

Release Bulletin

Sybase® Replication Server® 15.2 for HP-UX

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1. Accessing updated release bulletin

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 Manuals Web site.

❖ Accessing the release bulletin at the Sybase Product Manuals Web site

- 1 Go to Product manuals at <http://www.sybase.com/support/manuals/>.
- 2 Select a product and language and click Go.
- 3 Select a product version from the Document Set list.
- 4 Select the Release Bulletins link.
- 5 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. Product summary

Enclosed is Sybase Replication Server® version 15.2, which is compatible with the following operating system configurations.

- HP Itanium - HP-UX 11.23 and 11.31 – patch level B11.23.0409 (64-bit)

If your operating system requires patches, install the patches before you install Replication Server components.

For a complete list of patches, contact your operating system representative. Do not use a patch that is older than the version suggested for your operating system. Use the patch recommended by the operating system vendor even if the patch version supersedes the listed patch.

For a complete list of supported operating systems, see the Sybase Platform Certification Web site at <http://certification.sybase.com/ucr/search.do>.

2.1 Replication Server

For detailed information about new features in Replication Server 15.2, see *Replication Server New Features Guide*.

For information about administering Replication Server 15.2, see *Replication Server Administration Guide Volume 1*.

2.2 Replication Manager

Replication Manager, a plug-in to Sybase Central™, Java Edition, is a component of Replication Server 15.0 and later. For detailed information about Replication Manager, see the *Replication Server Administration Guide Volume 1*.

Note Replication Manager 15.2 is available as a separate program.

For information about commands used to manage replication, see *Replication Server Reference Manual*.

Note Replication Manager is not supported on HP-UX PA-RISC.

2.3 Replication Monitoring Services

Replication Monitoring Services (RMS) is a component of Replication Server 15.0 and later. The RMS layer is a middle-management layer that monitors large and complex replication environments. For detailed information about RMS, see *Replication Server Administration Guide Volume 1*.

2.4 Common Criteria conformance for Replication Server 15.2

Replication Server version 15.2 is available for the Common Criteria configuration (called the Evaluated Configuration).

Replication Server's evaluation was carried out in accordance with the Common Criteria Evaluation and Validation Scheme (CCEVS) process and scheme.

To satisfy all functional security requirements of Common Criteria certification, configure Replication Server as follows, in addition to the configuration information given in the Replication Server guides.

- 1 Ensure there are no general-purpose computing capabilities, such as compilers or user applications available on the machine running Replication Server, other than those services necessary for the operation, administration and support of the Replication Server.
- 2 Choose your password carefully. Your password helps prevent access by unauthorized people. When you create your password, follow these rules to create a password:
 - Use a combination of uppercase and lowercase letters and numbers in your password. These are most difficult to guess.
 - Passwords must be at least 6 bytes long.
 - Passwords can consist of any printable letters, numbers, or symbols.
 - A password must be enclosed in quotation marks if it contains spaces.

Remember not to do the following:

- NULL passwords should not be used in the Common Criteria evaluated Replication Server configuration.
- Do not use information in your password such as your birthday, street address, or any other word or number that has anything to do with you and can be guessed.
- Do not use names of pets or loved ones.

- Do not use words that appear in the dictionary or words spelled backwards.
 - Never give anyone your password, and never write it down where anyone can see it.
- 3 Replication Server does not support the use of network based security and user authentication in Common Criteria configuration.

Hence all users are identified and authenticated by Replication Server.

Disregard the following information in *Replication Server 15.2 Design Guide* on page 162:

Use the `no_password` option when the primary database employs a “unified login” or when the user on the primary database has set a proxy. In both cases RepAgent does not recognize a user password. For LTL version 200 or later, `no_password` is available with Replication Server version 11.5 or later.

- 4 While configuring Replication Server using `rs_init`, select Replication Server Password Encryption option to “Yes.” This ensures that all passwords are encrypted in the Replication Server configuration file and in the RSSD. If you do not encrypt passwords, anyone with the required permissions can look at the passwords in the configuration files and in the RSSD `rs_users` system table.
- 5 Configure Replication Server to use Secure Sockets Layer (SSL), which is also known as Transport Layer Security (TLS), in the Common Criteria Configuration. See “Managing SSL Security” in Chapter 8, “Managing Replication Server Security” in the *Replication Server 15.2 Administration Guide Volume 1*.

2.5 Support for Internet Protocol version 6

Replication Server on HP Itanium 11.23 and 11.31 supports Internet Protocol version 6 (IPv6).

2.6 Separately licensed features

To purchase licensed options, contact your Sybase sales representative.

2.6.1 Sybase LAN Replication Agent and Enterprise Connect Data Access

Sybase LAN Replication Agent™ and Enterprise Connect™ Data Access are available as a product called Replication Server Options. You must have Replication Server to obtain Replication Server Options.

Replication Server Options provides bidirectional replication across distributed, heterogeneous systems.

Replication Server Options is available in three data-source-specific versions: Microsoft, Oracle, and IBM DB2 UDB. See the release bulletin for *Replication Server Options 15.1 for Linux, Microsoft Windows, and UNIX* for more details about supported platforms and compatible Replication Server versions.

2.7 Replication Server 15.2 64-bit for HP Itanium

The 64-bit version of Replication Server for HP Itanium is compiled with the 64-bit Sybase Open Client/Server™. Therefore, the 64-bit version of Replication Server for HP uses the *libtcl64.cfg* file for HP Itanium, instead of the 32-bit *libtcl.cfg* file.

Note Consider all references to *libtcl.cfg* in the Replication Server documentation as *libtcl64.cfg* for HP Itanium.

3. Special installation instructions

This section includes special installation instructions that are not in the installation guide for your operating system.

3.1 Selecting an installation directory for Replication Server

Consider carefully whether to install Replication Server in its own product directory or in a directory with other Sybase products. *Do not* install Replication Server 15.2 in an existing Sybase installation directory if that directory contains any of these Sybase products:

- Replication Server version 12.5 or earlier
- Adaptive Server® version 12.5.0.x or earlier
- Open Client/Server version 12.5.0 or earlier
- OpenSwitch™ version 12.5 or earlier

- DirectConnect™ version 12.5 or earlier

Warning! Installing Replication Server 15.2 along with any of the products listed above disables the older versions of these products. You cannot reverse these effects by uninstalling Replication Server 15.2.

3.1.1 Installing Replication Server in an existing directory

Installing Replication Server 15.2 in an existing directory that contains other Sybase products might result in Replication Server and the other Sybase products not working correctly. Before you install Replication Server in an existing directory, consider these points:

- You can install Replication Server 15.2 in an existing Sybase installation directory if that directory contains Adaptive Server® Enterprise 15.0.x or Open Client/Server version 15.0. If you have newer versions of the *locales* or *charset* files, the installation program prompts you to specify whether to install older *locales* or *charset* files on top of newer files. To ensure that you have the latest version of these files, select “No to all.”
- Replication Server 15.2 includes a new version of Replication Server and many of its supporting components. Other Sybase products may contain earlier versions of the same components. Installing Replication Server 15.2 into the same directory containing these existing products, will not impact the products.

However, if you are using other Sybase products, installing Replication Server 15.2 can cause some environment variables to change. Reset the environment variables to make the individual products work. For information about setting environment variables, see the *Replication Server Installation Guide* for your operating system.

Note You can install Replication Server 15.2 in the same directory as Adaptive Server Enterprise and Open Client/Server versions 12.5.1 or later.

- If you install Replication Server 15.2 on a system that has Replication Server 15.0.1, Replication Server version 15.2 replaces version 15.0.1. If you require version 15.0.1, create a copy of the Replication Server 15.0.1 directory and subdirectories before installing version 15.2.

- You can install Replication Server 15.2 on top of Replication Server 12.6 or later, in the same `$SYBASE` directory. Installing version 15.2 on top of Replication Server 12.6 or later creates a duplicate entry in the *interfaces* file for `SAMPLE_RS`, which is the sample Replication Server. `rs_init` warns you about the duplicate entry and uses the first instance of `SAMPLE_RS` found in the *interfaces* file.
- If you have installed Replication Server 15.2 and Replication Server 12.6 or later in the same directory, Sybase recommends that you do not uninstall either version from this common directory.

Note When you uninstall Replication Server version 15.2, or version 12.6 or later, the uninstallation program prompts you to specify whether you want to delete files that have been modified since installation. Select “No to all.”

3.1.2 Installing Replication Server in a unique directory

You can install Replication Server in a unique directory without affecting existing Sybase environment variables. Follow the standard installation instructions in the *Replication Server Installation Guide for UNIX*.

Note When you install Replication Server in a unique installation directory, you must maintain two *interfaces* files. One *interfaces* file is required for Replication Server components and another for your other Sybase applications.

3.2 Updating SySAM license server

Replication Server 15.2 is linked with the FLEXnet Publisher version 11.6 for HP Itanium. If you use a SySAM license server, it is required that you update the license server to at least this version before installing Replication Server 15.2. You can check the version information of your license server by examining the license server log or executing the following command:

```
cd $SYBASE/SYSAM-2_0/bin
./lmutil lmver lmgrd
```


3.3 Coexisting with older versions of SySAM

Replication Server version 15.2 uses a newer version of Sybase Software Asset Management System (SySAM) and an updated license format. You can run only one instance of a license server on a computer. To use earlier versions of Sybase products with Replication Server 15.2, you must modify SySAM.

For instructions on migrating a license server, see *Sybase Software Asset Management Users Guide*.

3.4 Enabling asynchronous disk I/O

To enable asynchronous I/O, install the HP asynchronous I/O driver from the SAM Kernel Configuration menu:

- 1 Close Replication Server.
- 2 Click Kernel Configuration.
- 3 Click Drivers.
- 4 Set the Pending State for `asynckernel` to In.
- 5 From the Actions menu, rebuild the kernel, and restart the system.
- 6 At the UNIX command prompt, run the following statements as “root”.

```
/etc/mknod /dev/async c 101 4
chmod 0660 /dev/async
chown sybase /dev/async
```

The user who starts Replication Server must be the owner of the `/dev/async` directory, or must have write permission on the directory.

Contact your operating system administrator or HP technical support for help with installing this driver.

3.5 Other sources of installation information

For installation and configuration information other than what the Replication Server 15.2 release bulletin provides, see:

- *Replication Server Installation Guide for UNIX*. This guide contains instructions for installing Replication Server version 15.2.

If you are using Adaptive Server Enterprise, see the sections of *Adaptive Server Enterprise Installation Guide* for your platform that are related to using Replication Server and upgrading replicated databases.

- *Replication Server Configuration Guide for UNIX*. This guide contains general information about installing Replication Server and instructions for using `rs_init` utility to configure Replication Server.

4. Special upgrade and downgrade instructions

Replication Server Configuration Guide for UNIX contains detailed upgrade and downgrade instructions. Sybase strongly recommends that you read this information before you upgrade or downgrade Replication Server.

This section provides special upgrade and downgrade instructions for Replication Server version 15.2.

Warning! Before upgrading the user database to support Replication Server 15.2, upgrade Adaptive Server Enterprise to version 12.5 or later. Otherwise, the upgrade fails.

4.1 Preparing to upgrade

The Replication Server version must be 12.0 or later and the Adaptive Server containing the Replication Server System Database (RSSD) must be 12.5 or later. Upgrading from any earlier version requires an intermediate upgrade.

4.2 Using enhanced monitors and counters

To use enhanced monitors and counters, perform the following steps.

❖ Using enhanced monitors and counters

- 1 Load this script into the RSSD after upgrading to Replication Server 15.2:

```
$$SYBASE/$SYBASE_REP/scripts/rs_install_statreport_v1510_[ase|asa].sql
```

- 2 Run the `rs_stat_populate` and `rs_stat_genreport` stored procedures to produce the following information:
 - Replication Server performance overview, such as DIST processing, DSI processing, and so on.
 - Replication Server performance analysis and tuning suggestions based on the critical Replication Server counters.

4.3 Upgrading route versions

If you have a primary Replication Server version 12.1 or earlier that you plan to upgrade to version 15.2, and you have a replicate Replication Server that has already been upgraded to version 15.2, use the Upgrade Route option in Replication Manager instead of the `rs_fast_route_upgrade` stored procedure to upgrade the related route to the replicate Replication Server.

❖ Upgrading the route version in Replication Manager

- 1 In Replication Manager, right-click the Replication Server object containing the route to be upgraded.
- 2 Select Upgrade Route.
- 3 Select the route to upgrade.
- 4 Select Upgrade.

Between the site version of your primary Replication Server and the site version of your replicate Replication Server, a route version should reflect the lower value. For example, if the site version of your primary Replication Server is 12.1 and the site version of your replicate Replication Server is 12.0, the route version should be 1200.

However, the version of `rs_fast_route_upgrade` provided in Replication Server version 12.1 and earlier erroneously sets the route version to the higher value. Therefore, the earlier version of `rs_fast_route_upgrade` automatically upgrades the route version to 1520 even if your primary Replication Server has not been upgraded to version 15.2.

If such behavior applies to your replication system and you are upgrading to Replication Server version 15.2, the upgrade script stops and notifies you to fix the route version before upgrading to version 15.2.

4.4 Updating Log Transfer Language version

When the RepAgent connects to the Replication Server, a Log Transfer Language (LTL) version is returned.

When you upgrade to Replication Server version 15.2, the RepAgents are still connected to Replication Server using the older negotiated LTL version. Restart the RepAgents to use the new LTL version.

5. New and modified functionality

For detailed descriptions of new features and functionality in Replication Server 15.2, see *Replication Server New Features Guide*.

6. Known problems

This section describes known problems in Replication Server version 15.2 and workarounds where available. These problems are marked with the corresponding Change Request (CR) numbers. Mention the appropriate CR number when you contact Sybase Technical Support regarding Replication Server issues.

Replication Server version 15.2 does not provide these problem report files:

- *spr_rs*
- *cpr_rs*
- *spr_rms*
- *cpr_rms*

6.1 Replication Server problems

This section describes problems identified in Replication Server 15.2.

6.1.1 SQL Anywhere in Replication Server environment

[CR #570755] Although SQL Anywhere® is currently noted as a primary and replicate database in the Replication Server documentation, SQL Anywhere is not tested in the Replication Server environment as either a primary or replicate database.

6.1.2 *set password* is no longer optional in the *create connection* command

[CR #563365] In Replication Server 15.2, *set password* is no longer optional in the *create connection* command. If you do not wish to set a password, you will still need to add the line `set password null`. If *set password* is not entered, a syntax error will occur.

6.1.3 Next button does not respond in Replication Server custom installation in SySAM setup

[CR #559724] In a custom installation, if you select to install only the Replication Server component, then answer Yes to “Will licenses be obtained from the License Server?” in the SySAM License Server setup, the installer does not continue when you click Next.

Workaround: If you select No in the SySAM License Server setup prompt, the Next button works, and the installation proceeds.

6.1.4 Environment variable files are not created when installing only SySAM

[CR #559484] When you select to install only the SySAM component in a custom installation, these environment variables files are not created automatically:

- *SYBASE.csh*
- *SYBASE.sh*
- *SYBASE.env*

Workaround: Use a text editor to manually set the environment variables in *SYBASE.env*, *SYBASE.sh*, and *SYBASE.csh*. See “Set environment variables” in Chapter 3, “Post-Installation Tasks” in the *Replication Server 15.2 Installation Guide for UNIX*.

6.1.5 Some subfeatures not selected when using console mode

[CR #530800] If you use console mode to select the Replication Server features to install or uninstall, some subfeatures are not automatically selected.

Workaround: After you select a feature, manually verify that the subfeatures you want to install or uninstall are also selected.

6.1.6 Cannot change installation type when installing Replication Server 15.0.1

[CR #530800] When you install Replication Server 15.0.1 using UNIX console mode, and you change the installation type from Typical or Custom to Full, the feature list and package size do not change to the feature list and package size of a full installation.

6.1.7 Replication Server 15.2 64-bit cannot read the queue data in Replication Server 12.6 32-bit

[CR #468408] When upgrading from Replication Server 12.6 32-bit to Replication Server 15.2 64-bit, the 64-bit server cannot read the queue data in the 32-bit server.

Workaround: After upgrading, rebuild the stable queues and ignore loss for all connections. Run:

- 1 rebuild queues
- 2 ignore loss from `<pds name>.<pdb name>` to `<rds name>.<rdb name>`

6.1.8 Parallel DSI threads may cause deadlock with Adaptive Server

[CR #452806] An application deadlock involving Replication Server and Adaptive Server may occur when Replication Server is configured to use parallel DSI while applying transactions to a table containing text and image columns.

Workaround: Suspend and resume the DSI connection. If the DSI thread does not suspend, restart the Replication Server.

6.2 Replication Agent problem

This section documents a problem identified in Replication Agent.

6.2.1 Replication Agent cannot get replication definition information from RSSD

[CR #554216] When you are using Replication Agent version 15.1 ESD #2 or earlier to communicate with Replication Server version 15.2 or later, a Replication Agent query against the RSSD to obtain replication definition information does not return the appropriate rows, and causes the Replication Agent to fail with a replication definition not found error.

Workaround: Set the `use_rssd` configuration parameter to false to prevent replication definition validation.

6.3 Sybase Central problem

This section describes a problem identified in Sybase Central.

6.3.1 Users must have write privileges to home directory

[CR #343973] Sybase Central writes a registry file in the user's home directory, and uses this registry file to store environment information from the Replication Manager. You must have write privileges on the user's home directory, or Sybase Central cannot save the environment information.

Workaround: Ensure that each user has write privileges on the user's home directory.

6.4 Replication Manager problems

This section documents problems identified in Replication Manager.

6.4.1 Replication Manager 15.2 is not supported on HP-UX PA-RISC

[CR #560464] Replication Manager is not supported on HP-UX PA-RISC. You cannot use the *setuphp11x.bin* file in the Replication Manager DVD.

Workaround: To use Replication Manager on HP-UX, migrate to HP-UX on Itanium.

6.4.2 Uninstallation does not consistently remove files

[CR #532965] The uninstallation process may not remove the same files on different operating systems due to inconsistencies in InstallShield.

6.4.3 Replication Manager installer does not warn when installing in an existing directory or when the target directory does not exist

[CR #532570] The Replication Manager 15.2 installation program does not display a warning when installing in an existing directory. However, the installation program displays a warning if an earlier version of Replication Manager is installed in the installation directory. Also, the installation program does not display a confirmation message to create a new directory if the target installation directory does not exist.

6.4.4 Uninstallation may not remove *uninstall_RMP.bin*

[CR #531606] The uninstallation process may not remove *uninstall_RMP.bin* when Replication Manager is installed in a multiple Sybase product environment. After such uninstallation, running *uninstall_RMP.bin* produces no results.

6.4.5 Online help may not appear in Chinese language environment

[CR #530692] Replication Manager online help may not appear when running in the Chinese language environment, that is, when you set LANG=zh_CN.UTF8 or zh_CN.gbk or zh_CN.gb18030, and so on.

6.4.6 Replication Manager does not display parameters for non-Sybase stored procedures

[CR #454375] If the interface server is a Replication Agent or a mirror Replication Agent from a version earlier than 12.6 ESD #6, Replication Manager does not display the parameters for non-Sybase stored procedures in the stored procedure Properties dialog and the Create Function Replication Definition window.

Workaround: Upgrade the Replication Agent or mirror Replication Agent to version 12.6 ESD #6 or to version 15.0.

6.4.7 Replication Manager may not accurately reflect status in a three-tier environment

[CR #418128] When the Adaptive Server in a three-tier management environment is in a SUSPECT state, it is not reflected in the Tree view and Details view of Replication Manager. In the Properties window of the Details view, the status of the Adaptive Server appears as ACTIVE.

6.4.8 Replication Manager does not report reason for a secondary RMS in a SUSPECT state

[CR #418026] When you add a secondary RMS under a primary RMS, and the secondary RMS status is reported as SUSPECT, Replication Manager does not immediately report any information in the Reason column of the List view or in the Details pane of the suspect RMS.

Workaround:

- In the Details pane, right-click the suspect RMS and select Properties. The reason for the SUSPECT state displays.
- Close the Details pane, wait for the duration of the monitoring interval, then return to the Details pane. The Reason column is now populated with information. The default monitoring interval is 60 seconds.

6.4.9 Status not updated when monitoring is enabled

[CR #402702] When you enable monitoring in Replication Manager, the status of active and standby logical connections is not updated automatically in the Details pane of the Sybase Central window.

Workaround: From the Sybase Central main menu, select either View | Refresh Folder or View | Refresh All.

6.4.10 Owner and password cannot be specified when creating subscriptions

[CR #386456] When you create a subscription, Replication Manager does not allow you to specify a login and password. You must use the same “sa” login and password that Replication Manager uses for adding servers to the replication environment.

If you are using atomic materialization, the “sa” login and password must be the same as that used on the Adaptive Server data server. Otherwise, atomic materialization does not work. This restriction does not apply when you create a database subscription, because a database subscription does not include the atomic materialization option.

Workaround: Use the same “sa” login and password for creating subscriptions in RM that you use for adding servers, and that you use for the Adaptive Server.

6.4.11 Configure Replication wizard may not work under certain circumstances

[CR #371403] Using the Configure Replication wizard to set up a replicate database where the primary database is an existing warm-standby logical connection does not result in a working replication environment.

Workaround: Use Replication Manager to create each individual component in the replication environment such as the connection, the database replication definition, and the database subscription.

6.4.12 Unregister Replication Manager after uninstallation

[CR #337408] The uninstallation process for Replication Manager does not unregister Replication Manager from Sybase Central. When you log in to Sybase Central and unregister Replication Manager, Sybase Central displays an error when you restart your computer that says Sybase Central cannot find Replication Manager.

Workaround: Restart Sybase Central and unregister Replication Manager.

6.5 RMS problems

This section documents problems identified in RMS.

6.5.1 RMS server status information does not appear correctly

[CR #500312] When an RMS server is active and connected, Replication Manager retrieves the server status information correctly. However, even when the replication agent is not running, the Replication Manager Services status icon appears active. The Properties menu indicates that the connection to the Replication Manager Services server is not active. The status icons in the Replication Manager environment continue to indicate that the RMS server is active.

When you restart RMS, the Replication Manager Services icon still indicates the active status. Additionally, the Properties menu indicates that the connection is not active even after you refresh the connection.

Workaround: To view correct information about the RMS server status, disconnect and reconnect the server.

6.5.2 RMS cannot start RepAgent if *sp_addserver* is not running on Adaptive Server

[CR #404196] RMS cannot start RepAgent if you have not defined the name of the Adaptive Server using *sp_addserver*.

Workaround: Before you use RMS to start RepAgent, run *sp_addserver* on Adaptive Server to define the name of the local server:

```
sp_addserver pds01, local
```

where *pds01* is the name of the Adaptive Server on which you want to run RepAgent and *local* is the class parameter value, since the Adaptive Server is the local server. See Chapter 1, “System Procedures,” in the *Adaptive Server Reference Manual: Procedures* for more information about *sp_addserver*.

6.6 Using Replication Server 15.2 with RepConnector

6.6.1 Replication Server 15.2 cannot connect to RepConnector

[CR #563044] RepConnector™ does not recognize two commands sent from Replication Server 15.2.

Workaround: Upgrade to RepConnector 15.0.2 ESD #1 or apply Replication Server 15.2 ESD #1 and follow installation instructions for this ESD to modify the function string class for RepConnector.

6.7 Unsupported operations

These Adaptive Server operations may cause incorrect replication:

- Disabling the secondary truncation point with `dbcc settrunc` and then truncating the log can cause lost transactions.
- Replication Server does not support nested transactions within replicated stored procedures.

When you enable replication for a stored procedure using `sp_setreproc` or `sp_setreplicate`, Adaptive Server always runs the stored procedure within a transaction. If you have not explicitly run the replicated stored procedure within a transaction, Adaptive Server places an implicit `begin` transaction command at the start of the procedure.

If the replicated stored procedure contains nested transaction commands such as `begin transaction`, `commit transaction`, or `rollback transaction`, you might get errors when you run the procedure. For example, a `rollback transaction` command rolls back to the start of the stored procedure, rather than to the nested `begin transaction` command, which was the intended rollback point.

- Data that is inserted into a primary table using an unlogged bulk copy operation is not replicated.
- To use the atomic method of subscription materialization:
 - The user who enters the `create subscription` command or the database owner must own the primary table. Alternatively, you must use user-defined function strings for `select` operations at the primary database.
 - If the database owner or maintenance user does not own the replicate table, use user-defined function strings for `select` operations at the replicate database. If the owner of the replicate table is different from the owner of the primary table, create a unique function string by using a distinct function-string class.

7. Product compatibility

This section contains information about products that are compatible with Replication Server version 15.2.

7.1 Adaptive Server

Replication Server version 15.2 is fully compatible with both 32-bit and 64-bit versions of Adaptive Server Enterprise version 12.5 and later.

A replication system can include Adaptive Servers, Replication Servers, DirectConnect products, and RepAgents on multiple operating systems.

Note SQL Server versions 11.0.x and Adaptive Server 12.0 and earlier are no longer supported.

7.2 Interoperability of Adaptive Server, Open Client/Server, and Replication Server

Table 1 shows the interoperability of Adaptive Server, Open Client/Server products, and Replication Server across versions.

Table 1: Interoperability between Adaptive Server, Open Client/Server, and Replication Server

Operating systems	Adaptive Server 12.5.x	Adaptive Server 15.0.x	Open Client/Server 12.5.1	Open Client/Server 15.0	Replication Server 12.6	Replication Server 15.0.1 and 15.1	Replication Server 15.2
HP Itanium (HP-UX 11.23 or later)	Y	Y	Y	Y	Y	Y	Y
IBM RS/6000 AIX 5.3, 6.1	Y	Y	Y	Y	Y	Y	Y
Linux Red Hat 4.0, 5.0	Y	Y	Y	Y	Y	Y	Y

Legend

Y = compatible

Operating systems	Adaptive Server 12.5.x	Adaptive Server 15.0.x	Open Client/Server 12.5.1	Open Client/Server 15.0	Replication Server 12.6	Replication Server 15.0.1 and 15.1	Replication Server 15.2
Sun Solaris 8, 9, and 10 (SPARC) and Sun Solaris 10 (x86/x64)	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows 2003, 2008, XP, Vista	Y	Y	Y	Y	Y	Y	Y

Legend

Y = compatible

Replication Server is a 32-bit application and it has been certified on both the 32-bit and 64-bit versions of the HP-UX, IBM AIX, and Sun Solaris operating systems listed in Table 1.

Even though two or more products may be interoperable, features introduced in a newer version of a product are not likely to be supported by older versions of the same products.

For the latest information on the interoperability of these products and other compatibility reports, see the Interoperability Matrix Technote at <http://www.sybase.com/detail?id=1026087>.

8. Documentation updates and clarifications

This section contains updates and clarifications to Replication Server and Replication Manager documentation.

8.1 Replication Server Administration Guide

8.1.1 Correction to support for symmetric multiprocessors (SMP)

Replication Server supports symmetric multiprocessor (SMP) option on all platforms. Disregard the following information in the *Replication Server 15.2 Administration Guide Volume 2* on page 200:

Note The SMP option in Linux Edition is not available.

8.1.2 Correction to *dsi_quoted_identifiers* parameter used in quoted identifiers

All instances of *dsi_quoted_identifiers* parameter documented in the following manuals should be *dsi_quoted_identifier*.

- *Replication Server 15.2 Administration Guide Volume 1*
- *Replication Server 15.2 Administration Guide Volume 2*

8.1.3 System functions that support non-blocking commit

rs_set_non_blocking_commit and *rs_set_non_blocking_commit_flush* documented in Table 2-1 in the *Replication Server 15.2 Administration Guide Volume 2* have been renamed to *rs_non_blocking_commit* and *rs_non_blocking_commit_flush* respectively. The corrected function names and its description are, as follows:

Function name	Description
<i>rs_non_blocking_commit</i>	<p>Coordinates Replication Server non-blocking commit with the corresponding function in the replicate data server.</p> <p>Maps to the set <i>delayed_commit</i> on function string in Adaptive Server 15.0 and later, and with the alter session set <i>commit_write = nowait</i>; function string in Oracle 10g v2. For all other non-Sybase databases, <i>rs_non_blocking_commit</i> maps to null.</p> <p>Executes every time DSI connects to the replicate data server and if the <i>dsi_non_blocking_commit</i> value is from 1 to 60. If the value of <i>dsi_non_blocking_commit</i> is zero, <i>rs_non_blocking_commit</i> does not execute.</p>

Function name	Description
rs_non_blocking_commit_flush	<p>Ensures that database transactions are flushed to disk when dsi_non_blocking_commit is enabled.</p> <p>Maps to the corresponding function string in Adaptive Server 15.0 and later, and Oracle 10g v2 and later. For all other non-Sybase databases, rs_non_blocking_commit_flush maps to null.</p> <p>rs_non_blocking_commit_flush executes at intervals equal to any number of minutes from 1 to 60 that you specify with dsi_non_blocking_commit. rs_non_blocking_commit_flush does not execute if the value of dsi_non_blocking_commit is zero.</p>

8.2 Replication Server Installation Guide

8.2.1 Configuring SySAM for IPv6

Replication Server includes IPv4 and IPv6 versions of the SySAM license server software. You can choose the version of the license server based on your environment using the sysam configure command. By default, the installer configures SySAM for IPv4 support.

The IPv4 version of the license server cannot be used properly if you have enabled IPv6 on the license server host. If this is the case you can:

- Disable IPv6 TCP/IP protocol on the license server host.
- Use another Windows host that does not have IPv6 enabled.
- Use a UNIX host for the license server. You can use the IPv4 version of the license even if both IPv4 and IPv6 are enabled on UNIX.

If you are using the IPv6 version of the license server on a Windows host, then this license server can be accessed only through IPv6 protocol. Any host with an IPv4 only network stack will not be able to obtain licenses from this IPv6 license server. You can do one of the following to workaround this issue:

- Use a UNIX host for the license server. License Servers on UNIX are able to serve licenses to both IPv4 and IPv6 client hosts.
- If you need to use a Windows host for the License Server and have both IPv4 and IPv6 clients to the license server, setup two License Servers one serving the IPv4 network and the other serving the IPv6 network.

You can use the SySAM script to configure the IPv6. Add this as the last step of the “Installing a new license server” procedure:

16. The SySAM License Server installer installs both IPv4 and IPv4/IPv6 dual stack License Server binaries during installation and configures use of IPv4 only binaries. You can use the SySAM script to configure the appropriate version of the license server:

```
sysam configure [IPv6|IPv4]
```

For example, this command configures use of the IPv4/IPv6 dual stack binaries:

```
sysam configure IPv6
```

8.3 Replication Server New Features Guide

8.3.1 Correction to support for symmetric multiprocessors (SMP)

Replication Server supports symmetric multiprocessor (SMP) option on all platforms. Disregard the following information in the *Replication Server 15.2 New Features Guide* on page 123:

Note The SMP option in Linux Edition is not available.

8.3.2 Correction to *dsi_quoted_identifiers* parameter used in quoted identifiers

All instances of *dsi_quoted_identifiers* parameter documented in the *Replication Server 15.2 New Features Guide* should be *dsi_quoted_identifier*.

8.3.3 System functions that support non-blocking commit

`rs_set_non_blocking_commit` and `rs_set_non_blocking_commit_flush` are now renamed as:

- `rs_non_blocking_commit`
- `rs_non_blocking_commit_flush`

`rs_non_blocking_commit`

`rs_non_blocking_commit` executes every time DSI connects to the replicate data server, if the `dsi_non_blocking_commit` value is from 1 to 60. If the value of `dsi_non_blocking_commit` is zero, `rs_non_blocking_commit` does not execute.

`rs_non_blocking_commit` has function-string class scope.

rs_non_blocking_commit function maps to the “set delayed_commit on” function string in Adaptive Server 15.0 and later, and to the corresponding “alter session set commit_write = nowait;” function string in Oracle 10g v2 and later. For all other non-Sybase databases, rs_non_blocking_commit maps to null.

rs_non_blocking_commit_flush

rs_non_blocking_commit_flush executes at intervals equal to any number of minutes from 1 to 60 that you specify with dsi_non_blocking_commit.

rs_non_blocking_commit_flush does not execute if the value of dsi_non_blocking_commit is zero.

rs_blocking_commit_flush has function-string class scope.

rs_non_blocking_commit_flush maps to the corresponding function string in Adaptive Server 15.0 and later, and Oracle 10g v2 and later. For all other non-Sybase databases, rs_non_blocking_commit_flush maps to null.

Examples

Example 1 Creates an instance of an rs_non_blocking_commit_flush function string for Adaptive Server:

```
create function string rs_non_blocking_commit_flush
  for sqlserver_derived_class
  output language
  'set delayed_commit off; begin tran; update rs_lastcommit set
  origin_time = getdate() where origin = 0; commit tran;
  set delayed_commit on'
```

Example 2 Creates an instance of an rs_non_blocking_commit_flush function string for Oracle:

```
create function string rs_non_blocking_commit_flush
  for oracle_derived_class
  output language
  'alter session set commit_write = immediate; begin tran;
  update rs_lastcommit set origin_time = getdate() where
  origin = 0; commit tran; alter session set commit_write = nowait'
```

8.4 Replication Server Reference Manual

8.4.1 Correction to *dsi_quoted_identifiers* parameter used in quoted identifiers

All instances of dsi_quoted_identifiers parameter documented in the *Replication Server 15.2 Reference Manual* should be dsi_quoted_identifier.

8.4.2 System functions that support non-block commit

The system function names — `rs_set_non_blocking_commit` and `rs_set_non_blocking_commit_flush` documented in Chapter 4, “Replication Server System Functions” have been renamed. The corrected system function names are, as follows:

- `rs_non_blocking_commit`
- `rs_non_blocking_commit_flush`

`rs_non_blocking_commit`

Description Requests data servers to immediately send a positive response to a COMMIT statement without waiting for transactions to be written to disk.

Usage

- `rs_non_blocking_commit` has function-string-class scope.
- `rs_non_blocking_commit` executes every time DSI connects to the replicate data server when the `dsi_non_blocking_commit` value is from 1 to 60. If the value of `dsi_non_blocking_commit` is zero, `rs_non_blocking_commit` does not execute.
- `rs_non_blocking_commit` function maps to the “set delayed_commit on” function string in Adaptive Server 15.0 and later, and to the corresponding “alter session set commit_write = nowait;” function string in Oracle 10g v2 and later. For all other non-Sybase databases, `rs_non_blocking_commit` maps to null.
- Replication Server with non-blocking commit enabled, supports replication into Oracle 10gV2 or later because Oracle 10g v2 supports functionality similar to delayed commit.

Replication Server 15.2 heterogeneous datatype support (HDS) scripts have new function strings that support the non-blocking commit feature. Sybase Enterprise Connect Data Access for Oracle supports these function strings. See the *Replication Server Options 15.1 Overview Guide*.

See also `rs_non_blocking_commit_flush`

`rs_non_blocking_commit_flush`

Description Sends an insert, delete, or update command to the data servers so that transactions that were sent through a connection configured with `rs_non_blocking_commit` are saved to disk.

Examples **Example 1** Creates an instance of an `rs_non_blocking_commit_flush` function string for Adaptive Server:

```
create function string rs_non_blocking_commit_flush
  for sqlserver_derived_class
  output language
  'set delayed_commit off; begin tran; update rs_lastcommit set
  origin_time = getdate() where origin = 0; commit tran;
  set delayed_commit on'
```

Example 2 Creates an instance of an `rs_non_blocking_commit_flush` function string for Oracle:

```
create function string rs_non_blocking_commit_flush
  for oracle_derived_class
  output language
  'alter session set commit_write = immediate; begin tran;
  update rs_lastcommit set origin_time = getdate() where
  origin = 0; commit tran; alter session set commit_write = nowait'
```

Usage

- `rs_non_blocking_commit_flush` has function-string-class scope.
- `rs_non_blocking_commit_flush` executes at intervals equal to any number of minutes from 1 to 60 that you specify with `dsi_non_blocking_commit`. `rs_non_blocking_commit_flush` does not execute if the value of `dsi_non_blocking_commit` is zero.
- `rs_non_blocking_commit_flush` maps to the corresponding function string in Adaptive Server 15.0 and later, and Oracle 10g v2 and later. For all other non-Sybase databases, `rs_non_blocking_commit_flush` maps to null.
- Replication Server with non-blocking commit enabled, supports replication into Oracle 10gV2 or later because Oracle 10g v2 supports functionality similar to delayed commit.

Replication Server 15.2 heterogeneous datatype support (HDS) scripts have new function strings that support the non-blocking commit feature. Sybase Enterprise Connect Data Access for Oracle supports these function strings. See the *Replication Server Options 15.1 Overview Guide*.

See also

`rs_non_blocking_commit`

8.5 Replication Manager online help

In the "Preparing to manage a replication environment" topic, add `$$SYBASE/RMP-15_x/lib/callback.jar` as a separate bullet point after `$$SYBASE/RMP-15_x/lib/ldap.jar`.

9. Language and globalization issues

This section describes language and globalization issues for Replication Server.

9.1 Hankaku Katakana conversion

In general, Japanese character sets are compatible. However, Hankaku Katakana characters, although they exist in both the `euclj` and `sjis` character sets, cannot be converted. Converting data that contains Hankaku Katakana characters between `euclj` and `sjis` does not work. This conversion problem occurs with character datatypes and the text datatype and is documented in Chapter 10, “Configuring Client/Server Character Set Conversions,” of the *Adaptive Server Enterprise System Administration Guide Volume 1*.

This conversion problem affects both Adaptive Server and the Sybase Open Client/Open Server libraries. Because Replication Server uses these libraries for all conversions, this problem also affects Replication Server.

In Replication Server, this type of failure is treated in the same way as is the case of a single character missing from the target character set. The remainder of the conversion succeeds and replication proceeds, and problem characters are replaced by question marks in the target data area. There is currently no way to escape this restriction with the Sybase connectivity libraries. However, in Adaptive Server, if you turn on trace flag number 2402, you can remove this restriction.

9.1.1 Using trace flag 2402

Generally, Sybase recommends that you set up your replication system so that Replication Server handles all character set conversions at the replicate Replication Server and prevents the replicate data server from performing any conversions. In this case, you can work around the Hankaku Katakana restriction if you set up your system so that the replicate data server performs the conversion.

The following table shows how this might look if the primary data server used the `sjis` character set and the replicate data server used `euclj`. Communication in this system is between each data server and its Replication Server and between the two Replication Servers.

Primary Replication Server	sjis
Replicate Replication Server	sjis
Primary data server	sjis
Replicate data server	eucjis

The primary and replicate Replication Servers are configured to use the same character set as the primary data server. (If only one Replication Server manages the primary and replicate data servers, configure it with the character set of the primary data server.)

In this configuration, when the replicate Replication Server connects to the replicate data server with character set sjis, the replicate data server detects this condition and converts data into its own character set, eucjis. If trace flag 2402 is activated in the replicate data server, then the conversion includes the Hankaku Katakana characters.

❖ **Setting up this workaround**

- 1 Configure your system as suggested.
- 2 Turn on trace flag 2402 in the replicate data server (Adaptive Server) by including `-T2402` on the command line when you start Adaptive Server.

9.2 Changing default date format for a language

If you modify the *common.loc* file to change the default date format for a given language, make the corresponding change to the *syslanguages* table on all affected Adaptive Servers.

10. 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.

11. Other sources of information

Use the Sybase Getting Started CD, the SyBooks™ CD, and the Sybase Product Manuals Web site to learn more about your product:

- The Getting Started CD contains release bulletins and installation guides in PDF format, and may also contain other documents or updated information not included on the SyBooks CD. 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 SyBooks CD contains product manuals and is included with your software. The Eclipse-based SyBooks browser allows you to access the manuals in an easy-to-use, HTML-based format.

Some documentation may be provided in PDF format, which you can access through the PDF directory on the SyBooks CD. To read or print the PDF files, you need Adobe Acrobat Reader.

Refer to the *SyBooks Installation Guide* on the Getting Started CD, or the *README.txt* file on the SyBooks CD for instructions on installing and starting SyBooks.

- The Sybase Product Manuals Web site is an online version of the SyBooks CD that you can access using a standard Web browser. In addition to product manuals, you will find links to EBFs/Maintenance, Technical Documents, Case Management, Solved Cases, newsgroups, and the Sybase Developer Network.

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

11.1 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 operating system 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.

11.2 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.

12. Accessibility features

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

Replication Server and the HTML documentation have been tested for compliance with U.S. government Section 508 Accessibility requirements. Documents that comply with Section 508 generally also meet non-U.S. accessibility guidelines, such as the World Wide Web Consortium (W3C) guidelines for Web sites.

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.