**SYBASE**®

An **SAP**® Company

**Release Bulletin**

# Replication Server® Options
# 15.7.1

Linux, Microsoft Windows, and UNIX

# Contents

# Product Summary

The Sybase® Replication Server® Options can be purchased separately from Replication Server, or as part of Replication Server Heterogeneous Edition (RSHE) or Replication Server Real-Time Loading Edition (RTLE).

## Replication Server Options

Use Replication Server Options with Replication Server for bidirectional replication across distributed, heterogeneous systems, which allows you to perform different operational and decision-support tasks. To obtain an option, you must already have Replication Server.

Replication Server Options are compatible with the same platform and operating system configurations as Replication Agent™ 15.7.1, Enterprise Connect™ Data Access (ECDA) 15.0, and ExpressConnect 15.7.1 for Oracle. For specific hardware and software requirements, see the *Enterprise Connect Data Access Release Bulletin*, the *ExpressConnect for Oracle Installation and Configuration Guide*, and the *Replication Agent Installation Guide*.

For more general information about the Replication Server Options, see the *Replication Server Heterogeneous Replication Guide*.

*Version Contents*
Replication Server Options are available for Oracle, Microsoft SQL Server, and IBM DB2 Universal Database (UDB). Each option requires a license for accessing data only in the specified data source.

- Replication Server Option for Oracle consists of:
    - Express Connect for Oracle – licensed for Oracle
    - Replication Agent – licensed for Oracle
- Replication Server Option for Microsoft SQL Server consists of:
    - ECDA Option for ODBC – licensed for ODBC
    - Replication Agent – licensed for Microsoft SQL Server
- Replication Server Option for IBM DB2 UDB consists of:
    - ECDA Option for ODBC – licensed for ODBC
    - Replication Agent – licensed for IBM DB2 UDB

**See also**
- *Licensing Options* on page 5

# Replication Server Heterogeneous Edition

Replication Server Options and Replication Server are also sold together as part of the Replication Server Heterogeneous Edition (RSHE).

You can use RSHE to replicate between different kinds of data servers. RSHE supports Adaptive Server® Enterprise and non-Sybase data servers such as Oracle, IBM DB2 UDB, and Microsoft SQL Server.

RSHE is compatible with the same platform and operating system configurations as Replication Server 15.7.1, Replication Agent 15.7.1, ECDA 15.0.1 and later, and ExpressConnect for Oracle 15.7.1. For specific hardware and software requirements, see the *Replication Server Installation Guide*, the *Replication Agent Installation Guide*, the *Enterprise Connect Data Access Release Bulletin*, and the *ExpressConnect for Oracle Installation and Configuration Guide*.

### *Version Contents*
RSHE consists of:

- Replication Server 15.7.1
- Replication Agent 15.7.1, including:
  - Replication Agent for Oracle
  - Replication Agent for Microsoft SQL Server
  - Replication Agent for IBM DB2 UDB
- ECDA Options 15.0.1

   **Note:** In RSHE 15.7.1, ECDA is used to connect only to Microsoft SQL Server and IBM DB2 Universal Database (UDB). ECDA option for Oracle is not supported in RSHE 15.7.1.

- Express Connect for Oracle 15.7.1

All RSHE components except Replication Server are licensed statically.

Replication Server 15.7.1 can be licensed for a subset of the CPUs on which it is installed (sub-capacity licensing). See the *Replication Server Installation Guide*.

### *RSHE on Solaris x64*
RSHE on Solaris x64 is for Oracle database only and includes Replication Agent for Oracle and ECO.

# Replication Server Real-Time Loading Edition

The Replication Server Real-Time Loading Edition (RTLE) includes components necessary to replicate to a Sybase® IQ database.

RTLE enables real-time loading for replicating data from Adaptive Server® or Oracle to Sybase IQ. Replication from Oracle requires Replication Agent for Oracle. Although real-time loading is supported on all platforms that Replication Server supports, Replication Agent for Oracle is not available on Linux on POWER. However, you can run Replication Agent for Oracle on any of the supported platforms. For a list of platforms on which Replication Agent for Oracle is available, see the *Replication Agent Installation Guide*.

*Version Contents*
RTLE consists of:

- Replication Server 15.7.1
- Replication Agent for Oracle 15.7.1

With RTLE, Replication Agent for Oracle is licensed statically.

**Note:** Although RTLE is compatible with Replication Agent for Oracle, it is not included with RSO or RSHE.

Replication Server 15.7.1 can be licensed for a subset of the CPUs on which it is installed (sub-capacity licensing). See the *Replication Server Installation Guide*.

# Replication Agent

Replication Agent extends the capabilities of Sybase Replication Server by allowing non-Sybase database servers to act as primary data servers in a replication system based on Sybase replication technology.

For a list of platforms and operating systems on which Replication Agent is supported, see the *Replication Agent Installation Guide*.

## Product Compatibility

Learn about Replication Agent compatibility with database servers, drivers, and products.

**Table 1. Compatible Databases**

| Database | Versions |
|----------|----------|
| 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 | 2008 R1 Service Pack 2 and 2008 R2 – Replication Agent does not support the features and datatypes introduced in Microsoft SQL Server 2008.<br><br>**Note:** Microsoft SQL Server 2005 and earlier versions are no longer supported. You must upgrade your primary database server to a supported version before migrating Replication Agent for Microsoft SQL Server instance(s). See the Certification Web site at *http://certification.sybase.com/ucr/search.do* for detailed information on the supported versions. |
| IBM DB2 Universal Database | Enterprise Edition 9.1, 9.5, 9.7 |

Replication Agent requires a JDBC™ 3.0-compliant driver for the primary data server.

**Table 2. Compatible Drivers**

| Driver | Versions |
|--------|----------|
| Oracle JDBC driver | • 10.2 for JDK 1.4 and 1.5<br>• 11.1 for JDK 1.5<br>• 11.2 for JDK 1.6<br><br>**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 |

| Driver | Versions |
|---|---|
| DB2 Universal Database Administration Client | 64-bit on Linux platform; 32-bit on Windows platform only. Use version:<br><br>• 9.5 – for DB2 9.1 and 9.5<br>• 9.7 – for DB2 9.7 |

**Table 3. Compatible Product**

| Sybase Product | Version |
|---|---|
| Replication Server | 15.6, 15.7, 15.7.1 and later. |
| ExpressConnect for Oracle | 15.7.1 |
| | **Note:** ECO 15.7.1 is compatible only with Replication Server 15.7.1. |
| ECDA Option for ODBC | 15.0.1 |
| Sybase Software Asset Management (SySAM) | 2 |

# Licensing Options

Before installing, review the licensing options.

**Table 4. Licensing Options for RSO Components**

| RSO Component | Licensing Options |
|---|---|
| Replication Agent | A SySAM served or unserved license obtained from the SPDC is required. |
| ECDA for ODBC | Obtain the SYBASE_RSO_licenses.zip file that contains the SYBASE_REP_ECDA.lic static license file, and the README.txt file from the Getting Started CD. |
| ECO | The Express Connect for Oracle license is automatically installed when you install Express Connect for Oracle. |

**Table 5. Licensing Options for RSHE Components**

| RSHE Component | Licensing Options |
|---|---|
| Replication Server | A SySAM served or unserved license obtained from the SPDC is required. |

| RSHE Component | Licensing Options |
|---|---|
| Replication Agent | Obtain the `SYBASE_RSHE_licenses.zip` static license file that contains the Replication Agent license, the ECDA license, and the `README.txt` file from the Getting Started CD. <br><br> You can use Replication Agent only with the version of Replication Server covered under the RSHE license. |
| ECDA | Obtain the `SYBASE_RSHE_licenses.zip` static license file that contains the Replication Agent license, the ECDA license, and the `README.txt` file from the Getting Started CD. <br><br> You can use ECDA only with the version of Replication Server covered under the RSHE license. <br><br> **Note:** Use ECDA to connect to Microsoft SQL Server and IBM DB2 Universal Database (UDB). To connect to Oracle, use ExpressConnect for Oracle. |
| ECO | The Express Connect for Oracle license is installed automatically when you install Express Connect for Oracle. |

**Table 6. Licensing Options for RTLE Components**

| RTLE Component | Licensing Options |
|---|---|
| Replication Server | A SySAM served or unserved license obtained from the SPDC is required. |
| Replication Agent for Oracle | Obtain the Replication Agent 15.7.1 static license file that includes the license for Replication Agent for Oracle and the Readme.txt from SPDC or the Getting Started CD. <br><br> **Note:** This license will also work with Replication Agent for Oracle 15.6. <br><br> You can use Replication Agent only with Replication Server covered under the RTLE license. |

# Installation and Upgrade

Get last-minute information about installation and upgrading that was omitted from or incorrect in your installation guide, or that needs special emphasis.

*Replication Server Options Licenses*
Read the information about mobile licensing in the *Sybase Software Asset Management 2 Users Guide*.

If you are using sub-capacity licensing, perform one of the following:

- Before starting your installer, set the SYBASE_SAM_CAPACITY environment variable using the **sysamcap** utility.

  Follow the instructions provided in the *SySAM Users Guide > Configuring SySAM Sub-capacity*. However, start your installer instead of starting the sub-capacity-enabled Sybase product. The installer includes the **sysamcap** utility located in `sysam_utilities/bin`.

- Select **Continue installation without a license key** in the Sybase Software Asset Management License pane during installation. After installation, copy your license key to *installed_directory*/SYSAM-2_0/licenses directory where *installed_directory* is the location in which you have installed your components into.

### License Expiration

Replication Server Options, Replication Server, and Adaptive Server use the same registry. When the license for one of these products expires, the licenses of the other products are affected. If you are evaluating one of the Replication Server Options, request another evaluation license from Sybase. Otherwise, generate your licenses at SPDC and deploy them.

### Running InstallAnywhere and InstallShield Multiplatform Installers

Some of the files generated by InstallAnywhere and InstallShield Multiplatform share the same file names. This becomes an issue when you use both InstallAnywhere and InstallShield technologies to install or uninstall products in the same installation directory because files that are used by both installers are overwritten or removed without warning. Sybase recommends that you do not use InstallShield and InstallAnywhere to install to or uninstall from the same installation directory.

# Installing a Static License for Replication Agent

If you did not specify the static license during RSHE or RTLE installation, install the static license after the installation is complete.

1. Stop the Replication Agent instance if it is running.
2. Copy the Replication Agent static license file to:
   - *$SYBASE*/SYSAM-2_0/licenses (UNIX or Linux)
   - *%SYBASE%*\SYSAM-2_0\licenses (Windows)

   where *$SYBASE* or *%SYBASE%* is where you installed Replication Agent.
3. Restart the Replication Agent instance.
4. Check the Replication Agent log file to verify that the Replication Agent instance has started successfully:

- *$SYBASE*/RAX-15_x/<instance_name>/log/<instance_name>.log (UNIX or Linux)
- *%SYBASE%*\RAX-15_x\<instance_name>\log\<instance_name>.log (Windows)

## Installing Static Licenses for ECDA in RSO and RSHE

Install the static SySAM license files to use ECDA in Replication Server Option for Microsoft SQL Server and IBM DB2 UDB, and ECDA in RSHE.

1. Stop the ECDA instance if it is running.
2. Copy the ECDA static license file to:
   - *$SYBASE*/SYSAM-2_0/licenses (UNIX or Linux)
   - *%SYBASE%*\SYSAM-2_0\licenses (Windows)

   where *$SYBASE* or *%SYBASE%* is where you installed ECDA.
3. Restart the ECDA instance.
4. Check the ECDA instance log file to verify that the ECDA instance has started successfully:
   - *$SYBASE*/DC-15_0/servers/<servername>/log/<servername>.log (UNIX or Linux)
   - *%SYBASE%*\DC-15_0\servers\<servername>\log\<servername>.log (Windows)

   where *$SYBASE* or *%SYBASE%* is where you installed ECDA.

## Migration from RSHE 15.6 to RSHE 15.7.1

Learn about the Replication Server Heterogeneous Edition version 15.6 to 15.7.1 migration path.

### Replication Server
Install Replication Server 15.7.1 using the Replication Server installer. For information about upgrading Replication Server, see *Replication Server 15.7.1 Configuration Guide* for your platform.

### Replication Agent
Install Replication Agent 15.7.1 using the Replication Agent installer. For information about upgrading Replication Agent, see *Replication Agent Primary Database Guide 15.7.1 > Upgrading and Downgrading Replication Agent*.

*ECDA*

**Note:** In RSHE 15.7.1, ECDA is used to connect only to Microsoft SQL Server and IBM DB2 Universal Database (UDB). ECDA option for Oracle is not supported in RSHE 15.7.1.

If you do not have ECDA 15.0.1 installed, use the ECDA 15.0.1 installer. For additional information about ECDA 15.0.1, see the ECDA 15.0.1 Release Cover Letter available at *http://www.sybase.com/downloads.*

*ExpressConnect for Oracle*
Install and use ExpressConnect for Oracle to connect to Oracle databases. See *ExpressConnect for Oracle Installation and Configuration Guide* for details.

# Replication Agent Special Installation Instructions

Learn about additional installation requirements for this version of Replication Agent.

*Visual C++ 2005 Runtime Components*
When installing on Microsoft Windows, the Replication Agent 15.6 installation program requires components of the Microsoft Visual C++ 2005 libraries. If these libraries are not installed, the Sybase installer stops responding without issuing a warning or error message.

To check if the Microsoft Visual C++ 2005 Redistributable package is already installed, go to **Start > Control Panel > Add or Remove Programs**, and look for Microsoft Visual C++ 2005 Redistributable.

You can download Visual C++ 2005 from the *Microsoft Visual C++ 2005 SP1 Redistributable Package (x86) page*. Run `vcredist_x86.exe` to install the Visual C++ runtime components on Microsoft Windows 32-bit or 64-bit machines.

*SySAM Server's Internet Protocol Configuration*
SySAM supports Internet Protocol versions 6 and 4 (IPv6 and IPv4, respectively), however, Replication Agent supports only IPv4. The SySAM server that is installed by the Replication Agent installation program is configured to use IPv4. Sybase recommends that you maintain this configuration. However, if you must use IPv6, license Replication Agent using an unserved license.

*SySAM Subcapcity Licensing*
If you are using subcapacity licensing, perform one of the following:

*   Before starting your installer, set the SYBASE_SAM_CAPACITY environment variable using the **sysamcap** utility.
    Follow the instructions provided in the *SySAM Users Guide > Configuring SySAM Sub-capacity*. However, start your installer instead of starting the sub-capacity-enabled Sybase

product. The installer includes the **sysamcap** utility located in `sysam_utilities/bin`.

- Select the **Continue installation without a license key** in the Sybase Software Asset Management License pane during installation. After installation, copy your license key to *installed_directory*/SYSAM-2_0/licenses directory where *installed_directory* is the location in which you have installed your components into.

# ExpressConnect for Oracle Special Installation Instructions

From version 15.7.1 onwards, ExpressConnect for Oracle (ECO) does not include Oracle client libraries, which are required to run it. The libraries now need to be downloaded and installed separately.

See the *General Information and Technical Notes* section of the ECO cover letter for information on correct version and platform of Oracle client libraries, and installation instructions. If the cover letter is not available, see *Oracle Instant Client Libraries Installation Instructions* in the *ExpressConnect for Oracle Installation and Configuration Guide*.

# Special Upgrade and Downgrade Instructions

Learn about special upgrade and downgrade instructions for Replication Agent.

You can upgrade and downgrade Replication Agent by following the instructions in Appendix A of the *Replication Agent Primary Database Guide*.

## Downgrading Replication Agent 15.7.1 Installed on Top of Replication Agent 15.6

By default, Replication Agent 15.7.1 installer uses the RAX-15_5 directory, and overwrites the Replication Agent 15.5 installation. Follow these steps to correctly downgrade a typical Replication Agent 15.7.1 installation.

1. Shut down Replication Agent 15.7.1.
2. Install Replication Agent 15.6 in the default installation directory.
3. Prepare for downgrade:

   **ra_downgrade** *installation_path*
4. Complete the downgrade:

   **ra_downgrade_accept** `timestamp.export`

   where `timestamp.export` is the file to which **ra_downgrade** extracted RASD contents.
5. Start Replication Agent 15.6, and resume replication.

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# Known Issues

Learn about known issues and workarounds.

Find issues by Change Request (CR) number.

**Note:** You can search the Sybase Web site for solved cases. Choose **Support > Solved Cases** or go to *http://search.sybase.com/search/simple.do?mode=sc.* You need a MySybase account to view solved cases in the archive.

For known issues concerning Enterprise Connect Data Access (ECDA), see:

* *Enterprise Connect Data Access Release Bulletin* for Microsoft Windows
* *Enterprise Connect Data Access Release Bulletin* for Linux and UNIX
* *Replication Server Release Bulletin* for your platform

The known issues for the Replication Server Options are in addition to those described in the individual product release bulletins.

## Known Issues for ExpressConnect for Oracle

Learn about known issues and workarounds for ExpressConnect for Oracle.

**Table 7. Known Issues for ExpressConnect for Oracle**

| CR# | Description |
|---|---|
| 627878 | **ExpressConnect for Oracle does not support `opaque` datatypes.**<br><br>The Replication Server `opaque` datatype is not supported by ExpressConnect for Oracle 15.7.1, which means that this version of ExpressConnect for Oracle cannot support user-defined datatypes and the Oracle **anydata** function.<br><br>**Workaround**: None. |
| 626715 | **ExpressConnect for Oracle fails when bulk copy is enabled and the bulk copy threshold is set to 1.**<br><br>ExpressConnect for Oracle fails when you set **dsi_bulk_copy** to on and **dsi_bulk_threshold** to 1. Setting **dsi_bulk_threshold** to 1 deteriorates and suspends the Data Server Interface (DSI).<br><br>**Workaround**: Set **dsi_bulk_threshold** to 2 or higher. |

| CR# | Description |
|---|---|
| 590128 | **LOB value not being applied to existing row.** <br><br> When replicating an LOB column, ExpressConnect for Oracle first determines the ROWID value for the Oracle row that should contain the LOB. The row for that ROWID is updated with the LOB value. However, if the table in the replicate Oracle database is a reference table, and the parent table is partitioned across multiple tablespaces, then the ROWID returned for the reference table may be incorrect, resulting in the LOB value not being applied to the expected row. The Oracle bug ID for this incorrect ROWID problem is 8417690. <br><br> **Workaround**: None. |

# Known Issues for Red Hat Enterprise Linux 5.0

Learn about known issues and workarounds for running Replication Server Options components on Red Hat Enterprise Linux 5.0.

**Table 8. Known Issues for Red Hat Enterprise Linux 5.0**

| CR# | Description |
|---|---|
|  | **Cannot start Replication Agent or ECDA.** <br><br> The following message is displayed: <br> `Error while loading shared libraries.` <br><br> **Workaround**: Check the system configuration and change the firewall configuration from **enforcing** to **permissive**. You must have root or sudo permission to make this change. |

# Known Issues for Replication Agent

Learn about known issues and workarounds.

## Known Issues for the Replication Agent Installer

Learn about known issues and workarounds for the Replication Agent installer.

**Table 9. Replication Agent Installer Issues**

| CR# | Description |
|---|---|
| 706053 | **The resource file cannot be used to create the pds_username.** <br><br> When **create_pds_username** is set to yes in the resource file, the creation results to an error: <br><br> ```Apr 23, 2012 10:27:54 AM com.sybase.ra.admin.ora-cle.RAOAdmin verifyPDSConnections ERROR: Length of user ID <RA_USER_CREATED> exceeds the maximum 30 characters. Apr 23, 2012 10:27:54 AM com.sybase.ra.admin.oracle.RAOAdmin verifyPDSConnections ERROR: Length of password <[C@40f6a33b> exceeds the maximum 30 characters.``` <br><br> **Workaround:** Create the **pds_username** manually (outside of the instance creation). |
| 699784 | **Replication Agent installation on AIX platform fails.** <br><br> When installing Replication Agent on AIX, only SySAM gets installed and Replication Agent components fail. <br><br> **Workaround:** Set the IATEMPDIR environment variable to a location that contains sufficient space and restart the RepAgent installer. |
| 631310 | **The SySAM lmgrd daemon is not installed unless you provide a served license during installation.** <br><br> **Workaround**: <br><br> To install a SySAM server during the installation of Replication Agent 15.6, specify a served license. <br><br> To install a SySAM server without running the Replication Agent 15.6 installer, invoke the SySAM server installer directly from the `archives` directory of the Replication Agent 15.6 installation media: <br><br> 1. On Windows: `archives\sysam_server\setup.exe LAX_VM %JAVA_HOME%\bin\java.exe` <br> 2. On UNIX: `archives/sysam_server/setup.bin LAX_VM $JAVA_HOME/bin/java` <br><br> **Note:** If you do not have access to a Java installation, run the Replication Agent 15.6 installer and a suitable JRE will be installed. You can reference this JRE through the SYBASE_JRE6 environment variable. |

| CR# | Description |
|---|---|
| 625227 | **SPDC-generated served partition-level licenses may not work.** <br><br> When you use a served partition-level license generated from the Sybase Product Download Center to start a SySAM server, you see a message that you are using an invalid license key, similar to: <br><br> ``` (SYBASE) Invalid license key (inconsistent authentication code) ... (SYBASE) License server system started on hpiabou (SYBASE) No features to serve, exiting (SYBASE) EXITING DUE TO SIGNAL 49 Exit reason 4 (lmgrd) SYBASE exited with status 49 (No features to serve) (lmgrd) SYBASE daemon found no features.  Please correct (lmgrd) license file and re-start daemons. (lmgrd) (lmgrd) This may be due to the fact that you are using (lmgrd) a different license file from the one you expect. (lmgrd) Check to make sure that: (lmgrd) /remote/cat_fc/nli/iq152.hpia/SYSAM-2_0/licenses/ 18965_hpiabou_ (lmgrd) is the license file you want to use. ``` <br><br> **Workaround**: Use the old host IDs for the license running on the license server. |
| 622349 | **Licenses directory is not always created.** <br><br> When you install Replication Agent using an unserved license, `licenses`, the default license directory, is not created. Because Replication Agent does not have access to the license file, it uses the grace license, which expires after 30 days. <br><br> **Workaround**: <br><br> 1. Manually create the `licenses` directory in `$SYBASE/SYSAM-2_0`. <br> 2. Copy the unserved license to the `licenses` directory. <br> 3. Restart Replication Agent. |
| 618407 | **Issues when installing using a served license.** <br><br> When you install Replication Agent using a served license, SySAM Utilities is installed twice, and two copies of the Java Runtime Environment (JRE) are installed. These issues do not impact the Replication Agent and can be ignored. <br><br> **Workaround**: None. |
| 616338 | **Issues when reinstalling Replication Agent on IBM AIX.** <br><br> Reinstalling Replication Agent on IBM AIX after you create, start, and stop a Replication Agent instance results in an error from the installation program. This error does not affect subsequent Replication Agent instances and can be ignored. <br><br> **Workaround**: None. |

| CR# | Description |
|---|---|
| 615072 | **SySAM Server and SySAM Utilities installation information not displayed.**<br><br>When you install Replication Agent with a served license, the SySAM Utilities and SySAM Server Install screen should display the installation progress of the SySAM components. However, when you install in console or GUI mode on a Windows XP or Windows 2003 machine, the SySAM Utilities and SySAM Server Install screen does not display the expected information.<br><br>**Workaround**: Wait for the Sybase Software Asset Management screen to appear and continue with your installation. The installation program has installed the SySAM components even if the progress bar had not been shown. |
| 614944 | **Replication Agent is installed with a served license even if a SySAM server is already running.**<br><br>When installing in console mode on Windows Vista, the installation program allows you to install Replication Agent with a served license even if a SySAM server is already running. The correct behavior is for the installation program to stop the installation process with this error:<br><br>```<br>Error: The license key(s) you entered requires a Sybase<br>Software Asset Management (SySAM) license server. The<br>installer has detected a SySAM license server running on<br>this host. Only one SySAM server can be setup on a system.<br>You need to deploy the<br>served-license key(s) to the existing server.<br>```<br><br>**Workaround**: When installing Replication Agent in console mode on Windows Vista, change the compatibility mode of the console installer to Windows XP:<br><br>1. In Windows Explorer, right-click `setupConsole.exe`.<br>2. Select Properties.<br>3. On the Compatibility tab, select the Windows XP compatibility mode.<br>4. Launch the installation program using:<br>    `setupConsole.exe -i console` |
| 614742 | **Available License Check window does not display correct database name.**<br><br>When you enter an invalid license on the Sybase Software Asset Management License Panel and click **Next**, you will see this message in the Available License Check window:<br><br>```<br>Replication Agent for database_type, license not found<br>```<br><br>If you click Previous, change the database type, and click **Next**, the error message displays again if the license is still invalid. However, the message does not reflect the new database type.<br><br>**Workaround**: Ignore the message and ensure that you enter a valid license. |

| CR# | Description |
|---|---|
| 609606 | **An extra console opens when installing Replication Agent on Windows Vista.**<br><br>Installing Replication Agent in console mode on Windows Vista opens an extra console. Sybase recommends that you do not use this extra console.<br><br>**Workaround**: To suppress the extra console, deactivate User Account Control (UAC) before running the installation program:<br><br>1. Go to **Control Panel > User Accounts > Turn User Account Control On or Off**.<br>2. Uncheck "Use User Account Control (UAC) to help protect your computer."<br>3. Reboot your machine |
| 606761 | **Cannot view text fields properly when using Hummingbird Exceed from a Windows workstation.**<br><br>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.<br><br>**Workaround**: Use a native X-Windows session to run the Sybase installation program, or run the Sybase installation program in console or silent mode. See the *Replication Agent Installation Guide*. |
| 595614 | **Installation program cannot create installation directory on Microsoft Windows 2008.**<br><br>On Microsoft Windows 2008, the installation program can create the Replication Agent installation directory only when you are logged in as an administrator, even if your role has permission to create directories.<br><br>**Workaround**: Create the installation directory before running the installation program. |
| 595582 | **Installer fails to launch when path to `setup.bin` contains "..".**<br><br>On UNIX and Linux platforms, the installer fails to launch if you specify a path to `setup.bin` that contains "..".<br><br>**Workaround**: Ensure that the path to `setup.bin` does not contain "..". |
| 595573 | **Uninstallation process stops responding.**<br><br>The uninstallation program stops responding when you select **Delete** from the Delete User Files screen and then click **Previous** from the Uninstall Complete screen. Delete User Files and Uninstall Complete are the last two screens shown in the uninstallation program.<br><br>**Workaround**: Do not return to the Delete User Files screen after you have selected **Delete**. |

| CR# | Description |
|---|---|
| 594586 | **Inaccurate disk space information.**<br><br>The installation program displays inaccurate disk space requirement.<br><br>**Workaround**:<br><br>Refer to the *Replication Agent Installation Guide* for the correct disk space requirement for your platform. |
| 593410 | **Installation program cannot uncompress the Replication Agent archive.**<br><br>On UNIX and Linux platforms, if you specify the **tar** utility from the GNU collection before the operating system-supplied `tar` utility in the $PATH environment variable, the GNU `tar` utility is invoked when you issue a `tar` command, and the installer fails with this error:<br><br><pre>The included VM could not be unarchived (TAR).<br>Please try to download the installer again and make sure<br>that you download using 'binary' mode.<br>Please do not attempt to install this currently downloaded<br>copy.</pre><br>**Workaround**: In the $PATH environment variable, specify the operating system-supplied tar utility before the GNU tar utility. |
| 579988 | **`./setup.bin: !: not found` message appears when installing Replication Agent on Solaris.**<br><br>You see this error message when you install Replication Agent on Solaris:<br><br><pre>Preparing to install...<br>./setup.bin: !: not found<br>Extracting the installation resources from the installer<br>archive...<br>Configuring the installer for this system's environ-<br>ment...</pre><br>**Workaround**: Ignore the message and continue. |

## Known Issues for All Database Targets

Learn about known issues and workarounds for Replication Agent that are not specific to a particular environment or data server type.

**Table 10. Issues for All Database Targets**

| CR# | Description |
|---|---|
| 701683 | **Migration may not complete although ra_migrate returns a success status if pdb_auto_run_scripts is not set to true.** |
| | **Workaround:** Make sure **pdb_auto_run_scripts** is set to true before starting migration. |
| | To check: |
| | ```<br>ra_config pdb_auto_run_scripts<br>go<br>``` |
| | To change value: |
| | ```<br>ra_config pdb_auto_run_scripts, true<br>go<br>``` |
| 642804 | **Incorrect pdb_auto_create_repdefs command description in the output display.** |
| | The **ra_config** displays an incorrect description for **pdb_auto_create_repdefs**. |
| | **Workaround:** See the *Replication Agent Reference Manual* for the correct description of the **pdb_auto_create_repdefs** command. |
| 628568 | **Replication Agent initialization may fail when tables are automatically marked for replication.** |
| | The **pdb_xlog init** command may fail when **pdb_automark_tables** is set to true. |
| | **Workaround**: Set the **pdb_automark_tables** to false before you issue **pdb_xlog init**. You can set **pdb_automark_tables** to true after Replication Agent has been initialized. |
| 624714 | **Limitation of running Replication Agent as a Windows service on a Microsoft Windows 64-bit platform.** |
| | Currently, you cannot use the Microsoft Windows Services utility to start, stop, remove, or install a Microsoft Windows service instance of Replication Agent. |
| | **Workaround**: Use **agt_service.bat** to start, stop, remove, or install a Replication Agent instance. |

| CR# | Description |
|---|---|
| 611175 | **Java Virtual Machine stops responding due to thread stack overflow.**<br><br>When Replication Agent for Oracle or UDB, running on an HP-UX 64-bit machine, processes high volume of data with an insufficient thread stack size memory setting, the Java Virtual Machine (JVM) may crash due to a thread stack overflow:<br><br>`Pid xxxx was killed due to failure in writing to user register stack - possible stack overflow.`<br><br>**Workaround**: Adjust the HP-UX PTHREAD_DEFAULT_STACK_SIZE environment variable to increase the default thread stack size to accommodate Replication Agent. To do this for all instances of Replication Agent, add the following two lines to the `$SYBASE/RAX-15_5/bin/ra.sh` file and set a proper stack size before running Replication Agent:<br><br>`PTHREAD_DEFAULT_STACK_SIZE=2048000`<br>`export PTHREAD_DEFAULT_STACK_SIZE` |
|  | **Changes to the table replication definition in Replication Server 15.2 or earlier are not recognized by Replication Agent.**<br><br>Replication Agent caches a copy of the table replication definition that it reads from Replication Server. Because Replication Server 15.2 or earlier does not automatically update Replication Agent of changes to the table replication definition, Replication Agent does not know when changes have been made to the table replication definition.<br><br>**Workaround**: Before changing the table replication definition in Replication Server 15.2 or earlier, quiesce Replication Agent and wait for it to reach ADMIN state. Replication Agent will use the new table replication definition when you resume replication. |
|  | **Error while loading shared libraries when running on Red Hat Linux 5.0.**<br><br>You may be unable to start Replication Agent due to this error message:<br><br>`Error while loading shared libraries.`<br><br>**Workaround**: Check the system configuration and change the firewall configuration from **enforcing** to **permissive**. You must have **root** or **sudo** permission to make this change. |

## Known Issues for Oracle

Learn about known issues and workarounds for Replication Agent that are specific to Oracle.

**Table 11. Replication Agent for Oracle Issues**

| CR# | Description |
|---|---|
| 709173 | **When the Replication Agent processes records with LOB for tables with partition by hash on Oracle 11.1 for HPIA64 and Windows platforms, this exception error is encountered:**<br><br>`Could not mine or match a RAW LogMiner record for record <...Operation <UNSUPPORTED> ... SQL Redo <Un-supported> > from SCN [<xxx>, <xxx>].>`<br><br>**Workaround:** None. |
| 708792 | **Replication Server fails to load the Enterprise Connect for Oracle (ECO) library files on Windows x86 32-bit system due to missing Microsoft Visual C++ 2005 Service Pack 1 Redistributable Package MFC security update.**<br><br>**Workaround:** Download and install the Microsoft Visual C++ 2005 security update:<br><br>*http://www.microsoft.com/en-us/download/details.aspx?id=26347* |
| 708629 | **Unable to support Oracle SecureFile LOB for all platforms.**<br><br>**Workaround:** Contact the Sybase Technical Support. |
| 708568 | **Cannot create connection to Oracle replicate dataserver when `tnsnames.ora` file entry has Oracle Transparent Application Failover (TAF) enabled.**<br><br>**Workaround:** Remove the "FAILOVER_MODE" entry from the replicate dataserver alias in the `tnsnames.ora` file. |
| 707428 | **OracleLogRecordProcessingException error is encountered in Oracle version 11.1.0.6.**<br><br>When you alter a table with truncate partition in the primary database, where the table is a partitioned table with LOB and sub-parititions, an OracleLogRecordProcessingException error is encountered. This is encountered only in Oracle version 11.1.0.6.<br><br>**Workaround:** You can either:<br><br>• Use this command:<br><br>```\nra_config skip_lr_errors, true\ngo\nresume\ngo\n```<br><br>or,<br>• Upgrade to Oracle 11.1.0.7 or later. |

| CR# | Description |
|---|---|
| 707274 | **Resume fails because Oracle LogMiner fails to start with start SCN <0>.**<br><br>**Workaround:** Resume Replication Agent. |
| 707238 | **pdb_setrepproc procedure marking execution fails.**<br><br>Replication Agent for Oracle fails to mark a procedure when the procedure owner (schema) is different than the **pds_username** user.<br><br>**Workaround:**<br><br>1. (As a procedure owner) Restore the procedure to the state prior to the attempted marking.<br>2. (As the **pds_username** user) Drop the shadow table. The *ra_admin_prefix*, *procedure_name*, and *shadow_table_id* (always "sh") determine the shadow table name. For example, if *ra_admin_prefix* is "ra_", *procedure_name* is "qay_proc3", then the shadow table name is "ra_qay_proc3sh".<br>3. Create a public synonym for the RA_PCALL sequence:<br>`sqlplus> create public synonym RA_PCALL for RA_PCALL;`<br>4. (In RAO) Execute **pdb_setrepproc** again:<br>`isql> pdb_setrepproc procedure_name, mark`<br>`isql> go` |
| 707122 | **pdb_xlog command fails if xlog is created on Oracle 10g, and then recreated on Oracle 11g.**<br><br>When **xlog** is created on Oracle 10g, removed, then recreated on Oracle 11g, the **pdb_xlog** command fails because the xlog remove process does not clear the RASD repository and keeps the **installed_pdbver** and **installed_buildnum** in the repository, so the current version is different from the **installed_pdbver**.<br><br>**Workaround:** None. |
| 705702 | **The DDL commands that SYS user execute are not filtered.**<br><br>**Workaround:** Add SYS user to DDL filters. |
| 705418 | **IllegalArgumentException error is encountered when processing ANYDATA datatype column that contains an the off-row stored LOB with size larger than 2K.**<br><br>**Workaround:** None. |
| 703563 | **Replication Agent fails to initiate when ra_admin_owner is different from pds_username.**<br><br>**Workaround:** Grant dba to the **pds_username**. |

| CR# | Description |
|---|---|
| 703684 | **Oracle LogMiner needs support for pdb_thread_filter.**<br><br>**pdb_thread_filter** filters all activities in an Oracle instance redo log thread or threads during replication, and displays a list of threads being filtered. Currently, this configuration can be set in 15.7.1, but does not take effect.<br><br>**Workaround:** None. |
| 703668 | **Unable to put Replication Agent 15.7.1 in replicating mode. The Oracle LogMiner must be installed error is encountered.**<br><br>**Workaround:** Perform these steps to set up the Oracle LogMiner:<br><br>1. Go to `$ORACLE_HOME/rdbms/admin`.<br>2. Log in as a 'sys as sysdba' user.<br>3. Execute the Oracle LogMiner installation script:<br>`@dbmslm.sql`<br>4. After LogMiner is installed, create a public synonym so that you do not have to log in as the owner to execute LogMiner functions:<br>`CREATE PUBLIC SYNONYM DBMS_LOGMNR FOR SYS.DBMS_LOGMNR;`<br><br>**Note:** This step is required if you are using Oracle 10g.<br><br>5. Grant these privileges to **pds_username**:<br>  • **EXECUTE_CATALOG_ROLE**<br>  • **select on V_$LOGMNR_CONTENTS**<br>  • **select on V_$LOGMNR_LOGS**<br>  • **select any transaction**<br>  • **debug ON "SYS"."DBMS_LOGMNR"**<br>6. Restart your Replication Agent instance. |

| CR# | Description |
|---|---|
| 702924 | **The alter table DDL command fails in RepAgent.** |
| | In Oracle 10g, when a new column is added to a table with **not null** and default value, Oracle also updates the existing rows with the default column value. When the update to the existing rows is performed, an exception shows up since RepAgent has not processed the alter table DDL yet, which means it has not updated the article to add the new column. RepAgent has no way to determine whether this is a normal user table update or an internal update that is generated by DDL transaction. |
| | **Workaround:** Use **pdb_skip_op** command to skip the internal update DML log record in the alter table DDL transaction. |
| | 1. Locate the internal update DML log record in the Replication Agent error log with LRTRACE set to on. Example: |
| | <pre>T. 2012/03/25 20:27:12.293 LRTRACE com.sybase.ds.ora-<br>cle.logmnr.OracleOperationPr Processing LogMiner Re-<br>cord<br>&lt;OPID &lt;0x0000.00bab3a6.0000:0001.00000be3.000000bf.<br>00f0&gt;, Timestamp &lt;2012-03-25 20:27:12.0&gt;, XID<br>&lt;0x0004.002b.00000c39&gt;,<br>Serial# &lt;7528&gt;, Session# &lt;133&gt;, Session Info &lt;log-<br>in_username=QAMUSER client_info= OS_username=wliao<br>Machine_name=rqavmrh1 OS_terminal= OS_process_id=31314<br>OS_program_name=dcoracle@rqavmrh1 (TNS V1-V3)&gt;, User<br>Name &lt;QAMUSER&gt;,<br>Object ID &lt;93318&gt;, REL_FILE# &lt;5&gt;, DATA_BLK# &lt;893&gt;, DA-<br>TA_OBJD#&lt;93318&gt;, Operation &lt;UPDATE&gt;, Op Code &lt;3&gt; Roll-<br>back &lt;0&gt; SSN &lt;0&gt;<br>CSF &lt;0&gt; SQL Redo &lt;update "QAMUSER"."QAM_INT" set<br>"FEE_SUB_MNEM_CD" = ' ' where "FEE_MNEM_CD" = 'SYB'<br>and<br>"FEE_TYP_DESC" = 'UNWIRED ENTERPRISE ' and<br>"LST_UPDT_DTTI" = TO_TIMESTAMP('01/02/2009<br>00:00:00.000000000') and<br>"LST_UPDI_USER_ID" IS NULL and "FEE_SUB_MNEM_CD" IS<br>NULL;&gt; &gt;.</pre> |
| | 2. Collect SCN, THREAD, and RBA of that update log record, and use **pdb_skip_op** command to skip it. |
| | <pre>pdb_skip_op add, <i>SCN</i>, <i>THREAD</i>, <i>RBA</i></pre> |
| | 3. Resume Replication Agent. |

| CR# | Description |
|---|---|
| 702837 | **Replication Agent for Oracle (RA) no longer requires direct access to the archive log, unless configured to do non-RMAN truncation since the switch to using Oracle LogMiner.** However, currently, RAO checks during **pdb_archive_path** configuration and displays error if the archive log is not visible or readable. This prevents you to configure RAO to run from a remote host. The requirement is for RAO to run from a remote host as long as the remote host platform is the same as the source database platform. **Workaround:** When Replication Agent and the primary database are not located in the same host, set the **pdb_archive_path** parameter of Replication Agent to a valid local directory, which matches the actual database archive path on the remote host. |
| 702654 | **Replication Agent aborts with LTI formatting error.** The Replication Agent is aborted with LTI formatting error on a locator value due to Oracle LogMiner limitation on decimal precision support. **Workaround:** None. Please contact Sybase Technical Support. |
| 695407 | In Oracle 10g Release 2, if LogMiner uses a dictionary to scan the redo log files, these user-level SQL operations are missing from the V$LOGMNR_CONTENTS view: <br>• LOB_TRIM <br>• LOB_WRITE <br>• SEL_LOB_LOCATOR <br><br>Because these operations are used to update off-row XML data, Replication Agent for Oracle cannot replicate the rollback of transactions that use these operations on off-row XML data. **Workaround:** None. |
| 693755 | Incompatible replicated CLOB data occurs when the primary charset is multiple-byte or unicode, and: <br>• The endian for the primary and target databases are different, or, <br>• The The target database charset is not UTF-16BE. <br><br>**Workaround:** None. |

| CR# | Description |
|---|---|
| 691433 | **Oracle LogMiner zeroes out fractional second on timestamp columns.**<br><br>Replication of millisecond section of `timestamp` datatype column fails if the primary Oracle version is earlier or equal to 10.2.0.4.<br><br>**Workaround:** You can either:<br><br>• Upgrade to Oracle 10.2.0.5 or 11g. This issue has been fixed in these versions. Or,<br>• Apply Oracle patch 4727401, if available for your platform and Oracle version.<br><br>**Note:** Replicating these tables is not supported in Oracle 10.2 due to lost part of a millisecond:<br><br>• Tables created with PARTITION BY HASH (`timestamp_col`).<br>• Tables with `timestamp` columns as primary key or unique index. |
| 663726 | **rasd_restore does not shutdown RepAgent instance when run with a parameter.**<br><br>**Workaround:** Run **rasd_restore** without specifying a parameter. |
| 645980 | **Exadata Hybrid Columnar Compression (EHCC) not supported.**<br><br>Replication Agent for Oracle does not support the replication of "columnar compressed data because Replication Agent for Oracle does not support Exadata. Do not use the **compress for query** clause or the **compress for archive** clause in an Oracle table definition because these clauses are intended only for EHCC data.<br><br>**Workaround**: None. |
| 641011 | **DDL statements introduced in Oracle 11g cannot be filtered.**<br><br>**pdb_setrepddl** does not filter these DDL statements introduced in Oracle 11g:<br><br>• Oracle 11.1 – **create flashback archive**, **alter flashback archive**, and **drop flashback archive**.<br>• Oracle 11.2 – **alter database link**, **create edition**, and **drop edition**.<br><br>**Workaround**: None. |
| 630089 | **Oracle resynchronization limitation.**<br><br>Replication Agent for Oracle does not support the resynchronization scenario described in the *Resynchronizing the Active and Standby Databases in a Warm Standby Application* section in the *Replication Server Heterogeneous Replication Guide*.<br><br>**Workaround**: None. |

| CR# | Description |
|-----|-------------|
| 624026 | **Supplemental logging not enabled error.** |
| | The initialization of the Replication Agent for Oracle can fail with a message that supplemental logging is not enabled even if the supplemental logging requirements specified in the *Replication Agent Primary Database Guide* are met. This happens when the Replication Agent initialization has already failed because of a disabled supplemental logging configuration before the configuration was corrected. Replication Agent caches the primary database supplemental logging configuration on initial communication with the primary database after start-up, but does not refresh it after a configuration change. |
| | **Workaround**: Shut down and restart Replication Agent after you enable supplemental logging in the primary database. |
| 619663 | **Replication Agent reports an incorrect number of RMAN-deleted archive redo log files when RMAN utility locale is not English.** |
| | Replication Agent searches for the word "Deleted" when counting the number of deleted archive redo log files that have been truncated by the Oracle Recovery Manager (RMAN) utility. For language modules other than English, the count fails because Replication Agent cannot find the word "Deleted." |
| | **Workaround**: Specify the locale behavior of your Oracle software by setting the NLS_LANG Oracle environment parameter to a supported English character set such as american_america.zhs16gbk. For example: |
| | • On Windows: `set nls_lang=american_america.zhs16gbk`<br>• On UNIX: `setenv NLS_LANG american_america.zhs16gbk` |
| 615023 | **Replication definition is not created when table owner is not specified.** |
| | When your primary database is Oracle and the recycle bin is enabled, **rs_create_repdef** cannot create a replication definition for marked tables unless you specify a table owner. |
| | **Workaround**: Specify a table owner in the **rs_create_repdef** syntax. For example: |
| | `rs_create_repdef qaxuser.qax_tab1` |
| | where *qaxuser* is the table owner. |

| CR# | Description |
|---|---|
| 596320 | **Owner information is not supported in function replication definition for Oracle.** |
| | Replication Server does not support specifying owner information of stored procedures in the function replication definition for Oracle. As such, Replication Agent does not send that information to Replication Server. Because the owner information is not available, the replicated stored procedure fails to execute at the Oracle standby database. |
| | **Workaround**: For each stored procedure replicated from active to standby database, create a corresponding function string that specifies the owner information of the target stored procedure. |
| | To alter the function string class of the standby connection to a customized function string class, which is inherited from **rs_oracle_function_class**: |
| | <pre>alter connection to *dco2stb.ordb* (standby connection)<br>set function string class to my_oracle_function_class<br>go</pre> |
| 585513 | **Initialization failure when isolation level is set to serializable in an Oracle RAC environment.** |
| | In an Oracle Real Application Clusters (RAC) environment, Replication Agent may fail during initialization when you set the isolation level to **serializable**. This failure is due to an internal Oracle error. |
| | **Workaround**: Install the Oracle Clusterware Release 2 (10.2.0.4) patch set for Oracle Database 10g Release 2 or upgrade to Oracle Database 11g Release 1. |
| 563912 | **Incorrect lr_ntext_byte_order command default value in the output display.** |
| | The **ra_config lr_ntext_byte_order** command output incorrectly displays the default value as "<not_configured>" instead of big. |
| | **Workaround:** See the *Replication Agent Reference Manual* for the correct information on this command. |
| 405207 | **create table DDL has limited support for UDD object types.** |
| | Replication of a **create table** DDL command is not supported for tables with UDDs, when a UDD has a nested object type. |
| | **Workaround**: Reinitialize the Replication Agent. |
| 405206 | **alter type DDL command has limited support.** |
| | During replication of the **alter type** command, the type change does not propagate to the dependents of the type. |
| | **Workaround**: Reinitialize the Replication Agent. |

| CR# | Description |
|---|---|
| 397826 | **Replicating a sequential update to a primary key column fails.**<br><br>For example, this update will not be replicated correctly:<br>```\nupdate test_table set pkey = pkey + 1\n```<br>**Workaround**: Change the primary key column or add a unique index that is more broad. |
| | **Disabling the recyclebin in Oracle 10.1.**<br><br>The Oracle "recyclebin" configuration property was not added until Oracle 10.2 and is available in Oracle 11g. To disable the recycle bin in Oracle 10.1, set the Oracle hidden property:<br>```\nALTER SYSTEM SET "_recyclebin"=FALSE SCOPE = BOTH;\n``` |

## Known Issues for Microsoft SQL Server

Learn about known issues and workarounds for Replication Agent that are specific to Microsoft SQL Server.

**Table 12. Replication Agent for Microsoft SQL Server Issues**

| CR# | Description |
|---|---|
| 709113 | **Cannot use a database replication definition and database subscription with dsi_alt_writetext set to dcany.**<br><br>**Workaround:** Use table replication definition and table subscriptions. |
| 707877 | **RAM stops scanning with NoSuchElementException error when processing roll-back.**<br><br>**Workaround:** None. |
| 707720 | **RAM stops scanning with VirtualFileNotFoundException error when RAM reaches the end of the virtual file and moves to the next virtual file.**<br><br>**Workaround:** Resume Replication Agent. |
| 707116 | **Cannot replicate some rows containing image data.**<br><br>RAM loses part of LOB data when replicating an image column, thus some rows cannot be replicated.<br><br>**Workaround:** None. |

| CR# | Description |
|---|---|
| 701832 | **The physical machine's license capacity setting cannot be recognized on Solaris virtual machine.**<br><br>When SySAM Sub-capacity licensing is configured on a SPARC Enterprise T-Series machine, the product may report this error message:<br><br>```<br>The SYBASE_SAM_CAPACITY licensing capacity setting is not intended for<br>this system. This machine partition or virtual machine does not appear<br>to be part of the machine from which the SYBASE_SAM_CA-PACITY value was<br>obtained.<br>```<br><br>**Workaround**: None. This will be fixed in version 2.2.0.9 of the **sysamcap** utility. Check *http://www.sybase.com/sysam* Web site for an updated **sysamcap** utility or contact Sybase Technical Support. |
| 623810 | **pdb_xlog init fails when Microsoft SQL Server 2008 is upgraded to the developer version.**<br><br>**pdb_xlog init** fails when a SQL Server instance is upgraded from Microsoft SQL Server 2008 standard version to the developer version. This is a limitation of Microsoft SQL Server—during SQL Server upgrading, the "Agent XPs" component is turned off, which prevents **pdb_xlog init** from succeeding.<br><br>**Workaround**:<br><br>1. Run these scripts using SQL Server Management Studio or SQLCMD to enable the SQL Server Agent extended stored procedures:<br><br>```<br>sp_configure 'show advanced options', 1;<br>GO<br>RECONFIGURE;<br>GO<br>sp_configure 'Agent XPs', 1;<br>GO<br>RECONFIGURE<br>GO<br>```<br><br>2. Run **pdb_xlog** init to reinitialize Replication Agent. |

| CR# | Description |
|---|---|
| 583437 | **Incorrect LTL generated.**<br><br>Incorrect LTL may be generated in a partition schema for an update transaction that affects the primary-key column of a table referenced by the cascading foreign-key column of another table. For example, two tables are created, one with a primary-key column referenced by the foreign-key column of the other table. This causes updates to cascade to the primary-key column of the first table:<br><br>```create table table1 (id int constraint PK_1 PRIMARY KEY CLUSTERED WITH FILLFACTOR=90 on myRangePS1(id), value1 varchar(8) null);```<br><br>```create table table2 (id int constraint FK_1 FOREIGN KEY REFERENCES table1(id) ON UPDATE CASCADE, value1 varchar(8) null);```<br><br>Data is inserted into both tables:<br><br>```insert into table1 values(3,'aaa'); insert into table2 values(3,'aaa');```<br><br>The primary-key column of the first table is subsequently updated:<br><br>```update table1 set id =4```<br><br>The resulting update transaction results in the following logged commands:<br><br>```LOP_BEGIN_XACT NULL LOP_BEGIN_UPDATE NULL LOP_DELETE_ROWS dbo.table1.PK_1 LOP_INSERT_ROWS dbo.table1.PK_1 LOP_DELETE_ROWS dbo.table2 LOP_INSERT_ROWS dbo.table2 LOP_END_UPDATE NULL LOP_COMMIT_XACT NULL```<br><br>The LTL generated for this transaction does not identify that the delete operations are grouped with insert operations as part of an overall update operation. Consequently, Replication Server is suspended.<br><br>**Workaround:** Drop the foreign key constraint in your replicate database. This will not result in data loss because both the original delete and the cascade delete commands are sent to the replicate database. |

| CR# | Description |
|---|---|
| 569586 | **An error occurs when applying service patch.**<br><br>When you run the SQL Server 2008 service patch, the Replication Agent system tables *sys.sp_SybSetLogforLOBCol* and *sys.sp_SybSetLogforReplTable* are deleted from the resource database, triggering error 29537:<br><br><pre>MSP Error: 29537 SQL Server Setup has encountered the following problem: [Microsoft][SQL Native Client] [SQL Server]Could not find stored procedure 'sys.sp_Syb-SetLogforLOBCol'.. To continue, correct the problem, and then run SQL Server Setup again.</pre><br>**Workaround**: Before you apply the service patch, disable the database triggers that Replication Agent created:<br><br>1. Log in to the primary database.<br>2. Disable the automark trigger if it is enabled. For example:<br><pre>DISABLE TRIGGER ra_createtable_trig_ ON DATABASE</pre><br>where **ra_createtable_trig_** is the automark trigger created by Replication Agent.<br>3. Disable the data definition language (DDL) trigger. For example:<br><pre>DISABLE TRIGGER ra_ddl_trig_ ON DATABASE</pre><br>where **ra_ddl_trig_** is the DDL trigger created by Replication Agent. |
| 493242 | **Microsoft SQL Server 2008 log error prevents LTL processing.**<br><br>The partial update of varchar (max) or varbinary (max) with off-row storage cannot be replicated correctly due to a Microsoft SQL Server 2008 logging error. The LTL does not process the partial update.<br><br>**Workaround**: None. |

| CR# | Description |
|---|---|
| 490356 | **Replication Agent instance fails to start after upgrading a version 15.0 on a UNIX platform to a Windows platform.**<br><br>When you upgrade a Replication Agent 15.0 instance to version 15.1 or later by migrating from a non-Microsoft Windows platform to a Microsoft Windows platform, the instance may encounter this error during start up:<br><br>```<br>Error setting logging directory for instance XXX<br>because: <Log directory <YYY> does not exist>.<br>```<br><br>**Workaround**: After upgrading the Replication Agent instance, edit its configuration file to modify the value of the log_directory parameter to point to the correct path of the Replication Agent instance log directory. By default, the log directory resides under the Replication Agent instance directory.<br><br>For example, change this line:<br><br>```<br>log_directory=/opt/Sybase/RAX-15_0/myra/log<br>```<br><br>to<br><br>```<br>log_directory=c\:\\sybase\\RAX-15_5\\myra\\log<br>```<br><br>**Note:** On Microsoft Windows, include the double backslashes as shown in the example. |

## Known Issues for IBM DB2 UDB

Learn about known issues and workarounds for Replication Agent that are specific to IBM DB2 Universal Database (UDB).

**Table 13. Replication Agent for IBM DB2 UDB Issues**

| CR# | Description |
|---|---|
| 707544 | **Replication Agent error occurs when character cases in the primary database marked object definition and the ltl_character_case property do not match.**<br><br>**Workaround:** Set **use_rssd** property to true. |
| 702840 | A Replication Agent for IBM DB2 UDB system message on **resume** after **ra_locator zero** conveys that the truncation point has been moved to the end, instead of describing that the truncation point has been moved to the beginning of the log.<br><br>**Workaround:** None. |
| 700501 | **Replication Agent for UDB now recommends using the IBM DB2 Universal Database JDBC driver for database connectivity.**<br><br>**Workaround:** Change the **pds_connection_type** value to UDBJDBC.<br><br>**Note:** Upgrade from an earlier release to 15.7.1 automatically changes the connection type to UDBJDBC. |

| CR# | Description |
|---|---|
| 700485 | The **lr_read_buffer_size** default value of 16K is too small, frequently resulting in DB2 SQL error 2650 and reason code 8, which maps to this error:The buffer is not of sufficient size to store a log record.<br><br>**Workaround:** Increase the read buffer size to at least 64K. |
|  | **Error occurs if the library path contains two colons.**<br><br>For HP, if SHLIB_PATH contains two colons (::) with no intervening directory, you see this error message when you resume Replication Agent:<br><br>`java.lang.NoClassDefFoundError`<br><br>**Workaround**: Add a line to the $SYBASE/RAX-15_5/bin/ra.sh script to source your UDB instance's db2profile (which does not have the same problem as the db2cshrc). For example, if your UDB instance directory is "/home/db2inst1", edit your Replication Agent script to add /home/db2inst1/sqllib/db2profile:<br><br><pre>elif [ $os = HP-UX ]<br>then<br>. /home/db2inst1/sqllib/db2profile<br>SRVR=-server<br>SHLIB_PATH=$ASA_LIB:$RAX_DIR/lib/hpux:$SHLIB_PATH<br>export SHLIB_PATH</pre> |

## Known Issues for Enterprise Connect Data Access

Learn about known issues and workarounds for Enterprise Connect Data Access (ECDA).

| CR# | Description |
|---|---|
| 707675 | **Mismatch between stated image length and actual size of image causes infinite loop with Open Server™ error in srv_get_text.**<br><br>**Workaround**: None. Please contact Sybase Technical Support. |
| 703935 | **ECDA hangs when inserting image with dcany to Microsoft SQL.**<br><br>**Workaround**: Upgrade to ECDA 15.0.1. |

# Document Updates and Clarifications

Read about updates, corrections, and clarifications to the documentation released with Replication Server Options.

# ECO Documentation Changes

Read about updates, corrections, and clarifications to released documentation for ECO.

### ECO Installation and Configuration Guide

The reference to *Downloading Instructions for Windows x86-64 Running Windows Server 2008, Windows Vista, or Windows 7* in *Table 2. Instant Client Libraries Packages By Platform* under *Installing ExpressConnect for Oracle in GUI Mode > Installing Oracle Instant Client Libraries* is no longer valid.

This is the correct row information:

| Platform | Version | Package |
|---|---|---|
| Windows x86-64 (64-bit) running Windows Server 2008, Windows Vista, or Windows 7 | 10.2.0.5 | `instantclient-ba-sic-win64-10.2.0.5.zip` |

# ECDA Documentation Changes

Read about updates, corrections, and clarifications to released documentation for ECDA.

Considerations when using the ECDA manuals:

- The Sybase Data Integration Suite Replication, which included ECDA, is no longer available. Disregard any mention of Sybase Data Integration Suite Replication in the ECDA documents.
- As of Replication Server Options 15.5, the ECDA Option for Oracle has been replaced by ExpressConnect for Oracle, though ECDA manuals continue to mention the ECDA Option for Oracle. For information on ExpressConnect for Oracle, see the *ExpressConnect for Oracle Installation and Configuration Guide* and the *Replication Server Options Overview Guide*.

# Microsoft SQL Server 2005

Microsoft SQL Server 2005 is no longer supported.

Disregard references to Microsoft SQL Server 2005 in these guides:

- *Replication Agent Installation Guide*
- *Replication Agent Primary Database Guide*
- *Replication Server Options Quick Start Guide*

# Array Processing Requirement in ExpressConnect for Oracle

Ensure that array processing in ExpressConnect for Oracle is applied only to tables that have a table-level replication definition.

The performance enhancement provided by array processing within the ExpressConnect for Oracle connection requires the information included in the table-level replication definition.

# Required Replication Agent Permissions

Replication Agent for Oracle requires the **create any procedure** permission to mark procedures for replication.

# Granularity of the LTL Origin Commit Time for Oracle Operations

For Oracle, the precision of the origin commit time does not include milliseconds.

Replication Agent retrieves the origin commit time from the Oracle `redo` log. The granularity of timestamps in the `redo` log is to the second, rather than to the millisecond.

# Oracle Privileges for DDL Replication

Lists the Oracle 10g and 11g privileges that a user must have to perform DDL replication.

**Note:** Issuing **GRANT ALL PRIVILEGES TO DDLUSER** turns the DDL user to a super user similar to SYS and SYSTEM.

Different versions of Oracle have different permission requirements. For Oracle 10g and 11g, grant the DDL user permission to execute these commands:

- **ALTER ANY INDEX**
- **ALTER ANY INDEXTYPE**
- **ALTER ANY PROCEDURE**
- **ALTER ANY TABLE**
- **ALTER ANY TRIGGER**
- **ALTER ANY TYPE**
- **ALTER SESSION**

- **BECOME USER**
- **CREATE ANY INDEX**
- **CREATE ANY INDEXTYPE**
- **CREATE ANY PROCEDURE**
- **CREATE ANY SYNONYM**
- **CREATE ANY TABLE**
- **CREATE ANY TRIGGER**
- **CREATE ANY TYPE**
- **CREATE ANY VIEW**
- **CREATE INDEXTYPE**
- **CREATE MATERIALIZED VIEW**
- **CREATE PROCEDURE**
- **CREATE PUBLIC SYNONYM**
- **CREATE SYNONYM**
- **CREATE TABLE**
- **CREATE TRIGGER**
- **CREATE TYPE**
- **CREATE VIEW**
- **DELETE ANY TABLE**
- **DROP ANY INDEX**
- **DROP ANY INDEXTYPE**
- **DROP ANY MATERIALIZED VIEW**
- **DROP ANY PROCEDURE**
- **DROP ANY SYNONYM**
- **DROP ANY TABLE**
- **DROP ANY TRIGGER**
- **DROP ANY TYPE**
- **DROP ANY VIEW**
- **DROP PUBLIC SYNONYM**
- **INSERT ANY TABLE**
- **SELECT ANY TABLE**
- **UPDATE ANY TABLE**

Revoke the DDL user's permission to execute:

- **ALTER DATABASE**
- **ALTER ROLLBACK SEGMENT**
- **ALTER SYSTEM**
- **ALTER TABLESPACE**
- **ANALYZE ANY**

- **AUDIT ANY**
- **AUDIT SYSTEM**
- **CREATE DATABASE LINK**
- **CREATE ROLLBACK SEGMENT**
- **CREATE TABLESPACE**
- **DROP PUBLIC DATABASE LINK**
- **DROP ROLLBACK SEGMENT**
- **DROP TABLESPACE**
- **LOCK ANY TABLE**

## UNC Paths for Windows Archive and Online Redo Log Paths

If Replication Agent for Oracle is running as a Windows service and the primary Oracle data server is installed on a separate machine, configure the archive and online redo log paths according to the Microsoft Windows Universal Naming Convention (UNC):

```
\\oracle_server_machine\oracle_log_path
```

where *oracle_server_machine* is where the primary Oracle data server resides, and *oracle_log_path* is the archive or redo log file. For example, to set the location of archive redo log files to the `oracle` directory on the machine named `labratx64`, enter:

```
1> ra_config pdb_archive_path, \\labratx64\oracle
```

```
2> go
```

# 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.

**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.

# Technical Support

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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

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.

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Certification reports verify Sybase product performance on a particular platform.

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* For partner product certifications, go to *http://www.sybase.com/detail_list?id=9784*
* For platform certifications, go to *http://certification.sybase.com/ucr/search.do*

## Creating a MySybase Profile

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

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.

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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.

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.