



Overview Guide

## **Replication Server® Options**

15.5

[ Linux, Microsoft Windows, and UNIX ]

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# About This Book

<b>Audience</b>	This book is for those using Replication Server® Options 15.5 for replication to or from Oracle, Microsoft SQL Server, or IBM DB2 UDB databases.
<b>How to use this book</b>	<p>The information in this book is organized as follows:</p> <ul style="list-style-type: none"><li>• Chapter 1, “Introducing Replication Server Options” – describes the option components and related products.</li><li>• Chapter 2, “Replication Server Options Sample Solutions” – provides sample solutions using the options and Replication Server.</li></ul>
<b>Related documents</b>	See your product documentation for detailed descriptions of how to install and use Replication Server and the Replication Server Options components.
<b>Other sources of information</b>	<p>Use the Sybase® Getting Started CD and the Sybase Product Manuals Web site to learn more about your product:</p> <ul style="list-style-type: none"><li>• The Getting Started CD is included with your software and contains release bulletins, installation guides in PDF format, and other documents or updated information. To read or print documents on the Getting Started CD, you need Adobe Acrobat Reader, which you can download at no charge from the Adobe Web site using a link provided on the CD.</li></ul> <p>You can also access the documents available on the Getting Started CD from the Sybase Product Manuals Web site.</p> <ul style="list-style-type: none"><li>• The Sybase Product Manuals Web site, which can be accessed using a standard Web browser, includes the Replication Server documents that are not included in the Getting Started CD. In addition to product manuals, you will find links to EBFs/Maintenance, Technical Documents, Case Management, Solved Cases, newsgroups, and the Sybase Developer Network.</li></ul> <p>To access the Sybase Product Manuals Web site, go to Product Manuals at <a href="http://www.sybase.com/support/manuals/">http://www.sybase.com/support/manuals/</a>.</p>
<b>Sybase certifications on the Web</b>	Technical documentation at the Sybase Web site is updated frequently.

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❖ **Finding the latest information on product certifications**

- 1 Point your Web browser to Technical Documents at <http://www.sybase.com/support/techdocs/>.
- 2 Click Partner Certification Report.
- 3 In the Partner Certification Report filter select a product, platform, and timeframe and then click Go.
- 4 Click a Partner Certification Report title to display the report.

❖ **Finding the latest information on component certifications**

- 1 Point your Web browser to Availability and Certification Reports at <http://certification.sybase.com/>.
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❖ **Creating a personalized view of the Sybase Web site (including support pages)**

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- 1 Point your Web browser to Technical Documents at <http://www.sybase.com/support/techdocs/>.
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**Sybase EBFs and software maintenance**

❖ **Finding the latest information on EBFs and software maintenance**

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- 3 Select a product.
- 4 Specify a time frame and click Go. A list of EBF/Maintenance releases is displayed.

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

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

## Accessibility features

This document is available in an HTML version that is specialized for accessibility. You can navigate the HTML with an adaptive technology (such as a screen reader) or view it with a screen enlarger.

Replication Server Options 15.5 and the HTML documentation for the individual products have been tested for compliance with U.S. government Section 508 Accessibility requirements. 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 might 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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# Introducing Replication Server Options

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## About Replication Server Options

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.

Use Replication Server Options with Replication Server for replication across distributed, heterogeneous systems 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 UDB 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

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 Option components

This section describes each of the components of Replication Server Options:

- Replication Agent
- Enterprise Connect Data Access (ECDA)
- ExpressConnect for Oracle

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

### Replication Agent

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

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 reads the primary database transaction log and generates Log Transfer Language (LTL). Replication Server uses LTL to process and distribute replicated transactions through a replication system.

#### 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 have direct, physical access to the database transaction logs.

Replication Agent management

Replication Agent instances can be managed and monitored by Replication Manager (RM). 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 (ECDA)

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

ExpressConnect for Oracle provides direct communication between Replication Server and a replicate Oracle data server. ExpressConnect for Oracle eliminates the need for installing and setting 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*.

# Replication Server Options Sample Solutions

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## Consolidating data into a central repository

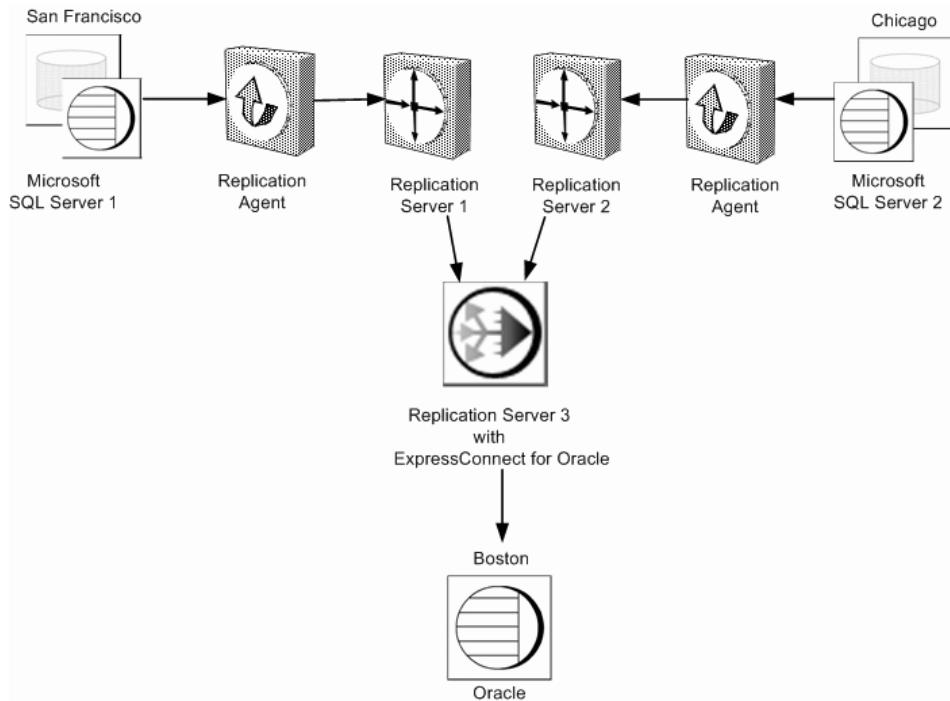
A telecommunications company has satellite offices in San Francisco and Chicago that use Microsoft SQL Server to store local customer information. Company headquarters, in Boston, uses Oracle to store company-wide customer information. Replication Agent captures the changes in Microsoft SQL Server at the satellite offices and passes them to Replication Server. Then, Replication Server 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 2-1 illustrates this sample scenario.

**Figure 2-1: Unidirectional consolidation into a central repository**



## Distributing enterprise data between multiple central databases

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
- Replication Agent for Oracle
- ExpressConnect for Oracle

Figure 2-2 illustrates the sample scenario that integrates Oracle data with ASE data.

**Figure 2-2: Bidirectional, enterprise-wide replication**

