Is there something that you particularly like or have found useful? Let us know, and we will do our best to ensure that your suggestion is considered for the next release of our documentation.  <b>Note:</b> If your issue concerns a Business Objects product and not the documentation, please contact our Customer Support experts.
Supported platforms documentation <a href="https://service.sap.com/bosap-support">https://service.sap.com/bosap-support</a>	Get information about supported platforms for Data Services.  In the left panel of the window, navigate to Documentation > Supported Platforms > BusinessObjects XI 3.1. Click the BusinessObjects Data Services link in the main window.

## Introduction to Data Services XI 3.1

Welcome to BusinessObjects Data Services XI 3.1 version 12.1.1. This document highlights the new features available with this release.

Version 12.1.1 is a functional release that makes Data Services available on all supported platforms. For important information about this product release including installation notes, resolved issues, and known issues, see the *Data Services Release Notes*.

Business Objects offers other products that complement Data Services and provide additional Information Management solutions. These include:

- BusinessObjects Composer

- BusinessObjects Metadata Management
- BusinessObjects Data Federator
- BusinessObjects Rapid Marts
- BusinessObjects Text Analysis
- BusinessObjects Data Insight
- BusinessObjects Data Quality for Enterprise Applications

For more information, see the Business Objects website or contact a Business Objects sales representative.

### **Data Services overview**

Data Services combines industry-leading data quality and integration into one platform. With Data Services, your organization can transform and improve data anywhere. You can have a single environment for development, runtime, management, security, and data connectivity.

You can use any type of data, including structured or unstructured data from databases or flat files to process and cleanse and remove duplicate entries. You can create and deliver projects more quickly with a single user interface and performance improvement with parallelization and grid computing.


The following is a high-level list of features available through Data Services:

- Instant traceability with impact analysis and data lineage capabilities that include the data quality process
- Data validation with dashboards and process auditing
- Workflow design with exception handling (try/catch) and recovery features
- Multi-user support (check-in/check-out) and versioning via a central repository
- Comprehensive administration tool with scheduling capabilities and monitoring/dashboards
- Transform management for defining best practices
- Comprehensive reporting tools
- Scalable scripting language with a rich set of built-in functions
- Interoperability and flexibility with Web services-based applications
- High performance parallel transformations and grid computing
- Debugging and built-in profiling and viewing data
- Broad source and target support:
  - applications (for example, SAP)
  - databases with bulk loading and CDC (Changed-Data Capture)

- file types: comma delimited, fixed width, COBOL, XML, Excel

For details about all the features in Data Services, see the *BusinessObjects Data Services XI 3.1 Reference Guide*.





Data Services XI 3.1  
(12.1.1) features



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chapter

## Enterprise agility (ease of use)

### Improved Designer productivity

In Data Services Designer, you can use the function wizard to create a function call in an expression (for example, in the mapping in a Query transform). With this release of Data Services, you can launch the function wizard again to modify an existing function call in an expression. This makes it easier to modify and maintain expressions.

### Related Topics

- [Reference Guide: To edit an existing function call in an expression](#)

## Trusted information

### NCOALink and Mover ID

This release introduces Mover ID and support for the United States Postal Service NCOALink product. Mover ID benefits include:

- Confidence that your mailing list contains up-to-date address information based on change of address information filed by postal customers when they move.
- Support for the following NCOALink provider levels: full service provider, limited service provider, end user (with or without Stop Processing Alternative).
- Support for the ANKLink option. The USPS provides limited service providers and end users with full information about moves that occurred in the previous 18 months. ANKLink adds data covering the previous months 19 through 48. The ANKLink data indicates that a move has occurred and the date of the move.
- Flexible configuration of output data based on field class.
- Ability to generate the NCOALink Processing Summary Report and log files required by the USPS.

### **SuiteLink**

When the SuiteLink option is enabled, Data Services provides improved business addressing information for United States records by appending the suite number to business addresses located in highrise buildings.

### **Changes in DPV and LACSLink behavior**

The USPS adds security to prevent misuse of the DPV and LACSLink products by including false-positive addresses in the DPV and LACSLink directories. With the introduction of Mover ID and support for NCOALink, Data Services behavior when a false-positive address is encountered during processing now varies based on your user type.

### **Geocoder transform**

Use the Geocoder transform to include latitude and longitude information to your data. Latitude and longitude data may help your organization target certain population sizes, and other regional geographical data.

### **Unique ID in matching**

We have added GUID capabilities to the Match transform. This feature adds the ability to use Globally Unique Identifiers (GUID) as unique ID values. GUID is also known as the Universal Unique Identifier (UUID).

Unique ID info files can now be shared between multiple Match transform processes, including:

- Multiple individual Match transforms in a single dataflow
- A single Match transform configured with a degree of parallelism greater than 1
- Match transforms from different dataflow processes

### **Multiple field comparison in matching**

Adds the ability to compare different fields during in a single match criterion. Each selected field can be compared to either all other selected fields, or only the same field in candidate records.

### **Best record: master to subs**

Adds a new, efficient posting destination that allows you to push information from a master record and post it to subordinate records.

### **Data Cleanse and cleansing packages**

We have added two new Cleansing Packages: one for Sweden and one for Switzerland, both of which provide the Data Cleanse transform the language and locale specific dictionaries and processing rules to support the parsing of name, title and firm data.

### **Postal certification**

Data Services 12.1.1 is certified for the 2009 AMAS and SendRight programs.

### **Related Topics**

- [Designer Guide: NCOA overview](#)
- [Designer Guide: Geocoding](#)
- [Designer Guide: Multiple field \(cross-field\) comparison](#)
- [Designer Guide: Unique ID](#)

## **Operational excellence**

### **Improved blob data type support**

Data Services provides the following enhancements for binary large object (blob) data types:

- Capability to define blob data type columns in a fixed-width file format and to read from and load to blob columns in fixed-width files
- The dqmigration utility now migrates Data Quality binary data types in formatted flat files to Data Services blob (instead of varchar) data types in fixed-width file formats. You no longer need to change the data type from varchar to blob after migration.

These capabilities help customers migrate their existing Data Quality projects that handle blob data in flat files to Data Services fixed-width file formats. The Data Services blob data type now supports binary data types from Data Quality XI R2 and legacy Firstlogic products.

### Related Topics

- [Reference Guide: Data Services Objects, blob](#)

## Enterprise class

### **NeoView bulk loading**

HP Neoview version 2.3 support is now available on Windows, Linux, and HP-UX (Itanium). In addition to reading from Neoview database via ODBC, you can now use the Neoview Transporter to bulk load large amounts of data into the HP Neoview database.





Data Services XI 3.1  
(12.1.0) features

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chapter



## Enterprise agility (ease of use)

### Enhanced lookup function

Data Services now supports more dynamic capabilities when looking up values in a table:

- The lookup can be based on string pattern matching using a new operator (~).
- The output can be the result of an expression defined for the matching row.

These enhancements enable you to define more capabilities in your lookup tables.

### New datastore options

The new **Additional session parameters** option enables you to enter valid SQL statements that you want to execute after establishing the session. The SQL statement can be one or more statements to be executed when connection is established. This option is now available for Attunity, DB2, Informix, Microsoft SQL Server, ODBC, Oracle, Sybase ASE, Sybase IQ, and Teradata database types.

The new options, **Default Precision for Number** and **Default Scale for Number**, allow Oracle users to assign the default Precision and Scale values for an Oracle table at the database level by entering the values in the Advanced section of the **Create New Datastore** option.

### COBOL copybook file format enhancement

New options in the file format let you identify low and high hexadecimal values for packed-decimal source data and apply an associated action such as convert to NULL.

Enhancements have also been made to COBOL copybook to improve performance.

### Filtering and sorting

Columns in the Output tab of the Data Quality editors now have filter and sort capabilities that you access by clicking the column headers.

# Trusted information

## Data Cleanse and cleansing packages

Several changes have been made to the Data Cleanse transform and the cleansing packages:

- Business Objects now provides a new base Universal Data Cleanse transform configuration for creating custom data cleansing solutions not based on person and firm data.
- Less space is required for cleansing package cache files.
- Global Parsing Options are now called cleansing packages.

## Language and regional cleansing packages for party data

With this release, Business Objects introduces the following packages:

- New EMEA (Europe, the Middle East, and Africa) packages for Benelux and Danish (name/title/firm).
- Enhanced existing packages for English and German (name/title/firm).
- For English, additional regional data for Canada, the UK, Ireland, New Zealand, and Australia.
- For German, additional German data and new Austrian data.

## Address Line support for Singapore

Enhanced data for Singapore address processing supports street-level assignment. It is available for purchase.

## New Zealand SendRight certification

The Global Address transform is now certified for New Zealand and includes options to print the New Zealand Statement of Accuracy (SOA) report and produce the New Zealand SOA log file required for certification. To process certified mailings for New Zealand addresses, purchase the New Zealand data and contact the New Zealand Post to receive a customer number.

# Operational excellence

## Engine improvements

Business Objects has modified the engine infrastructure to improve global variable handling, function calls, expression and arithmetic, and sorting to increase the performance, scalability, memory utilization, and robustness of Data Services.

In addition, the Table Comparison transform now has better performance with enhancements to the sorted input mode to accommodate different sort orders (collations) when comparing across multiple databases.

## Improved error handling with try/catch

Data Services provides the following enhancements to the try/catch feature:

- Catches individual errors and displays them with new functions.
- Ability to specify multiple exception groups in one catch.
- Improved usability with an enhanced user interface and better categorization of errors.

## Improved Designer performance when calculating column mappings

The column mapping calculation for metadata reporting now runs as a separate process when importing objects or saving data flows. This separate process enables you to continue working in the Designer without waiting for the calculation to complete.

In addition, the Designer includes a new status icon to indicate that the column mapping calculation is in progress. You can cancel the calculation by double-clicking the icon.

Finally, the Management Console Impact and Lineage Analysis application includes a new status screen that indicates whether the column mapping calculation is complete for each data flow.

### **Persistent cache support for Candidate Selection feature in the Match and User-Defined transforms**

For candidate selection in the Match and User-defined transforms, you can now create a persistent cache, which lives beyond the life of a job. Using a persistent cache is useful in the following cases:

- You don't want to rely on a relational database to store the data you're matching against, and you want to use the candidate selection feature.
- You are matching against a dataset that is fairly static, such as a DoNotMail list, Prison list, demographic data, watchlists, and so on.

## Enterprise class

### **UNIX support**

The primary purpose of this release is to make Data Services available on UNIX platforms.

### **Nvarchar datatypes in template tables**

We have added support in template tables for nvarchar columns mapped from varchar columns in the source schema.

### **Attunity CDC support**

Data Services has been certified to support Attunity 5.1 with CDC.

### **Automatic installation of generated ABAP programs**

The capability to generate ABAP programs in Data Services is further enhanced in this release by allowing you to install the ABAP program directly to an SAP ERP or R/3 server from within the Data Services environment.

### **Improved support for BAPI functions**

We now also support tables as parameters for BAPI function calls.

### **Using Data Services in a Services Oriented Architecture (SOA)**

In this Data Services release, we have made the following enhancements:

- Native Web Services support allows you to create a Web Services datastore to access data sources in a more direct, efficient, and intuitive way from within a data flow. This removes the need to use an Adapter for Web Services and will improve performance. We still maintain support for the Adapter SDK.
- We improved performance for calling Data Services Web Services through connection pooling.
- New Web Service operations were added to the Data Services Web Service in order to:
  - Retrieve a list of published batch jobs.
  - Retrieve a list of published real-time services.
  - Retrieve input and output schemas for real-time services.
  - Execute any batch job with a single Web Service operation.
  - Execute any real-time service with a single Web Service operation.
  - Retrieve input parameters for a batch job.



Data Services XI 3.0  
(12.0.0) features



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chapter

## Enterprise agility (ease of use)

### Substitution parameters

Substitution parameters allow you to easily change environment settings for a Data Services job; from file locations to option values in transforms, all can easily be changed at runtime via a substitution parameter. Additionally, all substitution parameters are linked to a system configuration so the values can be changed once to reflect another environment (like test or production) by selecting another system configuration.

### Search\_Replace function

The new Search\_Replace function extends the search and replace functionality available in BusinessObjects Data Quality XI:

- Provides a new graphical user interface.
- Searches in multiple columns.
- Replaces full string, word, or substring.
- Replaces values defined in a table or file, internal list, or custom SQL.
- Selectable case sensitivity.
- Optionally provides a default replacement value for matches not found.

### Double Metaphone and Soundex functions

We added two new functions: Double Metaphone and Soundex. A Query transform using one of the two new functions replaces the Phonetic Key transform from BusinessObjects Data Quality XI. Each function provides an alternative algorithm for phonetic matching.

### Global unnest for nested structures

Data Services now provides the option to unnest a nested schema and all its subschemas to a flat structure with one mouse click including resolution of name collisions. This makes it easier to flatten nested structures in XML files.

## Enhanced Python editor

The new Python Expression editor, based on the Smart Editor used throughout Data Services, will help you create your Python expression. The editor provides basic programming features such as keyword highlighting, auto-completion, auto-indentation, and code tool tips. As you type, the Python Expression editor highlights the correct Python syntax. Some of the new features include:

- Importing and saving Python script to and from a file
- Printing
- Applying undo and redo actions
- Adding input and output fields without leaving the editor
- Accessing additional environment variables

The Python Expression editor with upgraded support to Python version 2.5.1, is available for the User-Defined transform and for the Best Record feature within the Match transform. The Python Expression editor is only available for the Data Quality and Data Services packages.

## Transform configurations

For all of the Data Quality transforms in Data Services, we have created transform configurations. Similar to the sample transforms installed with Data Quality XI, a transform configuration is a transform with pre-configured best practice input fields, best practice output fields, and options that can be used in multiple data flows. These are useful if you repeatedly use a transform with specific options and input and output fields.

You can also create your own transform configuration, either by replicating an existing transform configuration or by creating a new one.

### Related Topics

- [Designer Guide: Variables and Parameters](#)
- [Reference Guide: Descriptions of built-in functions](#)
- [Reference Guide: Python](#)
- [Reference Guide: Transforms](#)

## Trusted information

### Match transform

Data Services now provides you with a user interface (Match editor) that allows you to edit all of your matching operations (including break groups, candidate selection, best record, unique ID, group statistics, and so on) at once. You no longer need to set up multiple match-related transforms to create your match data flow.

### Global Address Cleanse engine

The Global Address Cleanse transform introduces the EMEA (Europe, Middle East, and Africa) engine which supports more countries and has improved data coverage. The EMEA engine, along with the new Global Address engine, replaces the Multi-Country plugin from Data Quality. Both engines enrich global address cleansing in Data Services by providing improved assignment technology and new country identification codes. Additionally, Global Address Cleanse in Data Services has updated Australia and Canada certifications, and has also made updates to the Japan engine.

### Country ID

The country ID transform has gone through a significant upgrade with this release. Country ID is now based on all new logic and can support country input based on ISO 2 character, ISO 3 character and ISO 3 digit codes. However, the most significant enhancement to country identification is the ability for the technology to identify and assign a country when one is not present on input. We have also improved our data and dictionaries to support the country assignment process. Business Objects has added region data to the dictionaries for countries that do not provide region data in their postal directories. The region data further enhances the ability to assign a country when one is not present on input.

### Universal Data Cleanse and cleansing packages

The cleansing package installer now provides a familiar and more robust installation experience.

- Incorporates standard Business Objects installation technology
- Supports the Data Services Repository Manager

- Adds new cleansing package reference data for Italy and the Netherlands
- Includes a refined user interface for Universal Data Cleanse features

### **Data Quality reports**

Many Data Quality transforms generate information about the data being processed. The Data Services Management Console now includes a new application for viewing, saving, and printing reports for jobs that use the Global Address Cleanse, USA Regulatory Address Cleanse, and Match transforms. Report types include job summaries, transform-specific reports, and transform group reports.

### **Related Topics**

- [Reference Guide: Transforms: Match](#)
- [Reference Guide: Transforms: Global Address Cleanse](#)
- [Reference Guide: Transforms: Country ID](#)
- [Installation Guide: Cleansing packages](#)
- [Management Console Metadata Reports: Data Validation Dashboard Reports](#)

## **Operational excellence**

### **Improved Data Services installation**

The installer enables you to have a fully functional Data Services environment after installation, including the setup of the repository and application server. The BusinessObjects Data Services installer now provides a familiar and more robust installation experience.

- Incorporates the standard Business Objects installation technology and keycodes
- Features command-line and scripted installation modes
- Includes MySQL database and Tomcat application server packages
- Includes a new Data Services License Manager application

### **New Management Console support**

The Data Services Management Console now supports, in addition to Tomcat, two new Application servers: WebSphere and WebLogic.

### **Migrating from Data Quality to Data Services**

Use the migration utility to migrate the Data Quality 11.5 and 11.7 repositories to Data Services 12.0. The utility migrates your Data Quality projects (and other objects, such as connections), so that you can successfully run them as Data Services jobs with minimal effort. If you have imported Data Quality transforms in your Data Integrator 11.7 jobs, the utility also migrates the Data Quality integrated batch projects. For more information see the Data Quality to Data Services Migration Guide.

### **Support for additional codepages**

Data Services now supports UTF-16 codepages for reading and writing from flat files.

#### **Related Topics**

- [Installation Guide: Standard Installation of Data Services](#)
- [Installation Guide: Silent Installation of Data Services](#)
- [Installation Guide: Using the License Manager](#)
- [Installation Guide: To configure an existing Web application server](#)
- [Data Quality to Data Services Migration Guide](#)

## **Enterprise class**

### **Web Services enhancements**

New WS-I compliant Web Services provide operations that allow for retrieving logging information, obtaining job status, specifying substitution variables for batch jobs, stopping a batch job, getting run IDs for a given batch job, and starting/stopping a real-time service.

### **Real-time API**

Data Services provides a set of Java and C++ methods to allow integrators to closely integrate their products with Data Services with direct API calls to the real-time services exposed via Data Services.

### **Improved online blueprints and other content objects**

Previously, the Data Quality blueprints were delivered and installed with the product. Now you can download them from the Business Objects Diamond

Developer website, where they can be updated more frequently. You can also download only the blueprints and other content that you think you will find useful. The Diamond Developer site is your source for current information focused on the end users of our products. Business Objects will continually post new blueprints, transform configurations, custom functions, best practices, whitepapers, and other content. Refer to this site frequently for updated content and use the forums to provide us with any questions or requests you may have.

We've also provided the ability for you to upload and share any content you've developed with the rest of the Data Services development community. You can access the Diamond Technical Community at <https://boc.sdn.sap.com/EIM>. After you create an account, you can access the Data Services blueprints directly at <https://boc.sdn.sap.com/dataservices/blueprints>.

### **Large Object support**

Data Services now supports the binary large object (blob) data type, significantly extends support for the long data type (also known as character large object or CLOB), and adds support for many additional large object data types across all databases.

Enhancements to long data type support include optimized storage in the Data Services data flow engine, elimination of the 10,000-character maximum long data size for Microsoft SQL Server, DB2, Informix, and so on, and improved performance involving long data.

### **Related Topics**

- [Integrator's Guide: Real-time Services API Overview](#)
- [Designer Guide: Real-time jobs](#)
- [Reference Guide: Downloading blueprints and other content objects](#)
- [Reference Guide: Data Type: Import](#)

## 4 | Data Services XI 3.0 (12.0.0) features *Enterprise class*