Release Bulletin
Sybase® Replication Server® 15.0.1
for HP-UX

1. Accessing current release bulletin information

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

❖ **Accessing release bulletins 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 Replication Server® version 15.0.1, which is compatible with the following platform and operating system configurations:

*   HP-UX 11.11 – patch level B11.11.0412 (32-bit and 64-bit HP-UX)

*   HP-UX 11.23 – patch level B11.23.0409 (32-bit and 64-bit HP-UX)

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

Note HP-UX 11.23 patch level applies to both HP on Itanium and RISC platforms.

The version of Replication Server you have is specific to either HP-UX 11.11 or HP-UX 11.23, and is not interchangeable.

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

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

For a complete list of supported operating systems on each platform, see the Sybase platform certification site at http://certification.sybase.com/ucr/search.do

2.1 Replication Server

For details about the new features in Replication Server version 15.0.1, see *What's New in Replication Server Version 15.0.1?*

2.2 Replication Manager

Replication Manager (RM), a plug-in to Sybase Central™, Java Edition, is a component in Replication Server 15.0 and later. For details about the new features in Replication Manager 15.0.1, see *What's New in Replication Server Version 15.0.1?*

2.3 Replication Monitoring Services

Replication Monitoring Services (RMS) is a component in Replication Server 15.0 and later. RMS is the new middle-management monitoring layer that provides monitoring services for large and complex replication environments. For details about RMS, see *What's New in Replication Server Version 15.0.1?* and *Replication Server 15.0.1 Administration Guide Volume 1*.

2.4 IPv6 support

Replication Server on HP-UX 11.11 and HP-UX 11.23 supports Internet Protocol version 6 (IPv6).

2.5 Optional features

This section lists the optional features available for Replication Server. To purchase any of these licensed options, contact your Sybase sales representative.

2.5.1 Replication Agent and Enterprise Connect Data Access

Sybase Replication Agent™ and Enterprise Connect™ Data Access are available as a product called Replication Server Options, which is available separately from Replication Server. You must already have Replication Server to obtain Replication Server Options.

You can use Replication Server Options with Replication Server for bidirectional replication across distributed, heterogeneous systems to enable different operational and decision-support tasks.

The Replication Server Options are compatible with the same platform and operating system configurations with which Enterprise Connect Data Access 12.6 and Sybase Replication Agent 15.0 are compatible. For specific hardware and software requirements, see the documentation for Enterprise Connect Data Access 12.6 and Sybase Replication Agent 15.0.

There are four Replication Server Options available. Each option contains licenses for accessing data only in the specified data source: Informix, Microsoft, Oracle, or DB2 UDB.

In addition to the two components, each option contains an Adaptive Server® Enterprise (ASE) and an EBF for jConnect™ for JDBC™.

2.6 Replication Server 15.0.1 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, thus it uses the *libtcl64.cfg* file for HP Itanium, instead of the 32-bit *libtcl.cfg* file.

Note All references to *libtcl.cfg* in the Replication Server documentation should be considered as *libtcl64.cfg* for HP Itanium.

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3. Special installation instructions

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

3.1 Selecting an installation directory for Replication Server

You must choose carefully whether to install Replication Server in its own product directory or in a directory with your other Sybase products. In some cases, installing Replication Server on top of existing Sybase applications can adversely and irreversibly affect those applications.

Do not install Replication Server 15.0.1 in an existing Sybase installation directory if that directory contains 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 15.0.1 on top of any of these products incapacitates older versions of these products, and can also adversely affect other Sybase products.You cannot reverse this with an uninstallation.

3.1.1 Installing Replication Server in an existing directory

Installing Replication Server in an existing directory that contains other Sybase products may result in Replication Server and other Sybase products not working correctly. Before you install Replication Server in an existing directory, take note of the following:

- You can install Replication Server 15.0.1 in an existing Sybase installation directory if that directory contains Adaptive Server Enterprise 15.0.1 or Open Client/Server™ version 15.0. You may be asked if you want 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 15.0.1 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 15.0.1 into the same directory containing these existing products, will not impact the products.

  However, if you are using other Sybase products, installing Replication Server 15.0.1 may cause some environment variables to change. You will have to reset the environment variables in order to make the individual products work.

  Note Replication Server 15.0.1 may be installed in the same directory as Adaptive Server Enterprise (ASE) and OCS versions 12.5.1 or later.

- Installing Replication Server 15.0.1 on top of Replication Server 15.0 replaces version 15.0. If you need to revert to version 15.0, completely back up the directory structure of Replication Server 15.0 prior to installing version 15.0.1. For more information, see "Special upgrade and downgrade instructions" on page 9.

- You can install Replication Server 15.0.1 on top of Replication Server 12.6, in the same *$SYBASE* directory. Installing version 15.0.1 on top of Replication Server 12.6 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.

   Note During an install of Replication Server 15.0.1 on top of Replication Server 12.6, you may be asked if you wish to install a later version of JRE over the existing one. Select Yes at this prompt.

   You may also be asked if you wish to install older *locales* files on top of newer ones. Select "No to all" at this prompt.

- If you have installed Replication Server 15.0.1 and Replication Server 12.6 in the same directory, Sybase recommends that you do not uninstall either version from this common directory.

   Note If you choose to uninstall either version, you may be asked if you wish to delete files that have been modified since installation. Select "No to all" at this prompt.

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 for Replication Server components and another for your other Sybase applications.

3.2 Installing Replication Server on 64-bit machines

On 64-bit machines, you cannot install Replication Server version 15.0.1 in the same directory structure as Adaptive Server.

3.3 Co-existing with earlier versions of SySAM

Replication Server version 15.0.1 uses a newer version of the Sybase Software Asset Management System (SySAM) licensing technology and an updated license format. On any machine, you can have only one instance of a license server running. You must make some adjustments to use earlier versions of Sybase products with Replication Server 15.0.1. To make these adjustments, see Appendix F, "Migrating the License Server from SySAM 1.0 to SySAM 2.0" in the *Sybase Software Asset Management User's 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   Shut down Replication Server.

2   Choose Drivers and set the Pending State for asyncdisk to In.

3   From the Actions menu, rebuild the kernel, and restart the system.

4   At the UNIX command prompt, execute the following statements as "root". The user who is starting Replication Server should be either the owner of the */dev/async* directory, or have write permission on the directory.

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

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

3.5 Other sources of installation information

This section describes Replication Server installation and configuration issues. For more information, see:

*   *Replication Server Installation Guide for UNIX*, which contains instructions for installing Replication Server version 15.0.1.

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

- *Replication Server Configuration Guide for UNIX*, which contains general information about installing Replication Server and instructions for using rs_init to configure Replication Server.

If you are using a pre-11.5 version of Adaptive Server Enterprise, see its installation and configuration documentation regarding upgrading replicated databases.

4. Special upgrade and downgrade instructions

The *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 documents special upgrade and downgrade instructions in Replication Server version 15.0.1.

4.1 Preparing to upgrade

For upgrading, the Replication Server version should be 12.0 or later and the Adaptive Server containing the RSSD should be 12.5 or later. Upgrading from any earlier version requires an intermediate upgrade.

4.2 Upgrading Replication Server 15.0 to version 15.0.1

When you install Replication Server version 15.0.1 on top of version 15.0, version 15.0.1 replaces version 15.0. For this reason, Sybase recommends that you back up your current release directory before installing Replication Server 15.0.1.

❖ **Upgrading to Replication Server 15.0.1**

To upgrade Replication Server 15.0 to version 15.0.1:

1   Shut down all Replication Servers.

2   Back up your replication system.

3   If you are installing Replication Server 15.0.1 on top of version 15.0, back up the current Sybase release directory referenced by *$SYBASE*.

    If you are installing Replication Server 15.0.1 in a directory other than the existing directory, the interfaces file must be accessible. For more information, see the Replication Server installation guide for your platform.

4   Install Replication Server 15.0.1. See the Replication Server installation guide for your platform.

5   Restart all Replication Servers.

6   Update the stored procedure rs_helpfstring. See "Update rs_helpfstring after upgrading Replication Server 15.0 to Replication Server 15.0.1" on page 15.

7   Update rs_statcounters. See "Update rs_statcounters after upgrading to Replication Server 15.0.1" on page 14.

Note When upgrading from Replication Server 15.0 you need not upgrade the user database and the RSSD, or commit a local site to a new version level.

4.3 Upgrading Replication Server 12.6 or earlier to version 15.0.1

Follow the instructions in the Replication Server configuration guide for your platform to upgrade Replication Server 12.6 or earlier to Replication Server 15.0.1.

After upgrading Replication Server, upgrade the RSSD database table rs_statcounters. See "Update rs_statcounters after upgrading to Replication Server 15.0.1" on page 14.

4.3.1 Upgrading HP Itanium Replication Server 12.6 to Replication Server 15.0.1

All queue data must be removed before attempting to upgrade the 32-bit Replication Server 12.6 for HP Itanium to the 64-bit Replication Server 15.0.1 for HP Itanium. This is because the HP Itanium 64-bit server cannot read the queue data generated from the HP Itanium 32-bit server.

Perform these steps to ensure that no data is lost during the upgrade:

1   Start the 32-bit Replication Server 12.6 for HP Itanium.

2   Suspend all Replication Agent threads that are connected to the Replication Server.

3   Allow all transactions to be applied on their DSI connections.

4   Verify that the queues are empty. See "Upgrading Adaptive Server in replication system" in Chapter 3 of the *Replication Server Configuration Guide for UNIX* for instructions in using a dummy table to verify that all queues are empty.

5   Shutdown the 32-bit Replication Server 12.6 for HP Itanium.

6   Upgrade the 32-bit Replication Server 12.6 for HP Itanium to the 64-bit
     Replication Server 15.0.1 for HP Itanium. See "Upgrading to Replication
     Server 15.0.1 from 12.6 or earlier" in Chapter 3 of the *Replication Server
     Configuration Guide for UNIX* for more information.

7   Use the command admin who to check the distributor thread. If the
     distributor thread fails to start, the queues still contain data generated from
     the 32-bit Replication Server 12.6 for HP Itanium.

     •   To remove this data from the queues, execute:

             rebuild queues

     •   Then, for each DSI connection, execute:

             ignore loss from <pds name>.<pdb name> to <rds
             name>.<rdb name>

8   Start all Replication Agent threads.

4.4 Upgrading route versions

If you have a primary Replication Server version 12.0 or 12.1 that you plan to
upgrade to version 15.0.1 and you have a replicate Replication Server already
upgraded to version 15.0.1, use the Upgrade Route option in RM instead of the
rs_fast_route_upgrade stored procedure to upgrade the related route to the
replicate Replication Server.

❖   **Upgrading route version in RM**

1   In RM, right-click on the Replication Server object containing the route to
     be upgraded.

2   Select the Upgrade Route option.

3   A dialog box appears, select the route to be upgraded.

4   Select Upgrade.

A route version should reflect the lower value between the site version of your
primary Replication Server and the site version of your replicate Replication
Server. 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. For this reason, the earlier version of rs_fast_route_upgrade automatically upgrades the route version to 1500 even if your primary Replication Server has not yet been upgraded to version 15.0.1.

If this applies to your replication system and you are upgrading to Replication Server version 15.0.1, the upgrade script stops and tells you to fix the route version before upgrading to version 15.0.1.

4.5 Updating LTL version

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

When you upgrade to Replication Server version 15.0.1, the RepAgents are still connected to Replication Server using the older negotiated LTL version. Restart the RepAgents to use the new LTL version.

4.6 Downgrading Replication Server 15.0.1 to version 15.0

❖ **Downgrading to Replication Server 15.0**

To downgrade Replication Server 15.0.1 to version 15.0:

1   Before downgrading to version 15.0, check the Replication Server configuration parameters. See "Adjust Replication Server configuration parameter values before downgrading from Replication Server 15.0.1" on page 15 for more information.

2   Shut down all Replication Servers.

3   Back up your system. If you are downgrading to a directory other than the existing Sybase release directory, verify that the appropriate interfaces file is accessible. For more information on the interfaces file, see the Replication Server installation guide for your platform.

4   If Replication Server 15.0.1 is installed on top of Replication Server 15.0, restore the Sybase release directory backup created during the upgrade to version 15.0.1. Otherwise, set the UNIX environment variable *$SYBASE* to the Replication Server 15.0 Sybase release directory.

5   Restart all Replication Servers.

6   Update rs_statcounters. See "Update rs_statcounters after downgrading Replication Server version 15.0.1 to version 15.0" on page 15.

4.7 Downgrading Replication Server 15.0.1 to version 12.6 or earlier

Follow the instructions in the Replication Server configuration guide for your platform to downgrade Replication Server 15.0.1 to Replication Server 12.6 or earlier.

No further steps are required to downgrade the RSSD database table rs_statcounters.

5. New and changed functionality

For detailed descriptions of the new features and functionality in Replication Server 15.0.1, see *What's New in Replication Server Version 15.0.1?*

6. Known problems

This section documents known problems in Replication Server version 15.0.1. These problems are identified with Change Request (CR) numbers, to which you can refer when contacting Sybase Technical Support. Workarounds are provided where available.

6.1 Problem report location

This section identifies where problem reports are located.

Replication Server

Open and fixed problem reports for Replication Server software are in the *$SYBASE/$SYBASE_REP/install/SPR* directory. The following files contain problem reports for Replication Server version 15.0.1:

- *spr_rs* – open problem reports

- *cpr_rs* – closed problem reports

RM

Open and fixed problem reports for the RM are in the *$SYBASE/RMP-15_0/install/*SPR directory.

The following files contain problem reports for this version of the RM for Sybase Central:

- *spr_rmp* – open problem reports

- *cpr_rmp* – closed problem reports

RMS

Open and fixed problem reports for the RMS that interfaces with the RM are in the *$SYBASE/ua/plugins/com.sybase.rms/install/SPR* directory. The following file contains the problem reports for RMS:

- *spr_rms* – open problem reports

- *cpr_rms* – closed problem reports

6.2 Highlighted problems with Replication Server

This section describes problems with Replication Server.

6.2.1 Replication Server 15.0.1 64-bit cannot read the queue data in Replication Server 12.6 32-bit

[CR #468408]   A problem exist when upgrading from Replication Server 12.6 32-bit to Replication Server 15.0.1 64-bit. The 64-bit server cannot read the queue data in 32-bit.

Workaround: After the upgrade process, rebuild the stable queues and ignore loss for all connections. To do this, execute these commands respectively:

- rebuild queues

- ignore loss from *<pds name>.<pdb name>* to *<rds name>.<rdb name>*

See "Upgrading HP Itanium Replication Server 12.6 to Replication Server 15.0.1" on page 10 for detailed upgrade instructions.

6.2.2 Memory corruption in Replication Server during link list processing

[CR #454798]   A memory corruption may occur when accessing the "sync" element link list. The Replication Server stack trace references the ll_del() function.

Workaround: None.

6.2.3 Update *rs_statcounters* after upgrading to Replication Server 15.0.1

[CR #454524]   After you upgrade to Replication Server 15.0.1, using rs_dump_stats and rs_helpcounter results in missing counters, or incorrect counter labels and descriptions. This is caused by missing or out-of-date rows in the RSSD database table rs_statcounters.

Workaround: Update rs_statcounters. After upgrading to Replication Server 15.0.1, execute *rs_1501_rssd_upgrade.sql* in the RSSD database. You can download *rs_1501_rssd_upgrade.sql* from CodeXchange on Sybase Developer Network at http://www.sybase.com/developer/codexchange. The file is in the *RepServer* project, under *Administration Tools/Scripts*.

6.2.4 Update *rs_statcounters* after downgrading Replication Server version 15.0.1 to version 15.0

[CR #454524]   The RSSD database table rs_statcounters is not properly updated when downgrading Replication Server 15.0.1 to version 15.0.

Workaround: Update rs_statcounters. After downgrading to version 15.0, execute *rs_1501_rssd_downgrade.sql* in the RSSD database. You can get *rs_1501_rssd_downgrade.sql* from CodeXchange on Sybase Developer Network at http://www.sybase.com/developer/codexchange. The file is in the *RepServer* project, under *Administration Tools/Scripts*.

6.2.5 Update *rs_helpfstring* after upgrading Replication Server 15.0 to Replication Server 15.0.1

[CR #454523]   rs_helpfstring is not properly updated when upgrading from Replication Server 15.0 to Replication Server 15.0.1.

Workaround: Update rs_helpfstring. To do this, execute *rs_procs_ase.sql* if you are using RSSD. If you are using ERSSD, execute *rs_procs_asa.sql*. These scripts are found under *$SYBASE/REP-15_0/scripts*.

If you are using ERSSD, you must execute *rs_procs_asa.sql* as "dbo." For security reasons, "dbo" is not allowed to connect to the ERSSD by default. To allow "dbo" to connect to the ERSSD, connect to the ERSSD as the Replication Server primary user, and issue the grant connect command to set a password for "dbo":

```
grant connect to dbo identified by newpassword
```

After you execute *rs_procs_asa.sql*, it is recommended that you disallow "dbo" to connect to the ERSSD by removing the password for "dbo". Connect to the ERSSD as the Replication Server primary user, and issue the grant connect command:

```
grant connect to dbo
```

6.2.6 Adjust Replication Server configuration parameter values before downgrading from Replication Server 15.0.1

[CR #454522]   If you increase the values of exec_sqm_write_request_limit, md_sqm_write_request_limit, and sub_sqm_write_request_limit after upgrading to Replication Server 15.0.1, a problem may occur when you downgrade from Replication Server 15.0.1 to Replication Server 15.0 or earlier.

Workaround: Adjust exec_sqm_write_request_limit, md_sqm_write_request_limit, and sub_sqm_write_request_limit to their pre-15.0.1 default values before downgrading from Replication Server 15.0.1:

Configuration parameter	Pre- 15.0.1 default value
exec_sqm_write_request_limit	16,384
md_sqm_write_request_limit	100,000
sub_sqm_write_request_limit	32,768

6.2.7 Error message appears when recording an installation response file

[CR #453332]   When you record a response file using the command `./setup -options -record REP.response` on an HP800 platform, various error messages appears but the response file is created successfully.

Workaround: None.

6.2.8 Error uninstalling Replication Server 15.0.1

[CR #453332]   You cannot uninstall Replication Server 15.0.1 when you use a JVM different from the JVM you used during the installation of the release.

Workaround: To uninstall Replication Server 15.0.1, use the same JVM used during the installation of the release. For instance, if -is:javahome JVM was used at installation, then -is:javahome JVM must be specified in order to uninstall the release.

6.2.9 Some subfeatures not selected when using console mode to install or uninstall Replication Server features

[CR #453332]   If you use console mode to select the Replication Server features you want 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.

6.2.10 Error message appears when installing Replication Server 15.0.1 on top of SySAM 2.0 release directory

[CR #453332] When you install Replication Server 15.0.1 on top of the SySAM 2.0 release directory while the SySAM server is running, an error message saying that an error occured during the replacement of *suite_sysam2_sysam_server_files* with *suite_sysam2_sysam_server_files* appears.

Workaround: Ignore the error, and finish the installation.

6.2.11 Cannot change installation type when installing Replication Server 15.0.1

[CR #453332] 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.

Workaround: None.

6.2.12 Creating a replication definition with wrong column order when dynamic SQL is turned on may result in replication error

[CR #452899] If the column order of the new replication definition created to update the internal replication definition—warm standby or MSA—does not match the column order of the table definition, and the dynamic SQL is turned on, data may replicate to the wrong columns.

Workaround: Suspend and then resume connection to clear the error.

6.2.13 Mini rollback in a large transaction may shut down DSI

[CR #452894] If a large transaction is replicating to a warm standby database, and the DSI is fast, the commands in a mini rollback section may be applied to the standby database and then rolled back. These commands may cause errors at the standby database and cause DSI to shut down.

Workaround: Resume the DSI connection to clear out the error.

6.2.14 Parallel DSI threads processing *text* and *image* columns may cause application deadlock with ASE

[CR #452806] An application deadlock involving Replication Server and ASE 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.

6.2.15 Interrupting a user thread holding a lock causes Replication Server to terminate

[CR #445606]   If you use Ctrl+C to interrupt a Replication Server thread suspended due to a deadlock, the Replication Server terminates immediately.

Workaround: None.

6.2.16 Dropping a table-level replication definition with a database-level subscription may result in an application deadlock

[CR #442701]   When you drop multiple table-level replication definitions, and a database-level subscription exists, an application deadlock involving the Adaptive Server Enterprise and the Replication Server may occur.

Workaround: Use any one of the following:

• Drop the database-level subscription before dropping the table-level replication definitions.

• Drop each table-level replication definition in a separate isql session.

• Use ASA instead of ASE to host the RSSD.

6.2.17 *rs_init* reports missing *rs_dump_stats* when upgrading to Replication Server 15.0.1

[CR #449991]   If the rs_dump_stats procedure is loaded in the Replication Server when you upgrade to Replication Server 15.0.1, rs_init cannot drop rs_dump_stats, and reports that rs_dump_stats is not found.

Workaround: Manually drop the rs_dump_stats procedure before upgrading to Replication Server 15.0.1.

6.2.18 Language modules not listed

[CR #419838]   When you select Full Install, the French, Chinese, and Japanese language modules are not shown in the list of Replication Server language modules. These languages are installed as part of a Full Install even though they are not listed by InstallShield.

Workaround: None.

6.2.19 Replication Server does not preprocess table names qualified with database name

[CR #332068]   When you use the Adaptive Server plug-in to issue data definition language (DDL), the plug-in uses fully a qualified identifier in the DDL. If you use multisite availability (MSA) to replicate this DDL, and the replicate database does not have the same name as the primary database, MSA cannot apply the DDL, and Data Server Interface is suspended.

Workaround: Do not use the Adaptive Server plug-in for Sybase Central to create tables for use in this environment, and do not use fully qualified table names when using MSA to replicate DDL.

6.2.20 Adaptive Server row-level locking may cause System Table Services cache problems

[CR #276758]   When using Adaptive Server row-level locking for System Table Services (STS) tables, Replication Server can report that an STS object does not exist when in fact it does exist in the RSSD. This happens because with Adaptive Server row-level locking, when there are two concurrent transactions, one transaction deletes and then inserts a row, while the other transaction tries to select the same row. When this occurs, the select command fails to retrieve the row.

Workaround: You can either restart Replication Server, or use the following command for the appropriate table when it has a row that exists in the RSSD but is missing from the cache:

```
sysadmin stscache, fillcache, tablename
```

6.2.21 DSI error 5147 for replication definitions with several text columns if replication definitions do not allow NULL

[CR #270741]   If you create a replication definition with three or more text columns that does not allow the NULL value, the DSI stops responding, and generates error 5147 if you replicate a row from a table that allows the NULL value.

Workaround: None.

6.2.22 Effects of *alter replication definition* not immediate

[CR #235302]   If rows are inserted too quickly after an alter replication definition command completes, the first few rows may not recognize the changes made by the alter replication definition command.

Workaround: Before inserting rows, wait at least 60 seconds after an alter replication definition command completes.

6.2.23 Decimal with exponent incorrectly translated

[CR #233839]   When using a user-defined datatype that defines a decimal type, if the decimal data contains an exponent, when replicating that column to a column of integer type, it may be incorrectly translated. For example, 5.62E3 is translated to 6 instead of 5620.

Workaround: None.

6.2.24 DSI shuts down if transaction owner and standby maintenance user have same name

[CR #219525]   In a warm standby configuration, the Replication Server shuts down the Data Server Interface (DSI) with an error if the data definition language (DDL) transaction owner and warm standby maintenance user have the same name.

Workaround: When you are configuring a warm standby replication environment, do not create the standby database maintenance user with the same user name as the DDL transaction owner.

6.2.25 DSI shuts down

[CR #215616]   Replication Server reports an error and the DSI shuts down when:

- A transaction involving the update of the text columns is replicated.

- One table with text columns has multiple replication definitions.

- Replication definitions are subscribed to by multiple tables in the same replicate database.

Workaround: None.

6.2.26 *delete* command for multiple rows may not replicate correctly

[CR #203009]   A delete command that affects multiple rows at the primary database may not replicate successfully at the replicate database if the primary database contains self-referential foreign-key constraints.

Workaround: Use any one of the following:

- Use stored procedure replication.

- Drop the constraint on the replicate table.

- Do not use bulk deletes on tables with self-referential foreign-key constraints.

6.2.27 Cannot start Replication Server without -S flag

[CR #65722]   You cannot use the DSLISTEN environment variable to specify the Replication Server name. Replication Server stops responding after it prints the message "Contacting the idserver for a siteid."

Workaround: You must specify the Replication Server name with the -S flag on the repserver command line.

6.3 RM problems

This section discusses problems with RM.

6.3.1 RM does not display the 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, RM does not display the parameters for non-Sybase stored procedures in the stored procedure Properties dialog and the Create Function Replication Definition dialog.

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

6.3.2 RM 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 the RM. In the Properties dialog of the Details view, the status of the Adaptive Server displays as ACTIVE.

Workaround: None.

6.3.3 RM does not report reason for a secondary RMS with SUSPECT state

[CR #418026]   When you add a secondary RMS under a primary RMS, and the secondary RMS status is reported as SUSPECT, RM does not immediately report any information about this 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.

• Wait for the duration of the Monitoring Interval and navigate out of and then back into the Details pane. The Reason column is now populated with information. The default Monitoring Interval is 60 seconds.

6.3.4 Status not updated when monitoring is turned on

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

Workaround: Perform a manual refresh to update the status. Do this from the Sybase Central main menu, selecting either View | Refresh Folder or View | Refresh All.

6.3.5 Cannot specify owner and password when creating subscriptions

[CR# 386456]   When you create a subscription, RM does not allow you to specify a login and password. You have to use the same "sa" login and password that RM 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, or atomic materialization will not work. This restriction does not apply when you create a database subscription as it 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.

6.3.6 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 RM to create each individual component in the replication environment such as the connection, the database replication definition, and the database subscription.

6.3.7 Plug-in must be unregistered after uninstallation

[CR #337408]   The uninstallation process for RM does not unregister the plug-in from Sybase Central. When you log in to Sybase Central and unregister the plug-in, Sybase Central displays an error when you restart your machine that says it cannot find the RM.

Workaround: You can ignore the message. Start Sybase Central and unregister the RM plug-in.

6.4 RMS problems

This section discusses problems with RMS.

6.4.1 RMS cannot start RepAgent if *sp_addserver* is not run on Adaptive Server

[CR #404196]   RMS cannot start RepAgent if you have not yet defined the name of the Adaptive Server with the sp_addserver system procedure.

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 on sp_addserver.

6.5 Sybase Central problems

This section discusses problems with Sybase Central.

6.5.1 Heterogeneous data servers are incorrectly listed as available in a three-tier environment

[CR#455172]   The Add Server wizard incorrectly displays that you can add Oracle DBMS, Microsoft SQL Server, and IBM Universal Database to the RMS in a three-tier environment.

Workaround: Oracle DBMS, Microsoft SQL Server, and IBM Universal Database are not supported in a three-tier environment. Do not choose these servers.

6.5.2 Sybase Central stops responding when command log fills up

[CR #387922]   Sybase Central provides a central log where each plug-in can write error messages and details about its execution. RM uses this Sybase Central command logging feature to provide a log of all commands sent by RM to managed servers.

If command logging is turned on, commands at every monitoring interval are written to the Sybase Central log. Sybase Central does not limit the number of entries in the log, the log can fill up and cause Sybase Central to stop responding.

Workaround: Monitor the log closely. You may archive the log or delete entries in the log to clear the memory.

6.5.3 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 RM. Users must have write privileges on their home directory, or Sybase Central cannot save the environment information.

Workaround: Ensure that each user has write privileges to his or her home directory.

6.6 Highlighted *rs_init* problems

This section discusses problems with rs_init, the Replication Server configuration utility.

6.6.1 Cannot use korean/eucksc character set to configure Replication Server with us_english/iso_1

[CR #415971]   Replication Server does not start if you use korean with the euckcs character set on the rs_init command line, `rs_init -l korean -c euckcs`, to configure us_english with the iso_1 character set for Replication Server.

Workaround: Use korean with the euckcs character set on the rs_init command line and configure Replication Server for korean and euckcs.

6.6.2 *rs_init* does not update interfaces file automatically

[CR #171729]   When attempting to add a Replication Server entry to the interfaces file through rs_init using a resource file, a message displays indicating that the interfaces file has been updated. However, the file is not updated, and Replication Server does not start.

Workaround: Create the entry in the interfaces file manually before using rs_init with the resource file.

6.6.3 *rs_init* does not correct run files

[CR #79366]   rs_init does not correct previously generated run files as part of upgrades and downgrades.

Workaround: Edit the run files manually.

6.6.4 Incompatible character set specification using *rs_init*

[CR #68642]   rs_init does not prevent you from creating a configuration file using an *RS_charset* parameter that is incompatible with the character set defined in the *CONFIG_charset* parameter. For example, if the configuration file defines an English character set but the *CONFIG_charset* parameter is set to a Japanese character set, the installation proceeds but behaves unpredictably.

Workaround: Use compatible character sets.

6.7 Unsupported operations

The following Adaptive Server operations may cause incorrect replicated data:

- Using the truncate table command on a primary table does not truncate replicated tables, because the operation is not logged.

- Disabling the secondary truncation point with the dbcc settrunc command and then truncating the log can result in lost transactions at replicate databases.

- Replication Server does not support nested transactions within replicated stored procedures.

  When replication is enabled for a stored procedure using sp_setrepproc or sp_setreplicate, Adaptive Server always executes the stored procedure within a transaction. If you have not explicitly executed the replicated stored procedure within a transaction, Adaptive Server places an implicit begin transaction at the start of the procedure.

If the replicated stored procedure contains nested transaction commands, such as begin transaction, commit transaction, or rollback transaction, errors may result when you execute 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 that was the intended rollback point.

- Data inserted into a primary table using an unlogged bulk copy is not replicated.

- In a database you cannot replicate multiple tables that have the same name but different owners. For example, if a database contains two tables, dbo.authors and user3.authors, Replication Server can distribute only one of them.

- Sybase recommends that you make the database owner own all tables in the primary database, and that you make the database owner or maintenance user own all tables in the replicate database. If the database owner or maintenance user does not own the table in the replicate database, use user-defined function strings for insert, update, and delete operations.

- 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, or 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.

- Client applications should not update the primary-key columns in multiple rows of a replicated table in such a way that a key can duplicate the key of another row. This may result in duplicate rows or errors at replicate databases.

  For example, if pcol is the primary key for the reptbl table, the following command may cause errors or incorrect data at the replicate database:

  ```
  update reptbl
    set pcol = pcol + 1
  ```

  The following table shows before and after values for pcol at the primary database if reptbl has three rows with pcol values 1, 2, and 3.

Before	After
1	2
2	3
3	4

RepAgent retrieves the log records and submits to Replication Server commands equivalent to the following:

```
update reptbl
  set pcol = 2 where pcol = 1
update reptbl
  set pcol = 3 where pcol = 2
update reptbl
  set pcol = 4 where pcol = 3
```

Replication Server treats each row as an independent update so that the first and second rows are updated three and two times, respectively. If there is a unique index on the table, the additional updates cause errors at the replicate databases. If there is no unique index on the replicate table, duplicate rows result, as shown below.

Before	After
1	4
2	4
3	4

7. Product compatibilities

This section contains information about products that are compatible with Replication Server version 15.0.1.

7.1 Adaptive Server

Replication Server version 15.0.1 is fully compatible with both 32-bit and 64-bit versions of Adaptive Server Enterprise version 12.0 and later.

See the documentation for Adaptive Server version 12.0 and later for more information on product requirements.

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

Note SQL Server versions 11.0.x 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

Adaptive Server 15.0.x	Adaptive Server 12.5.1	Open Client/ Server 15.0	Open Client/ Server 12.5.1	Replication Server 15.0.x	Replication Server 12.6
HP-UX 11.11 and 11.23	Y	Y	Y	Y	Y
HP Itanium (HP-UX 11.23 or later)	Y	Y	Y	Y	Y
IBM RS/6000 AIX 5.2 and 5.3	Y	Y	Y	Y	Y
Linux Red Hat 3.0	Y	Y	Y	Y	Y
Sun Solaris 8, 9, and 10	Y	Y	Y	Y	Y
Microsoft Windows 2000, 2003, and XP	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, new 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 the Replication Server documentation.

8.1 What's New in Replication Server 15.0.1?

This section describes clarifications to the *What's New in Replication Server 15.0.1?*.

8.1.1 Support for heteregenous data servers

For non-Sybase data servers, RM supports table, and function replication definition, and subscription, but does not support database replication definition, and subscription. RM also supports all connections to non-Sybase data servers except for logical connection.

8.2 Administration Guide

This section describes updates to the *Replication Server Administration Guide*.

8.2.1 Naming data servers in RM

Data servers in RM must have unique names, and the names of the non-Sybase data servers must match the Replication Agent configuration parameter rs_source_ds. If an existing environment uses the same name for the Replication Agent and the configuration parameter, change the name of the agent by manually adding the server name, host, and port number in page 3 of the Add Server wizard.

8.2.2 Creating RM objects for non-Sybase data servers

Add this information to "Managing Replication Server objects" in Chapter 3, "Managing Replication Server with Sybase Central" in the Replication Server *Replication Server Administration Guide Volume 1*:

- **Note** RM does not support database replication definition, database subscription, and creation of logical connection for non-Sybase data servers.

- For non-Sybase data servers, RM uses DirectConnect to communicate with the data servers and to act as an interface for RM. The status of DirectConnect is reflected in the status of the non-Sybase data server.

- Add this as the last step of the "Creating a connection" procedure:

  8. If you created a replicate connection through DirectConnect to a non-Sybase data server, manually execute the script that generates the tables and procedures required for replication.

8.2.3 Substituting *libtcl.cfg* with *libtcl64.cfg* for HP Itanium

All references to the 32-bit *libtcl.cfg* file in the *Replication Server Administration Guide Volume 1* should be substituted with *libtcl64.cfg* file for HP Itanium. The 64-bit Replication Server for HP Itanium is compiled with the 64-bit Sybase Open Client/Server, thus it uses the *libtcl64.cfg*.

8.3 Reference Manual

This section describes updates to the *Replication Server Reference Manual*.

8.3.1 Correction to *rs_subcmp* usage

You do not need to set *DDLGENLOC*, and *SYBROOT* for rs_subcmp to work.

8.3.2 Substituting *libtcl.cfg* with *libtcl64.cfg* for HP Itanium

All references to the 32-bit *libtcl.cfg* file in the *Replication Server Reference Manual* should be substituted with *libtcl64.cfg* file for HP Itanium. The 64-bit Replication Server for HP Itanium is compiled with the 64-bit Sybase Open Client/Server, thus it uses the *libtcl64.cfg*.

8.4 Configuration Guide

This section describes updates to the *Replication Server Configuration Guide* for your platform.

8.4.1 Substituting *libtcl.cfg* with *libtcl64.cfg* for HP Itanium

All references to the 32-bit *libtcl.cfg* file in the *Replication Server Configuration Guide for UNIX* should be substituted with *libtcl64.cfg* file for HP Itanium. The 64-bit Replication Server for HP Itanium is compiled with the 64-bit Sybase Open Client/Server, thus it uses the *libtcl64.cfg*.

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 eucjis and sjis character sets, cannot be converted. Converting data that contains Hankaku Katakana characters between eucjis and sjis will not work. This conversion problem occurs with character datatypes and the text datatype. It is documented in Chapter 20, "Configuring Client/Server Character Set Conversions," of the *Adaptive Server Enterprise System Administration Guide*.

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 eucjis. 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 Certification Report.

3   In the Certification Report filter select a product, platform, and timeframe
     and then click Go.

4   Click a Certification Report title to display the report.

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

1   Point your Web browser to Availability and Certification Reports at
     http://certification.sybase.com/.

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

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

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

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

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

2   Click MySybase and create a MySybase profile.

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.