



**Overview Guide**

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# **Replication Server<sup>®</sup> Options**

## **15.7.1**

Linux, Microsoft Windows, and UNIX

DOCUMENT ID: DC32753-01-1571-01

LAST REVISED: April 2012

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# Contents

# About Replication Server Options

Replication Server® Options are used with Replication Server for replication across distributed non-Sybase® databases to enable different operational and decision-support tasks.

Replication Server Options contain the replication components for replication with one of these databases:

- Oracle
- Microsoft SQL Server
- IBM DB2 Universal Database (on Linux, UNIX, and Microsoft Windows platforms)

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**Note:** You can use these replication components to implement replication on the Microsoft Windows and UNIX platforms. To replicate from DB2 for z/OS, you must have Replication Agent™ for DB2 for z/OS, which is sold separately from Replication Server Options. However, you can use the ECDA Option for ODBC that is included in Replication Server Options to replicate into DB2 for z/OS or DB2 for AS/400.

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The Replication Server Options and their components are:

- Replication Server Option for Oracle:
  - Replication Agent for Oracle
  - ExpressConnect for Oracle
- Replication Server Option for Microsoft SQL Server:
  - Replication Agent for Microsoft SQL Server
  - ECDA Option for ODBC
- Replication Server Option for IBM DB2 UDB:
  - Replication Agent for IBM DB2 UDB (Linux, UNIX and Windows)
  - ECDA Option for ODBC

Replication Server Options are available separately from Replication Server. However, to implement the solutions described in this document, you must have both the Replication Server Options and Replication Server. With Replication Server and one or more Replication Server Options, you can:

- Replicate data across heterogeneous environments using various non-Sybase databases (DB2 UDB, Microsoft SQL Server, and Oracle), allowing data to be shared among different operational and decision-support systems without affecting business performance.
- Integrate disparate business systems, including legacy data, into a coordinated, easily accessed, and powerful corporate business enterprise.

# Replication Server Options Components

Replication Server Options components include Replication Agent, Enterprise Connect™ Data Access (ECDA), and ExpressConnect for Oracle (ECO).

For special instructions on installing option components, see the *Replication Server Options Release Bulletin*.

## Replication Agent

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Replication Agent extends the capabilities of Replication Server by allowing non-Sybase database servers to be data sources in a Sybase replication system.

Replication Agent captures transactions in the primary database and transfers them to Replication Server for distribution to replicate databases.

### Replication Agent Configurations

Each Replication Server Option contains the Replication Agent suitable for a particular database platform:

- Replication Agent for Oracle – retrieves transactions from an Oracle primary database.
- Replication Agent for Microsoft SQL Server – retrieves transactions from a Microsoft SQL Server primary database.
- Replication Agent for UDB – retrieves transactions from an IBM DB2 Universal Database primary database running on UNIX, Linux, or Microsoft Windows platforms.

### Standalone Application

Replication Agent runs as a server application. Replication Agent can reside on the same host machine as any other component of the replication system, or it can reside on a machine that is separate from other replication system components. For Oracle and Microsoft SQL Server, Replication Agent must reside on the same type of hardware and operating system as the primary database and have direct, physical access to the database transaction logs.

### Replication Agent Monitoring

Replication Agent instances can be monitored by Sybase Control Center for Replication. In addition, you can use any Open Client™ application (such as isql) that is capable of communicating with the Sybase Tabular Data Stream™ (TDS) protocol to configure, manage, and monitor a Replication Agent instance.

For more information, see the documentation for Replication Agent.

## Enterprise Connect Data Access

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Enterprise Connect Data Access (ECDA) is an integrated set of software applications and connectivity tools that allow Replication Server to replicate to non-Sybase DBMSs, including IBM DB2 UDB and Microsoft SQL Server.

ECDA consists of a DirectConnect™ server and one or more access service libraries that have specific sets of configuration properties. The DirectConnect server provides the framework in which the service libraries operate. Each access service library gives Replication Server the ability to replicate data to a particular target database, including IBM DB2 UDB and Microsoft SQL Server.

### ECDA Configurations

ECDA includes ECDA Option for ODBC, which provides connectivity to Microsoft SQL Server and IBM DB2 UDB running on Windows, UNIX, z/OS, and AS/400 platforms.

### DirectConnect Manager

You can use DirectConnect Manager, which is the DirectConnect plug-in for Sybase Central™, to configure, manage, and control your data access environment. To learn how to use Sybase Central to manage DirectConnect servers, see the DirectConnect Manager online help.

For more information, see the ECDA documentation set.

## ExpressConnect for Oracle

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ExpressConnect for Oracle (ECO) is an embedded library loaded by Replication Server for Oracle replication.

ExpressConnect for Oracle provides direct communication between Replication Server and a replicate Oracle data server. ExpressConnect for Oracle eliminates the need to install and set up a separate gateway server, thereby improving performance and reducing the complexities of managing a replication system.

See the *ExpressConnect for Oracle Installation and Configuration Guide*.

## Sample Solutions

The scenarios for using Replication Server Options and Replication Server in a heterogenous replication environment.

## **Consolidation of Data into a Central Repository**

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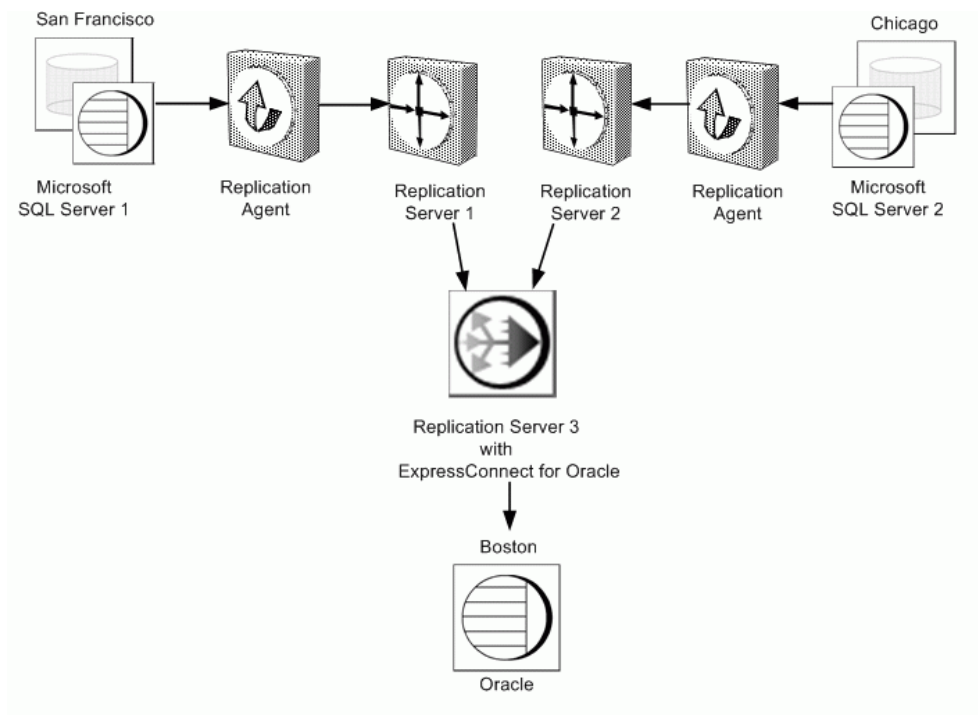
The scenario describes a sample solution for setting up unidirectional consolidation of data into a central repository using RSO components.

A telecommunications company has satellite offices in San Francisco and Chicago that use Microsoft SQL Server to store local customer information. Company headquarters, in Boston, uses Oracle to store company-wide customer information. Replication Agent captures the changes in Microsoft SQL Server at the satellite offices and passes them to Replication Server. Replication Server then applies data changes to the headquarters consolidated Oracle customer database.

To set up unidirectional consolidation into a central repository, the company uses these components:

- Oracle
- Microsoft SQL Server
- Replication Server
- Replication Agent for Microsoft SQL Server
- ExpressConnect for Oracle



**Figure 1: Unidirectional Consolidation into a Central Repository**

## Distribution of Enterprise Data Between Multiple Central Databases

The scenario describes a sample solution for integrating Oracle data with Adaptive Server<sup>®</sup> Enterprise (ASE) data using the RSO components.

A large regional supplier maintains its enterprise data in a central database in Sacramento before merging with a second regional supplier of comparable size in Denver. The Sacramento enterprise maintains its data on an Oracle system, but the Denver enterprise uses Adaptive Server Enterprise (ASE). To avoid the lengthy and expensive process of migrating data to another platform, both organizations implement an integrative, bidirectional replication system.

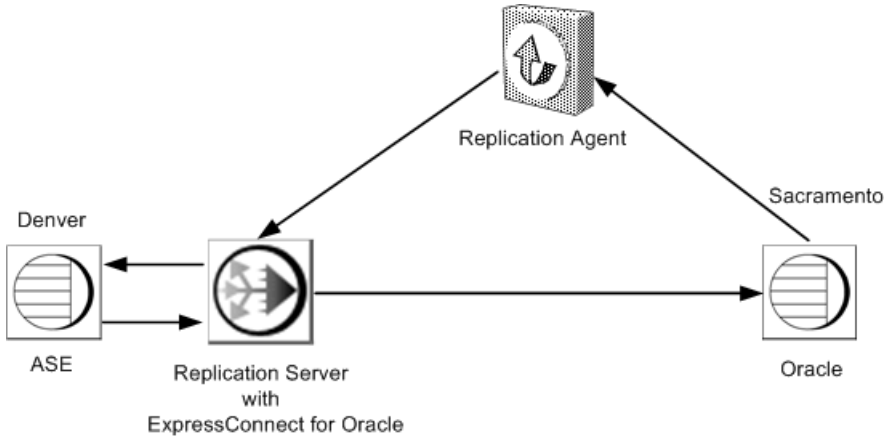
To set up bidirectional, enterprise-wide replication, the Sacramento enterprise uses these components:

- ASE
- Oracle
- Replication Server

## Sample Solutions

- Replication Agent for Oracle
- ExpressConnect for Oracle

**Figure 2: Bidirectional, Enterprise-Wide Replication**



## Multi-Path Replication

The scenario describes a sample Multi-Path Replication™ solution using RSO components.

A financial institution using Oracle as its primary database and Sybase IQ as the replicate database demands a high level of replication performance. To increase replication throughput and reduce latency and contention, the company is using a multipath replication environment that includes default and alternate connections for the primary and replicate database.

The corresponding replication definitions and subscriptions provide a multiple-replicate-connection replication system. There are two primary replication paths from the primary database to a Replication Server. Each primary path consists of a Replication Agent path with an associated primary connection. Each primary path replicates a different set of primary tables, stored procedures, or both. A dedicated route in the replicate Replication Server replicates high-priority transactions.

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**Note:** Real-time loading (RTL) is enabled to allow replication to Sybase IQ.

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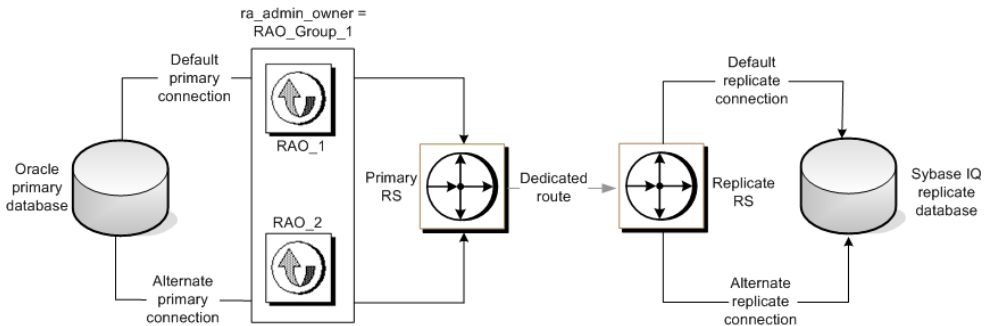
For a description of end-to-end multipath replication scenarios, see the *Replication Server Heterogeneous Replication Guide*.

To set up multipath replication, the company uses these components:

- Sybase IQ
- Oracle
- Replication Server

- Replication Agent for Oracle

**Figure 3: Multipath Replication with Oracle Primary and Sybase IQ Replicate Databases**



## Obtaining Help and Additional Information

Use the Sybase Getting Started CD, Product Documentation site, and online help to learn more about this product release.

- The Getting Started CD (or download) – contains release bulletins and installation guides in PDF format, and may contain other documents or updated information.
- Product Documentation at <http://sybooks.sybase.com/> – is an online version of Sybase documentation that you can access using a standard Web browser. You can browse documents online, or download them as PDFs. In addition to product documentation, the Web site also has links to EBFs/Maintenance, Technical Documents, Case Management, Solved Cases, Community Forums/Newsgroups, and other resources.
- Online help in the product, if available.

To read or print PDF documents, you need Adobe Acrobat Reader, which is available as a free download from the *Adobe* Web site.

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**Note:** A more recent release bulletin, with critical product or document information added after the product release, may be available from the Product Documentation Web site.

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## Technical Support

Get support for Sybase products.

If your organization has purchased a support contract for this product, then one or more of your colleagues is designated as an authorized support contact. If you have any questions, or if you need assistance during the installation process, ask a designated person to contact Sybase Technical Support or the Sybase subsidiary in your area.

## Downloading Sybase EBFs and Maintenance Reports

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Get EBFs and maintenance reports from the Sybase Web site.

1. Point your Web browser to <http://www.sybase.com/support>.
2. From the menu bar or the slide-out menu, under **Support**, choose **EBFs/Maintenance**.
3. If prompted, enter your MySybase user name and password.
4. (Optional) Select a filter from the **Display** drop-down list, select a time frame, and click **Go**.
5. Select a product.

Padlock icons indicate that you do not have download authorization for certain EBF/Maintenance releases because you are not registered as an authorized support contact. If you have not registered, but have valid information provided by your Sybase representative or through your support contract, click **My Account** to add the “Technical Support Contact” role to your MySybase profile.

6. Click the **Info** icon to display the EBF/Maintenance report, or click the product description to download the software.

## Sybase Product and Component Certifications

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Certification reports verify Sybase product performance on a particular platform.

To find the latest information about certifications:

- For partner product certifications, go to [http://www.sybase.com/detail\\_list?id=9784](http://www.sybase.com/detail_list?id=9784)
- For platform certifications, go to <http://certification.sybase.com/ucr/search.do>

## Creating a MySybase Profile

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MySybase is a free service that allows you to create a personalized view of Sybase Web pages.

1. Go to <http://www.sybase.com/mysybase>.
2. Click **Register Now**.

## Accessibility Features

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Accessibility ensures access to electronic information for all users, including those with disabilities.

Documentation for Sybase products is available in an HTML version that is designed for accessibility.

Vision impaired users can navigate through the online document with an adaptive technology such as a screen reader, or view it with a screen enlarger.

Sybase HTML documentation has been tested for compliance with accessibility requirements of Section 508 of the U.S Rehabilitation Act. Documents that comply with Section 508 generally also meet non-U.S. accessibility guidelines, such as the World Wide Web Consortium (W3C) guidelines for Web sites.

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**Note:** You may need to configure your accessibility tool for optimal use. Some screen readers pronounce text based on its case; for example, they pronounce ALL UPPERCASE TEXT as initials, and MixedCase Text as words. You might find it helpful to configure your tool to announce syntax conventions. Consult the documentation for your tool.

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For information about how Sybase supports accessibility, see the Sybase Accessibility site: <http://www.sybase.com/products/accessibility>. The site includes links to information about Section 508 and W3C standards.

You may find additional information about accessibility features in the product documentation.

## Obtaining Help and Additional Information