Installation and Release Bulletin
Replication Server® Messaging Edition 15.7.1
for Linux, Microsoft Windows, and UNIX

Document ID: DC01091-01-1571-01

Last revised: November 13, 2012

1. Accessing current release bulletin information

A more recent version of this release bulletin may be available on the Web. To check for critical product or document information added after the product release, use the Sybase® Product Documentation Web site.

❖ **Accessing release bulletins at the Sybase Product Documentation Web site**

1   Go to Product Documentation at http://www.sybase.com/support/manuals/.

2   Select a product.

3   Select a product version from the Document Set list.

4   From the list of individual documents, select the link to the release bulletin for your platform. You can either download the PDF version or browse the document online.

2. Overview

The primary goal of a messaging system is to manage communication across heterogeneous systems enabling individuals throughout the enterprise to efficiently access and share information. A messaging solution must seamlessly integrate with your other IT resources and scale to meet your messaging needs, both now and in the future. The Replication Server® Messaging Edition (RSME) provides a messaging solution that addresses these challenges.

RSME captures transactions (data changes) in various databases such as Adaptive Server® Enterprise (ASE) and other non-Sybase databases such as Oracle, IBM DB2, and Microsoft SQL Server, and delivers them as events to external applications, either directly or through a message bus, in real time.

RSME:

- Provides access to a variety of heterogeneous data sources.

- Captures and propagates real-time events in data sources to time-critical applications.

- Provides adapters for integrating with non-Sybase message providers such as IBM WebSphere MQ, TIBCO RV, Sonic MQ, or Sybase certified J2EE-compliant Java Message Service (JMS).

  See the complete list of supported messaging providers at http://upc.sybase.com/. Select RepConnector™ from the product list in Search by Base Product.

- Synthesizes analytical information with data from your organization's operational processes to provide just-in-time information.

- Enables applications to be resilient to network failure.

2.1 RSME components

The RSME includes these components:

- RepConnector 15.0.2 ESD #6

- Replication Server 15.7.1

- Replication Agent™ 15.7.1

> **Note** If your primary database is Adaptive Server®, then Replication Agent is not required to be installed. Additionally, if you already have BEA Weblogic version 10 installed, then installing EAServer is optional.

- EAServer 6.3.1

2.1.1 RepConnector

RepConnector provides a nonpolling, nontrigger-based solution to database integration, building on the Replication Server noninvasive system to push database transactions into a traditional integration environment.

RepConnector provides adapters for sending messages to TIBCO, IBM MQ, SonicMQ, or Sybase certified J2EE-compliant JMS messaging system. It can also send messages to virtually any other user or application.

RepConnector:

- Delivers database events and metadata from Replication Server to the configured destination

- Follows transactional behavior

- Manages connections using:
  - RepConnector Manager, which is a GUI in the Eclipse framework
  - ratool, which is a command line utility

- Can group database events into a single transaction

- Supports binary datatypes

- Parses replication events and generates XML documents

- Transforms incoming database events into XML messages, and routes them into configured message queues

- Can transform incoming database events into their application-specific format

- Detects message events and routes them to database tables

- Supports EAServer 6.3.1 as well as BEA WebLogic 10.0 application servers

Note RepConnector does not support all Replication Server 15.7.1 functionality. For more detailed information, see "Replication Server functionality not supported by RSME" on page 5.

See the *RepConnector Configuration and Users Guide.*

2.1.2 Replication Server

The Replication Server component is used for distribution and synchronization of operational data in a heterogeneous replication environment. Replication Server keeps data up to date in multiple databases so that you can access local data instead of remote, centralized databases.

Replication Server works to distribute data over a network by:

- Providing application developers and system administrators with a flexible publish-and-subscribe model for marking data and stored procedures to be replicated

- Managing replicated transactions while retaining transaction integrity across the network

See the *Replication Server Administration Guide.*

2.1.3 Replication Agent

The Replication Agent component captures transactions in a primary database and sends them to a Replication Server for distribution to replicate targets. Replication Agent extends the capabilities of Replication Server by allowing non-Sybase data servers to act as primary data servers in a replication system based on Sybase replication technology.

Replication Agent supports data replication from Oracle, Microsoft SQL Server, and IBM DB2 UDB installed on UNIX, Linux, and Microsoft Windows.

See the *Replication Agent Administration Guide.*

2.1.4 EAServer

EAServer is an application server that includes an integrated set of development tools that you use to deploy Web applications that support high-volume traffic, dynamic content, and intensive online transaction processing. EAServer provides a framework for deploying the middle-tier logic of distributed component-based applications.

EAServer simplifies creating and administering Internet applications that service thousands of clients simultaneously. EAServer components execute on the middle tier between end-user client applications and remote databases. EAServer provides efficient management of client sessions, security, threads, third-tier database connections, and transaction flow, without requiring specialized knowledge on the part of the component developer.

See the EAServer 6.3.1 documentation.

2.2 Replication Server functionality not supported by RSME

RSME supports Replication Server data manipulation language (DML) statements (insert, delete, update). However, RSME does not support any Replication Server applications that do not use DML statements such as high volume adaptive replication (HVAR), Data Server Interface (DSI) bulk copy-in, and dynamic SQL.

2.3 Supported platforms

Table 1 describes the compatible platform and operating system configurations for RSME.

Table 1: RSME requirements

Platform	Operating system version
HP-UX Itanium (32-bit and 64-bit)	HP-UX Itanium 11.23 on HP-UX 11i version 2
IBM AIX (32-bit and 64-bit)	IBM AIX 5.3
Linux x86-64 (32-bit and 64-bit)	• Red Hat Enterprise Linux 4.0 • Red Hat Enterprise Linux 5.0 • SuSE Linux Enterprise Server SLES 9 • SuSE Linux Enterprise Server SLES 10

Platform	Operating system version
Solaris (SPARC) (32-bit and 64-bit)	Solaris version 9 or 10 **Note** Replication Agent is only supported for Solaris (64-bit).
Microsoft Windows (32-bit and 64-bit)	• Microsoft Windows XP Professional Service Pack 2 or later (x86) • Microsoft Windows Server 2003 • Microsoft Windows Server 2008 R2 • Microsoft Windows Server 2008 (x64) • Microsoft Windows 7 (x86) • Microsoft Windows 7 Enterprise Server • Microsoft Vista Enterprise **Note** Replication Agent for Microsoft SQL Server is supported only on Windows platform.

Refer to the individual product's release bulletin for any patch level information for your operating system. For a complete list of supported operating systems, see the Sybase Platform Certification Web site at http://certification.sybase.com/ucr/search.do.

3. RSME deployment architecture

Figure 1 shows a distributed system that contains the RSME components.

Figure 1: RSME deployment architecture
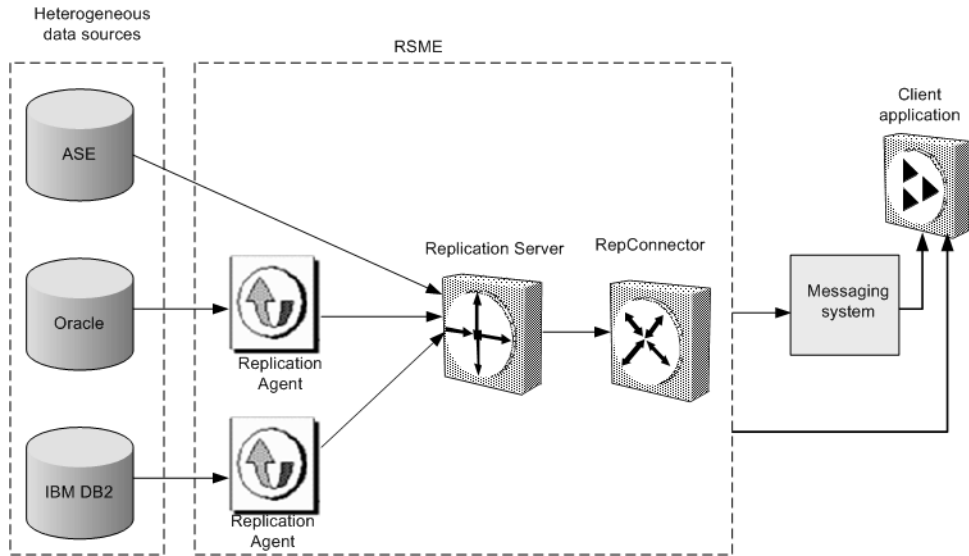
4. License requirements

RSME uses the Sybase Software Asset Management (SySAM) licensing mechanism for license administration and asset management tasks. After you purchase RSME components, go to the Sybase Product Download Center (SPDC) Web site at http://sybase.subscribenet.com to generate and download the licenses. See the *SySAM Users Guide*.

4.1 Deployment and licensing options for RSME components

Table 2 describes the deployment and license options for RSME components.

Table 2: Deployment and licensing options for RSME components

Component	Deployment and licensing options
RepConnector	• A SySAM served or unserved license is required. • Installation is allowed on as many machines in the distributed environment for which you have purchased licenses.
Replication Server	• A SySAM served or unserved license is required. • Installation is allowed on as many machines in the distributed environment for which you have purchased licenses.
EAServer	• Obtain the RSME *.tgz* file that contains the EAServer license, Replication Agent license, and the Readme file from the SPDC Web site or the Getting Started CD. • Installation is allowed on as many machines in the distributed environment for which you have purchased licenses. **Note** Select Advanced Edition (AE) as your product edition from the drop-down list when installing EAServer 6.3.1.
Replication Agent	• Obtain the RSME *.tgz* file that contains the EAServer license, Replication Agent license, and the Readme file from the SPDC Web site or the Getting Started CD. • Installation is allowed on multiple machines that contain the supported database in the distributed environment.

4.1.1 Installing static license for EAServer 6.3.1 Advanced Edition

Use this procedure to install the *SYBASE_RSME_EAS.lic* file that contains a valid SySAM license for EAServer component in RSME 15.7.1.

1   Install EAServer 6.3.1 component from RSME 15.7.1, if not already installed.

2   Stop EAServer if it is running.

3   Copy the included EAServer license file to these locations:

   •   UNIX – *$SYBASE/EAServer/licenses*

   •   Windows – *%SYBASE%\EAServer\licenses*

   where *$SYBASE* or *%SYBASE%* is the installation directory where EAServer 6.3.1 Advanced Edition is installed.

4   Restart EAServer.

5   Verify the log file to confirm that EAServer has started in advanced mode. In your log file, you should see lines similar to these lines:

```
2012-11-08 10:16:31.563 INFO main
[ApplicationServer:<servername>] Sybase Enterprise
Application Server 6.3.1.04 Advanced Edition

2012-11-08 10:16:31.565 INFO main
[ApplicationServer:<servername>] Server license
edition: Advanced Edition (AE), type:
CPU License (CP)

2012-11-08 10:16:31.568 INFO main
[ApplicationServer:<servername>] Server license
notice: Licensed for use with Sybase Replication
Server Messaging Edition (RSME) under the terms
specified in the RSME PSLT
```

4.1.2 Installing static license for Replication Agent 15.7.1

Use this procedure to install the *SYBASE_RSME_RAX.lic* file that contains a valid SySAM license for Replication Agent component in RSME 15.7.1.

1   Install Replication Agent 15.7.1 component from RSME 15.7.1 release, if not already installed.

2   Stop Replication Agent if it is running.

3   Copy the included Replication Agent license file to these location:

  •   UNIX – *$SYBASE/SYSAM-2_0/licenses*

  •   Windows – *%SYBASE%\SYSAM-2_0\licenses*

  where *$SYBASE* or *%SYBASE%* is the installation directory where Replication Agent 15.7.1 is installed.

4   Restart Replication Agent instance.

5   Verify the Replication Agent log file to determine if Replication Agent has started successfully. You can access the Replication Agent log files at these locations:

  •   UNIX –

    $SYBASE/RAX-15_5/instance_name/log/instance_name.log

  •   Windows –

    %SYBASE%\RAX-15_5\instance_name\log\instance_name.log

5. Product compatibilities

This section describes the compatibility of RSME components with non-Sybase products.

RepConnector

Table 3 lists the enterprise messaging system versions supported by RepConnector 15.0.2 ESD #6.

Table 3: Enterprise messaging systems compatible with RepConnector

Enterprise messaging system	Versions
TIBCO Rendezvous	7.4.1
TIBCO Enterprise for	4.3.0 (JMS version)
TIBCO Active Enterprise	4.1
IBM WebSphere MQ/MQJMS	6.0
Sonic MQ	7.5

See the complete list of supported enterprise messaging systems at http://upc.sybase.com/. Select RepConnector from the product list in Search by Base Product.

Replication Agent

Table 4 lists the primary database server versions supported by Replication Agent 15.7.1

Table 4: Databases compatible with Replication Agent

Database	Versions
IBM DB2 Universal Database	Enterprise Edition 9.1, 9.5, 9.7
Oracle Server	10g (10.1, 10.2), 10g ASM, 10g RAC, 10g in 9i compatibility mode, 11g (11.1, 11.2), 11g ASM, 11g RAC
Microsoft SQL Server	2005 Service Pack 2 2008 R1 Service Pack 2 and 2008 R2 – support for Microsoft SQL Server 2008 is limited to the same features that are supported for Microsoft SQL Server 2005. Replication Agent does not support the features and datatypes introduced in Microsoft SQL Server 2008.

Replication Agent requires a JDBC™ 3.0-compliant driver for the primary data server. Table 5 lists the JDBC driver versions required to support connectivity between Replication Agent 15.7.1 and the primary data server.

Table 5: Drivers compatible with Replication Agent

Driver	Versions
DB2 Universal Database Administration Client	64-bit on Linux platform; 32-bit on Windows platform only. Use version: • 9.5 – for DB2 9.1 and 9.5 • 9.7 – for DB2 9.7
Oracle JDBC driver	• 10.2 for JDK 1.4 and 1.5 • 11.1 for JDK 1.5 • 11.2 for JDK 1.6 **Note** You can use any of these drivers with Oracle version 10.1, 10.2, or 11.1. However, for Oracle 11.2, you must use Oracle JDBC 11.2 driver.
Microsoft SQL Server JDBC driver	3.0

For Replication Server 15.7.1 and EAServer 6.3.1 product compatibilities, see the release bulletins for the appropriate platforms for these two products.

6. Installing RSME components

Install each RSME component separately, following the instructions in each product's installation guide.

Be aware of these considerations:

*   Before you install RepConnector 15.0.2 ESD #6, one of these application servers must be installed and running on your local machine:

    *   Sybase EAServer version 6.3.1 running with JDK 1.5

    *   BEA WebLogic version 10.0 running with JDK 1.5

*   Install Replication Agent for Oracle on a machine from which it can directly access the Oracle redo logs and the archived redo logs.

*   Install Replication Agent for Microsoft SQL Server on a machine from which it can directly access the SQL Server transaction log files.

7. Configure and administer RSME components

This section describes how to configure and administer the RSME components.

7.1 RepConnector configuration and management

RepConnector Manager is a plug-in to the Eclipse framework that you can use to manage RepConnector runtime component activity. You can run RepConnector Manager on the local machine where the RepConnector runtime component is installed, or on any remote machine that can access the machine on which the RepConnector runtime component is installed. To access the remote machine, verify that the HTTP connection to the application server on which the RepConnector runtime component is deployed and running, is available throughout the network. Use the RepConnector Manager to configure the RepConnector connections.

See the *RepConnector Configuration and Users Guide.*

7.2 Replication Server and Replication Agent configuration and management

Use the Replication Manager (RM) plug-in to manage and monitor Replication Server and Replication Agent instances.

You can also configure, manage, and monitor a Replication Agent instance using any Open Client™ application (such as isql) that is capable of communicating with the Sybase Tabular Data Stream™ (TDS) protocol.

For more information on using Replication Manager, see the Replication Manager online help.

Additionally, see the *Replication Server Configuration Guide* and the *Replication Agent Administration Guide*.

8. Sample scenarios

This section shows through a variety of samples, various ways you can use RSME components to meet the needs of your enterprise.

8.1 Scenario: Managing risks in financial services

A trading company wants to offer proactive notifications of changes to customer data and securities data. For example, if the buy limit for a security is reached, the company wants to immediately send this information to all trading systems. The system that is currently in place must poll the securities operational database, which introduces information lag, which in turn, introduces the likelihood of credit limit breaches. The current implementation does not allow the company lessen this risk, or to identify security breaches early.

The current system periodically polls the database that holds credit limit thresholds resulting in performance degradation to the operational systems. The frequency of polling determines how quickly the trading company can identify whether there is a credit-limit break.

The trading company wants to automatically prevent trading once a customer's credit limit has been reached. Polling the securities operational database is not frequent enough to accomplish this goal

At various locations, customer and securities data are stored in Sybase Adaptive Server Enterprise (ASE) and Oracle databases.

RSME pushes time-critical data from heterogeneous databases to the messaging architecture, eliminating the information lags created by batch updates or intermittent polling processes.

When a customer places a trade request, the trading company uses RSME to send messages from their customer and securities databases to a message bus. The trade request is read by a client application that computes credit risk. If the credit limit is not reached, the customer trade is allowed. If the buy limit has been reached, all trading systems connected to the message bus are immediately notified to take the necessary precautionary measures.

The events, or messages are delivered to external applications in real time through a message bus such as IBM WebSphere MQ or JMS.

Figure 2: RSME data flow
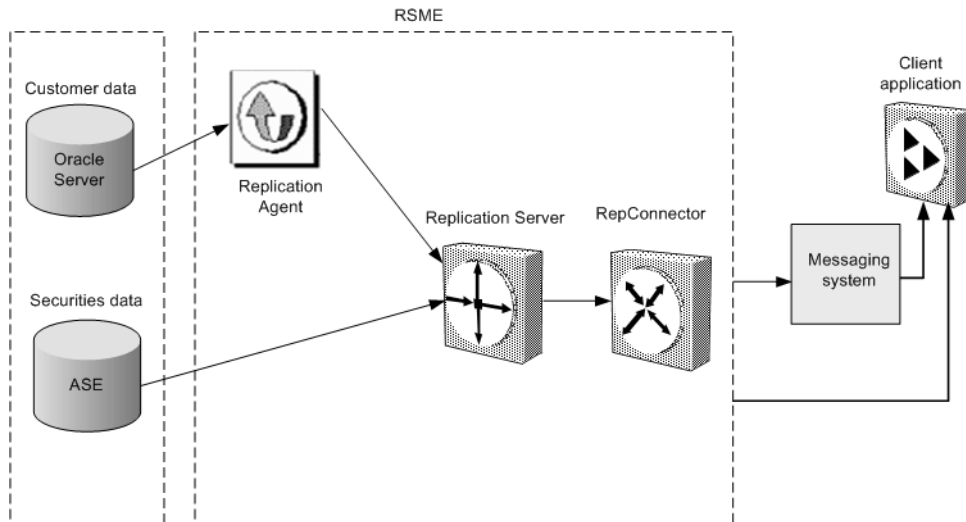
8.2 Scenario: Publishing from a database to a message bus

This scenario shows how you can use RSME to capture events from various databases and publish the events in real time over a message bus. In Figure 3, events are published from different database systems to a number of applications. Inventory management is running on ASE. A customer relationship management (CRM) application is running on an Oracle database, and a manufacturing quality control system is running on IBM DB2.

In this configuration, a Sybase certified message bus can be used. A business activity monitoring application requires real-time notification of critical events from all three of the source databases. The customer event management application enables the organization to notify customers proactively based on critical events. The organization may also want to, for example notify customers if they have been sent defective items as identified by the quality control system. An operational data store is updated in real-time from all three of the source systems.

Figure 3: Publishing from any database to any message bus
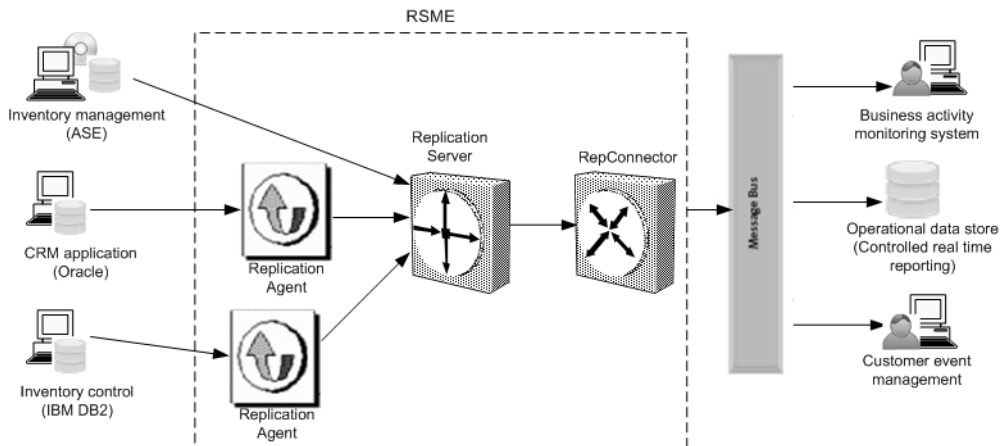
9. Known issues

For known issues concerning RepConnector, Replication Agent, Replication Server, and EAServer see the appropriate product and version release bulletin.

The known issues for Replication Server and Replication Agent below, are in addition to those described in the individual product release bulletins.

9.1 Known issues for the Sybase installer

This section describes known issues with the Sybase installer that are not specific to a particular data server type.

9.1.1 Cannot view text fields properly when using Hummingbird Exceed from Windows

If you use Hummingbird Exceed from a Windows workstation to install Replication Agent on a UNIX host, you might not be able to view all of the text fields on the Sybase installer screens.

Workaround: Either use a native X-Windows session to run the Sybase installer, or run it in console or silent mode. See the *Replication Agent Installation Guide*.

9.1.2 Sybase Central fails to open after uninstalling Replication Agent

[CR #399954]   Uninstalling Replication Agent removes the SYBASE system environment variable. Consequently, Sybase Central™ cannot open.

Workaround: Redefine the SYBASE system environment variable.

10. Documentation updates and clarifications

RepConnector only supports Sybase certified J2EE-compliant JMS messaging systems. Any reference in the *RepConnector Configuration and Users Guide* that implies that RepConnector supports any J2EE-compliant JMS messaging system is in error.

10.1 EAServer version update

All instances of EAServer version mentioned in these documents should read as EAServer 6.3.1 as that is the EAServer version supported by RSME 15.7.1:

- *RepConnector 15.0.2 Release Bulletin*
- *RepConnector 15.0.2 Installation Guide*
- *RepConnector 15.0.2 Configuration and Users Guide*

10.2 RepConnector Configuration and Users Guide

10.2.1 Chapter 1, "Overview"

Replace this text in the "Introduction" section:

RepConnector provides adapters for sending to TIBCO, IBM MQ, SonicMQ, or any J2EE-compliant JMS messaging system. It can also send messages to virtually any other user or application.

The corrected text is:

RepConnector provides adapters for sending messages to TIBCO, IBM MQ, SonicMQ, or Sybase certified J2EE-compliant JMS messaging system. It can also send messages to virtually any other user or application.

10.2.2 Chapter 4, "Configuring RepConnector"

The text in the last Note of the "Configuring the RepConnector" section is incorrect. The corrected text is:

Note To set the environment for the messaging system, you must modify the *%REPRA_HOME%\bin\repra_env.bat* file on Windows, and *$REPRA_HOME/bin/repra_env.sh* file on UNIX, where *%REPRA_HOME%* or *$REPRA_HOME* is the RepConnector installation directory.

10.2.3 Chapter 7, "Customizing the Sender and Formatter Processors"

The text in the first paragraph of the "Customizing the sender processor" section is incorrect. The corrected text is:

RepConnector has built-in senders that can post replication events to Sybase certified JMS, TIBCO, and IBM MQ messaging systems. It also provides an API for creating custom senders that can route replication events to anywhere that is accessible to Java, such as e-mail applications, files, or printers.

11. Technical support

Each Sybase installation that has purchased a support contract has one or more designated people who are authorized to contact Sybase Technical Support. If you have any questions about this installation or if you need assistance during the installation process, ask the designated person to contact Sybase Technical Support or the Sybase subsidiary in your area.

12. Other sources of information

Use the Sybase Getting Started CD and the Sybase Product Documentation Web site to learn more about your product:

• The Getting Started CD contains release bulletins and installation guides in PDF format. It is included with your software. 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.

• The Sybase Product Documentation Web site is accessible using a standard Web browser. In addition to product documentation, you will find links to EBFs/Maintenance, Technical Documents, Case Management, Solved Cases, newsgroups, and the Sybase Developer Network.

To access the Sybase Product Documentation Web site, go to Product Documentation at http://www.sybase.com/support/manuals/.

12.1 Sybase certifications on the Web

Technical documentation at the Sybase Web site is updated frequently.

❖ **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/.

2   Either select the product family and product under Search by Base Product; or select the platform and product under Search by Platform.

3   Select Search to display the availability and certification report for the selection.

❖ **Creating a personalized view of the Sybase Web site (including support pages)**

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

1   Point your Web browser to Technical Documents at http://www.sybase.com/support/techdocs/.

2   Click MySybase and create a MySybase profile.

12.2 Sybase EBFs and software maintenance

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

1   Point your Web browser to the Sybase Support Page at http://www.sybase.com/support.

2   Select EBFs/Maintenance. If prompted, enter your MySybase user name and password.

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.

13. 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.

The HTML documentation has been tested for compliance with the 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.

For a section 508 compliance statement for Sybase products, go to the Voluntary Product Assessment Template at http://www.sybase.com/detail_list?id=52484

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.

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