

# Release Bulletin Sybase® Replication Server® Version 12.6 for Silicon Graphics

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## 1. Accessing current release bulletin information

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

### v Accessing release bulletins at the Technical Library Product Manuals Web site

- 1 Go to Product Manuals at <http://www.sybase.com/support/manuals/>.
- 2 Follow the links to the appropriate Sybase product.

- 3 Select the “Platform-Specific” collection for the product version you are interested in.
- 4 From the list of individual documents, select the link to the release bulletin for your platform. You can either download the PDF version or browse the document online.

## 2. Product summary

Enclosed is Replication Server® version 12.6, which is compatible with the following platform and operating system configurations:

- SGI IRIX 6.5

SGI IRIX 6.5 requires no operating system patches to run Replication Server components.

If you will be using the SGI Database Accelerator (DBA) and are at IRIX version 6.5 without updates, you should update the operating system with a Maintenance or Feature release. You can find the Maintenance and the Feature releases SGI Supportfolio Web site at

<http://support.sgi.com/colls/patches/tools/browse/>. Before upgrading, read general upgrade information IRIX 6.5 Supportfolio Web site at <http://support.sgi.com/irix/news/upgrades.html>.

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**Note** SGI recommends that you upgrade to IRIX version 6.5.x, but you can install SGI patch SG0003126 instead.

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### 2.1 Replication Server

For a brief description of the new features in version 12.6, see “New and changed functionality” on page 9. For details about the new features, see *What’s New in Replication Server Version 12.6?*

### 2.2 Replication Server Manager

Replication Server Manager (RSM) is included in this package, and consists of:

- Sybase Central, Java Edition, version 4.1 and the Replication Server Manager plug-in to Sybase Central.

- Sybase Central, Windows Edition, version 3.2 and the Replication Server Manager plug-in to Sybase Central, Windows Edition.
- RSM Server – connects to the other servers in your system and communicates with Replication Server plug-in.

RSM Server is available on each platform on which Replication Server is offered, and must be installed on your server.

The Replication Server Manager plug-in to Sybase Central, Windows Edition, is available only on Windows 2000 and Windows 2003 platforms. The Windows versions are provided to customers on other platforms on separate media.

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**Note** You cannot manage Replication Server through Sybase Central if you do not install the plug-in.

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## 2.3 Replication Manager

Replication Manager, a plug-in to Sybase Central, Java Edition, is a new component in Replication Server version 12.6. Replication Manager functionality is a subset of the existing Replication Server plug-in functionality, and is designed to provide complete management support for both multisite availability (MSA) and standard warm standby environments. For details about Replication Manager, see *What's New in Replication Server Version 12.6?*

## 2.4 Optional features

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

### 2.4.1 Advanced Security

Secure Sockets Layers (SSL) is an industry standard for sending wire- or socket-level encrypted data over secure network connections. Replication Server supports SSL through the Advanced Security option.

Before using the Advanced Security option, you must purchase the option's license and configure it using the SySAM asset management system (see the *Replication Server Installation Guide* for instructions).

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**Note** Advanced Security is not available for Silicon Graphics.

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## 2.4.2 Replication Agent and DirectConnect

Sybase Replication Agent™ and DirectConnect™ 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.

The Replication Server Options can be used 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 DirectConnect 12.6 and Sybase Replication Agent 12.6 are compatible. For specific hardware and software requirements, see the documentation for DirectConnect 12.6 and Sybase Replication Agent 12.6.

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™.

## 2.5 Third-party software notification

The RSM Server uses Henry Spencer's regular expression parser, and is copyrighted 1992, 1993, 1994, 1997 by Henry Spencer.

Sybase makes no express or implied representation, warranty, or promise regarding the ISO 9000 certification status of third-party software. This disclosure is intended to notify customers that third-party software incorporated into the product is not covered by any Sybase ISO 9000 certification. It does not imply lack of quality, reliability, or certifiability of such third-party products.

## 3. Special installation instructions

This section includes special installation instructions that are not in the *Installation Guide for UNIX*.

### 3.1 Installing Replication Server without Embedded RSSD

Since SGI does not support Adaptive Server Anywhere, you cannot use Replication Server's new Embedded RSSD feature. Both the *Replication Server Configuration Guide for UNIX* and *Replication Server Installation Guide for UNIX* provide instructions for installing an ERSSD, but these procedures do not apply to Replication Server on SGI. For this reason, InstallShield:

- Does not ask if you want to create a sample Replication Server
- Does not create the *SAMPLE\_RS.res* resource file
- Does not make any changes to the interfaces file

### 3.2 Installing into existing Replication Server directories

Replication Server version 12.6 can be installed in the existing directory structure of Replication Server version 12.0 and later.

### 3.3 Installing Replication Server on 64-bit machines

On 64-bit machines, Replication Server version 12.6 cannot be installed in the same directory structure as Adaptive Server.

### 3.4 Other sources of installation information

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

- *Replication Server Installation Guide on UNIX Platforms* contains instructions for installing Replication Server version 12.6.

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 Platforms* 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 Sybase SQL Server®, see its installation and configuration documentation regarding upgrading replicated databases.

### 3.5 Updating Sybase Central icons from earlier versions

In Replication Server version 11.5, the Sybase Central files were installed in `C:\Sybtools`. In Replication Server version 12.6 and Sybase Central version 3.2, the Sybase Central files are installed in `%SYBASE%\Sybase Central\Win32`. The Replication Server plug-in files for Sybase Central are installed in `C:\%SYBASE%\SYBASE_RSP%`. You must update existing Sybase Central icons from earlier versions of Replication Server to point to the new directory.

You can install the software on a drive other than the `C:` drive; if so, substitute the drive name (for example `D:`) above.

## 4. Special upgrade and downgrade instructions

The *Replication Server Configuration Guide for UNIX Platforms* 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 12.6.

### 4.1 Upgrading FlexLM license daemon

Replication Server version 12.6 comes with FlexLM license daemon version 8.3. If you have existing `lmgrd` and `SYBASE` license daemon, you must first upgrade them before you can use version 12.6 of Replication Server.

#### v **Upgrading the license server after installing Replication Server version 12.6**

Perform these steps after you have installed

- 1 Shutdown the license server with the following command at the prompt:  

```
$SYBASE/$SYBASE_SYSAM/bin/lmutil lmdown
```
- 2 Restart the license server using the `startd.sh` file:

```
$SYBASE/$SYBASE_SYSAM/bin/startd.sh $SYBASE/$SYBASE_SYSAM
```

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**Note** Earlier versions of Adaptive Server Enterprise, Replication Server and Replication Agents compatible with version 8.3 of FlexLM, and not affected when you upgrade Imgrd and SYBASE.

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## 4.2 Upgrading route versions

If you have a primary Replication Server version 12.0 or 12.1 that you plan to upgrade to version 12.6 and you have a replicate Replication Server already upgraded to version 12.6, use `route_upgrade` in the Replication Server Manager instead of the `rs_fast_route_upgrade` stored procedure to upgrade the related route to the replicate Replication Server.

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 1260 even if your primary Replication Server has not yet been upgraded to version 12.6.

If this applies to your replication system and you are upgrading to Replication Server version 12.6, the upgrade script stops and tells you to fix the route version before upgrading to version 12.6.

## 4.3 Changes in monitor counter information

This version of Replication Server includes changes in the monitor counters, such as their display name, counter ID, module, and descriptions.

If you upgrade from a version of Replication Server that is earlier than the 12.5 SMP EBF release, the monitor counter sampling data stored in the `rs_statdetails` table and the `rs_statscounter` table no longer match.

## 4.4 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 12.6, 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 changed functionality

The new features are:

- Multisite availability (MSA) – extends Replication Server replication capabilities and can make the process of setting up a replication system both faster and easier.
- Support for multiprocessors – lets you run Replication Server on either multiprocessor or single-processor platforms.
- Embedded RSSD (ERSSD) – Replication Server can run either on an Adaptive Server Replication Server System Database (RSSD) or on an Embedded RSSD (ERSSD). ERSSD is designed for users who do not want to manage the Replication Server RSSD in Adaptive Server. Replication Server is easier to install and manage with ERSSD.

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**Note** Since Adaptive Server Anywhere does not support SGI, the Embedded RSSD feature is not available on SGI.

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- date and time datatypes – there are two new datatypes, date and time, in Replication Server. These datatypes extend the existing datetime and smalldatetime datatypes, providing date and time columns to replicate and standby databases. Both are fixed-width 4-byte datatypes that support rs\_subcmp, and mixed-version environments.
- Encrypted passwords – Replication Server 12.6 supports the -X option in isql that sends encrypted passwords through the network when making a client connection.
- New bulk materialization method – Replication Server 12.6 supports a new bulk materialization method for copying or moving a database from a source Adaptive Server to a destination Adaptive Server without shutting down the source Adaptive Server. The Adaptive Server quiesce database ... to *manifest\_file* and mount commands let you quiesce the server and copy or move the database.

- GB18030 Chinese character set support – Replication Server supports all character sets supported by Adaptive Server Enterprise. Accordingly, Replication Server 12.6 supports the GB18030 Chinese character set as a server-wide character set.
- Cluster support
- SSL 3.5.1
- FlexLM 8.3
- Replication Manager Plug-in for Sybase Central Java Edition

Performance enhancements include:

- Better management of empty transactions
- Internal commit control for parallel processing

See Chapter 16, “Performance Tuning,” in the *Administration Guide* for detailed information about these enhancements.

For detailed descriptions of the new features and functionality in Replication Server version 12.6, see *What's New in Replication Server 12.6?*

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**Note** The Advanced Security option with Secure Sockets Layer (SSL) support, introduced as a new feature in *What's New in Replication Server 12.5?* is not available for Silicon Graphics.

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## 5.1 rs\_configure system procedure no longer supported

Replication Server version 12.6 does not support the rs\_configure system procedure. rs\_configure functionality is duplicated by the configure replication server and alter connection Replication Command Language (RCL) commands.

## 5.2 Replication Server plug-in and RSM Server must be at same version

Both the Replication Server plug-in and RSM Server must be the same version level for the Replication Server plug-in for Sybase Central to work. For example, Replication Server plug-in version 12.0 cannot operate with RSM Server version 12.6.

## 5.3 Shutting down Replication Server 12.6 before running SQL scripts that modify RSSD

Every time you run a SQL script that modifies the Replication Server System Database (RSSD), you must shut down Replication Server before running the script, then restart it after running the script. This is because of changes to the way heterogeneous datatype information is cached.

## 6. Known problems

This section documents known problems in Replication Server version 12.6. 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 12.6:

- `spr_rs` – open problem reports
- `cpr_rs` – closed problem reports

Open problem reports for the Replication Manager plug-in are in the `$SYBASE/RMP-12_6/install/spr/spr_rmp` file.

#### Replication Server plug-in

Open and fixed problem reports for Replication Server plug-in are in the Windows `%SYBASE%\%SYBASE_RSP%\install\spr` directory. The following files contain problem reports for this version of the Replication Server plug-in for Sybase Central:

- `spr_rsmc` – open problem reports
- `cpr_rsmc` – closed problem reports

#### RSM Server

Open and fixed problem reports for the RSM Server software that interfaces with the Replication Server plug-in are in the `$SYBASE/$SYBASE_RSM/install/SPR` directory. The following files contain problem reports for Replication Server version 12.6:

- `spr_rsm` – open problem reports
- `cpr_rsm` – closed problem reports

## 6.2 Highlighted problems with Replication Server

This section describes problems with Replication Server.

### 6.2.1 Replication Server does not preprocess table names qualified with database name

**[CR #332068]** When you use the Adaptive Server plug-in to issue database-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.

### 6.2.2 converting binaries using create subscription where clause

**[CR #287116]** In the where clause of the create subscription command, you cannot convert binaries with a length of 7 bytes or fewer into integers.

*Workarounds:* Use zeros to pad binary values up to 8 bytes, or use integer values instead of binary values.

### 6.2.3 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
```

### 6.2.4 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 Data Server Interface (DSI) goes down with error 5147 if you replicate a row from a table that allows the NULL value.

*Workaround:* None.

### 6.2.5 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.

### 6.2.6 Route upgrade process sometimes stalls

**[CR #235002]** Sometimes when the RSM initiates a route upgrade process, the route upgrade process stalls.

*Workaround:* Restart either Replication Server involved in the route upgrade. To avoid having to restart the route upgrade process, try to restart the Replication Server at the “far” end of the route; that is, the second of the two Replication Servers specified in the RSM route upgrade command.

### 6.2.7 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.

### 6.2.8 Warm standby replication definition not recognized for non-DBO qualified table with more than 128 columns

**[CR #227308]** Replication Server reports an error after creating a warm standby replication definition for a non-DBO qualified table with more than 128 columns.

*Workaround:* Re-create table as DBO.

### 6.2.9 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 description 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.

#### 6.2.10 DSI shuts down

**[CR #215616]** Replication Server reports an error and the Data Server Interface (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.

#### 6.2.11 *delete* command for multiple rows may not replicate correctly

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

*Workaround:* Use any one of the following workarounds:

- Use stored procedure replication.
- Drop the constraint on the replicate table.
- Do not use bulk deletes on tables with self-referential foreign-key constraints.

#### 6.2.12 Cannot start Replication Server without -S flag

**[CR #65722]** You cannot use the DSLISTEN environment variable to specify the Replication Server name. Replication Server hangs 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 Highlighted RSM Server problems

This section discusses problems with the RSM Server portion of Replication Server Manager.

### 6.3.1 Permissions needed by RSSD user specified as primary user

**[CR# 351876]** Unless granted certain RSSD database permissions, the primary user specified by the Replication Server Manager (RSM) cannot perform its management tasks.

The user name and password of the primary user are specified during execution of the Add Server wizard, which adds a Replication Server to the RSM environment. This primary user must have RSSD permissions that allow it to establish stored procedures in the RSSD and retrieve data from the RSSD.

*Workaround:* For the RSSD, grant the primary user specified by the RSM permission to execute:

- create procedure
- create table
- select on the rs\_tvalues table
- execute on the rs\_configure Replication Server stored procedure

### 6.3.2 RSM Server does not convert where clause data correctly

**[CR #334216]** When displaying where clause data, the Replication Server plug-in and the RSM Server convert and display the binary data stored by the Replication Server depending on the datatype.

*Workaround:* None.

### 6.3.3 Stopping RSM Server

**[CR #278653]** When running RSM Server on a computer using the Windows 2000 operating system, stopping the service from the Windows 2000 Services Manager results in an error message indicating that the service cannot be stopped.

*Workaround:* It is safe to ignore this message. The service is successfully stopped.

### 6.3.4 RSM creates invalid servers if the server name is not unique

**[CR #232866]** RSM uses the Replication Agent parameter `rs_source_ds` as the server name when setting up a non-Sybase data server. Server names must be unique in an RSM replication environment.

*Workaround:* Verify that the Replication Agent configuration parameter `rs_source_ds` is not set to a name that already exists in the RSM replication environment.

### 6.3.5 RSM Server 11.5.1 crashes

**[CR #231063]** RSM Server 11.5.1 crashes when it reaches the configuration's default memory limit of 20MB. This occurs several weeks after creating a connection and when the connection to the Replication Server plug-in frequently drops.

*Workaround:*

- 1 Copy `/libtli.so/` and `/libtli_r.so/` from Open Client 11.1.1 EBF 8887 to the `$SYBASE/lib` directory.
- 2 Upgrade to RSM Server 12.1.

### 6.3.6 RSM displays some configuration parameters that cannot be modified

**[CR #230252]** Some of the configuration parameters displayed in the configuration dialog allow the user to change their values, but at start-up, the value is always set to the default value.

For example, the `client_connections` parameter value is always set to `MAX(num_users + 1,30)` at start-up.

### 6.3.7 Latency graph does not show correct latency when replicating from ASA database

**[CR #226034]** The Adaptive Server Anywhere (ASA) Log Transfer Manager (LTM) does not properly fill in the Log Transfer Language (LTL) with a correct commit time in the origin database. The value of the time of the last checkpoint is used instead. This causes the latency time and graph to continually diverge between ASA checkpoints.

*Workaround:* None.

### **6.3.8 Error message with diagnose subscription feature**

**[CR #212611]** The Diagnose subscription feature generates an error message when executed against a non-Sybase data server. The RSM Server attempts to send the dbcc\_gettrunc command to the non-Sybase data server.

*Workaround:* None.

### **6.3.9 RSM Server displays incorrect configuration parameters for managed RSM Servers**

**[CR #210658]** If you select a managed RSM Server and issue the configure command, the Replication Server plug-in displays the configuration parameters for the controlling RSM Server instead of the managed RSM Server.

*Workaround:* Do not modify configuration parameters for managed RSM Servers.

### **6.3.10 RSM Server configuration dialog incorrectly displays “Restart Required”**

**[CR #202931]** The RSM Server configuration dialog incorrectly displays “Restart Required” for security parameters.

*Workaround:* Security parameters do not require that the server be restarted to take effect.

### **6.3.11 RSM Server may go down while reading log files that are being written**

**[CR #202055]** The RSM Server may go down if it tries to read a log file that is being written to at the same time. This may happen more often in an environment where the log file is not NFS-mounted (local disk) and all involved servers are on the same machine.

*Workaround:* Do not read the log during periods of high activity for the RSM Server.

### 6.3.12 replication\_role not given to maintenance users through Sybase Central

**[CR #171450]** When you create a “replication-only” connection in Sybase Central, replication\_role permission is not automatically granted to the maintenance user, as it is when you create a “replicate and primary connection.” You cannot replicate truncate table commands to replicate-only connections made through Sybase Central unless you grant replication\_role permission to the connections.

*Workaround:* None.

### 6.3.13 RSM Server encrypted passwords are not updated

**[CR # 173595]** When encryption is on, encrypted passwords used by RSM Server to log in to other servers are not updated when plain text passwords change.

*Workaround:*

- 1 Turn the encryption off.
- 2 Reestablish updated passwords.
- 3 Turn the encryption on.

### 6.3.14 Auto Refresh does not work for remote RSM Server

**[CR #174132]** If you obtain log file entries through a remote RSM Server, the Auto Refresh feature does not work. New entries to the remote log do not automatically generate log file events.

*Workaround:* To update log file entries, manually refresh the window.

### 6.3.15 Restrict access to configuration files

**[CR #173689]** rsmgen creates \*.rsm files in the \$SYBASE/admin/config directory. \*.servers.rsm is created with read/write permissions for all three groups (user, group, others), and \*.users.rsm is created with read permission for all three groups. This exposes logins and password information to everyone.

*Workaround:* Restrict access to the configuration files and the directory containing them using the chmod command, so that only the RSM Server administrator can read and write to them.

### 6.3.16 RSM Server does not show all possible route status

**[CR #169962]** The status of routes as shown by Sybase Central has two possible values:

- Up
- Down

Since Sybase Central does not show whether these routes are being created or were dropped, you cannot determine if route creation is complete by simply looking at the route status in Sybase Central.

*Workaround:* When the route drop/add connection is complete, refresh the screen to reveal the correct route status.

### 6.3.17 Primary RSSD user requires necessary permissions

**[CR #343934]** The primary RSSD user must have the necessary permissions to modify tables and execute stored procedures in the RSSD.

When adding a Replication Server to an RSM environment, the Add Server wizard requests a primary RSSD user name and password. This primary RSSD user must be able to insert, update, and delete tables in the RSSD; create and drop tables in the RSSD; and execute stored procedures in the RSSD.

*Workaround:* Grant the necessary permissions to the primary RSSD user name requested by the Add Server wizard.

## 6.4 Replication Manager problems

This section discusses problems with the Replication Manager.

### 6.4.1 Class paths required for registration

**[CR #338468]** The installation process automatically registers the Replication Manager plug-in, although you can also use the *registerRM* script or use the Sybase Central plug-in dialog to register the plug-in. You cannot, however, register using the Sybase Central plug-in dialog, unless you supply class path information.

*Workaround:* You must supply the class path that is specific to the plug-in. Add the following JAR files to the class path for the Replication Manager, where *sybase\_directory* is the name of your Sybase directory:

- *sybase\_directory/shared-1\_0/lib/ldap.jar*

- `sybase_directory/shared-1_0/lib/dsparser.jar`
- `sybase_directory/RMP-12_6/lib/asa.jar`
- `sybase_directory/RMP-12_6/help/rmen.jar`
- `sybase_directory/jConnect-5_5\classes\jconn2.jar`

#### 6.4.2 Parameter page allows entering of invalid value

**[CR #338066]** The Replication Manager plug-in has several different configuration parameter tables with entries that you can change. For all of these tables, entries that have alphanumeric fields such as “on” or “off” do not stop you from entering invalid entries. In addition, the properties table also allows users to enter numeric entries into alphanumeric fields.

*Workaround:* None.

#### 6.4.3 Plug-in must be unregistered after uninstallation

**[CR #337408]** The uninstallation process for the Replication Manager plug-in 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 Replication Manager plug-in.

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

#### 6.4.4 Deleted logical connection is not immediately removed

**[CR #336882]** The logical server object displayed in the Sybase Central tree view is not removed immediately when you delete its associated logical connection.

*Workaround:* Refresh the Sybase Central viewer after deleting the logical connection to remove the logical server object.

#### 6.4.5 New active connection suspends when created

**[CR #336879]** When you create a logical connection from an existing physical connection, the Replication Agent on the active connection becomes suspended, and you see an error in the Replication Server’s log that the -W warm standby option must be set on the active database’s Replication Agent.

*Workaround:* The plug-in correctly configures the Replication Agent properties for the database, but you must manually resume the active connection after creating the logical connection.

#### **6.4.6 Logical connection menu does not contain Switch Active command**

**[CR #336875]** The Switch Active and Abort Switch commands do not appear on the logical connection menu under the logical server icon in Sybase Central.

*Workaround:* Use the menu from the items in the Replication Server logical connection folder.

### **6.5 Replication Server plug-in problems**

This section discusses problems with the Replication Server plug-in portion of Replication Server Manager.

#### **6.5.1 Topology arrow shows only outbound connection**

**[CR #272411]** When displaying a Replication environment using the Replication Server plug-in's topology view, only the outbound connection is visible, so that although an arrow is displayed from the Replication Server to an Adaptive Server database, no arrow is displayed from the Adaptive Server database (with RepAgent) to the Replication Server.

*Workaround:* Although there is no direct workaround for this CR, you can inspect the route status to reveal the status and direction of current connections.

#### **6.5.2 Add Server Wizard has problems with RSSD names longer than 20 characters when adding Replication Server**

**[CR #266301]** When you add a Replication Server to an RSM domain, the RSSD Login Information window becomes formatted incorrectly if the RSSD name is longer than 20 characters.

*Workaround:* Use an RSSD name that is no longer than 20 characters.

#### **6.5.3 *sp\_reptostandby* and replicated procedures are reported incorrectly**

**[CR #257260]** Databases marked with *sp\_reptostandby* and stored procedures marked for replication do not show as replicated by Replication Server plug-in.

*Workaround:* None.

### 6.5.4 Database name missing when generating DDL for publication subscriptions

**[CR #240376]** When you use the Replication Server plug-in to generate data definition language (DDL) for a publication subscription, the database name for the with primary at clause is missing.

*Workaround:* Add the primary database name to the script.

### 6.5.5 Replication Server plug-in 11.5 and 12.0 do not detect that a partition of the stable device has been dropped

**[CR #228415]** The Replication Server plug-in always reports partitions as online, never as online/dropped. This indicates that there is available space on the stable device; you may not notice that a partition is being dropped.

Additionally, the Replication Server plug-in is calculating the actual free space of the stable device incorrectly and, therefore, threshold events that depend upon the free space are called at the wrong time.

*Workaround:* Log directly in to the Replication Server and issue the command `admin disk_space` to see the actual status of the partitions.

### 6.5.6 Cannot drag and drop a managed RSM onto the topology view

**[CR #211282]** With Replication Server plug-in in either the tree view or the list view, you cannot drag and drop a managed Replication Server plug-in onto the topology view.

*Workaround:* Add the RSM Server using the New Server menu option on the topology view.

### 6.5.7 Replication Server plug-in does not know if an existing replication definition is Applied or Request

**[CR #211162]** When you display the properties of an existing replication definition, neither the Applied nor the Request check box in the dialog box is selected.

*Workaround:* None.

### 6.5.8 Managed RSM Server displays its icon incorrectly

**[CR #211283]** When the managed RSM Server is in a “DEAD” state, it does not correctly display its icon.

*Workaround:* Although the icon does not correctly display the dead status, the status column does correctly indicate “DEAD.”

### 6.5.9 Cannot remove server events with long data server and database names

**[CR #189593]** When you try to remove a server event where the DS.DB\_name (data server and database name) is longer than 30 characters, the Replication Server plug-in returns this error message:

```
Tried to access an unknown Latency Event -  
'DataServer_and.DataBase_name_more_than_30_char.RS
```

*Workaround:* Make sure the DS.DB\_name does not exceed 30 characters.

### 6.5.10 Long column names not retained in “View exceptions”

**[CR #189404]** The Replication Server plug-in shortens long column names in the “View exceptions” view after you select “Resume connection...skip transaction” for a transaction. If you use the commit command on these truncated transactions, you get a syntax error because an incomplete command was executed.

*Workaround:* None.

### 6.5.11 Multibyte passwords

**[CR #143577]** The Replication Server plug-in does not accept passwords containing multibyte characters.

*Workaround:* Use passwords with single-byte characters.

## 6.6 Highlighted *rs\_init* problems

This section discusses problems with *rs\_init*, the Replication Server configuration utility.

### 6.6.1 *rs\_init* does not support asian character sets

**[CR #342014]** The *rs\_init* localization files for these character sets are missing in the *\$SYBASE/locales/us\_english/<charset>/sybinit* directory:

- deckanji
- eucgb
- eucjis

- eucksc
- gb18030

If you specify one of these character sets, and `sjisrs_init` does not work in English when you specify the `-c` parameter.

*Workaround:* Copy all the files from the `$$SYBASE/locales/us_english/iso_1/sybinit` directory to the `$$SYBASE/locales/us_english/<charset>/sybinit` directory, where *charset* is one of the following character sets:

- deckanji
- eucgb
- eucjis
- eucksc
- gb18030
- sjis

`rs_init` also will not run in any non-english language using the utf8 character set, where the user specifies “-c utf8” on the `rs_init` command line. In this situation, the user can use any other supported character set when running `rs_init` in that non-English language.

### 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 fails to start because of this.

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

### 6.6.3 Must specify LTM name when using RepAgent

**[CR #143031]** If you are using:

- `rs_init` with a resource file to install a Replication Server or replicated database, and
- RepAgent

You see this error in the `rs_init` error log where *LTM name* is the name specified in the resource file:

```
The attribute 'do_add_ltm' is set to no, but there is
no entry in the interfaces file for Log Transfer Manager
'LTM name'.
```

*Workaround:* You must fill in a “dummy” name for the obsolete Log Transfer Manager.

#### 6.6.4 `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.

#### 6.6.5 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.

## 7. Product compatibilities

This section contains information about products that are compatible with Replication Server version 12.6.

### 7.1 Adaptive Server compatibility

Replication Server version 12.6 is fully compatible with Adaptive Server Enterprise version 12.51.

Replication Server version 12.6 can run on:

- The same 32-bit machine running 32-bit version of Adaptive Server version 12.5.1
- The same 64-bit machine running a 64-bit version of Adaptive Server 12.5.

See your Adaptive Server 12.5 documentation for more information on product requirements.

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

---

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

---

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

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

**Table 1: Interoperability between Replication Server, Open ClientServer, and Adaptive Server**

<b>Adaptive Server 12.5.1</b>	<b>Adaptive Server 12.0</b>	<b>Open Client/Server 12.5.1</b>	<b>Open Client/Server 12.0</b>	<b>Replication Server 12.6</b>	<b>Replication Server 12.5</b>	<b>Replication Server 12.1</b>
Apple Mac OS X	N/A	X	N/A	X	N/A	N/A
HP Tru64 UNIX 5.x	X	X	X	X	X	X
HP HP-UX 11.x	X	X	X	X	X	X
IBM RS/6000 AIX 4.3.x	X	X	X	X	X	X
IBM RS/6000 5.1	X	X	X	X	X	X
Linux Red Hat 7.2	N/A	X	N/A	X	X	N/A
Silicon Graphics IRIX	N/A	X	X	X	X	N/A
Sun Solaris	X	X	X	X	X	X
Microsoft Windows	X	X	X	X	X	X

### Legend

- X = compatibility
- N/A = incompatibility, or the product is not available for that version/platform combination

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 product and other compatibility reports, see Interoperability Matrix Technote at <http://my.sybase.com/detail?id=1026087>.

## 8. Documentation updates and clarifications

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

### 8.1 Replication Server 12.5 Performance EBF

**[CR# 339066]** The formula on page 8 for estimating the number of mutexes necessary for Replication Server to start is incorrect. The correct formula is:

$$\text{num\_mutexes} = 200 + 15 * RA\_USER + 2 * RSI\_USER + 20 * DSI + 5 * RSI\_SENDER + RS\_SUB\_ROWS + \text{SETTING}(cm\_max\_connections) + ORIGIN\_SITES$$

Where:

- *RA\_USERS* – the number of RepAgents connecting to the current Replication Server.
- *RSI\_USER* – the number of Replication Servers that connect to the current Replication Server using routes.
- *DSI* – the number of databases to which the current Replication Server connects for subscription-based or warm standby replication.
- *RSI\_SENDER* – the number of Replication Server to which the current Replication Server connects using routes.
- *RS\_SUB\_ROWS* – the number of rows in the rs\_subscriptions RSSD table.

---

**Note** If the current Replication Server is a primary or intermediate Replication Server, the number of rows in rs\_subscriptions may not equal the number of subscriptions created at this Replication Server.

---

- *SETTING(cm\_max\_connections)* – the current Replication Server setting for cm\_max\_connections. The default is 64.

- *ORIGIN\_SITES*—the number of origins that can send messages through the current Replication Server.

---

**Note** The number of origins includes all origins supported by the RepAgent and all origins supported directly or indirectly through routes.

---

## 8.2 What's New in Replication Server 12.6?

The Embedded Replication Server System Database (ERSSD) feature described in *What's New in Replication Server 12.6?* and *Replication Server Administration Guide* is not available on SGI platforms.

## 8.3 Administration Guide

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

### 8.3.1 sp\_setrepdefmode stored procedure

Add the sp\_setrepdefmode stored procedure to the list of data definition language (DDL) commands in the Chapter 15, “Managing Warm Standby Applications” in the *Administration Guide*.

### 8.3.2 Replicating system databases

Add the following information to the section, “Mixed versions of Adaptive Server” in Chapter 1, “Introduction” of the *Replication Server Administration Guide*:

---

**Note** Sybase does not support replication of Adaptive Server system databases, such as master, tempdb, model, sybtempprocs, sybsecurity, sybtempdb.

---

Some capabilities of Replication Server version 12.5 require you to use an Adaptive Server version 12.5 or later.

### 8.3.3 Ensuring transactional integrity

[CR 337459] Add this information to Chapter 16, “Performance Tuning.”

Sybase recommends that you do not set `dsi_commit_control` to off and then set `dsi_serialization_method` to `no_wait` because this may result in transactions committing out of order.

### 8.3.4 *ignore\_origin* rule

The new Replication Server partitioning rule `ignore_origin` is not documented in the *Administration Guide* or the *Reference Manual*.

All partitioning rules, with the exception of `ignore_origin`, allow transactions from different origins to be applied in parallel—regardless of other specified partitioning rules. For example:

```
alter connection dataserver.db
set dsi_partitioning_rule to "name"
```

In this case, transactions with different origins are allowed to be applied in parallel, whether or not they have the same name.

The name partitioning rule only affects transactions from the same origin. Thus, transactions with the same origin and name are applied serially, and transactions with the same origin and different names are allowed to be applied in parallel.

`ignore_origin` overrides the default handling of transactions from different origins, and allows them to be partitioned as if they all came from the same origin.

If `ignore_origin` is listed first in the alter connection statement, Replication Server partitions transactions with the same or different origins according to the second or succeeding rules in the statement. For example:

```
alter connection dataserver.db
set dsi_partitioning_rule to "ignore_origin, name"
```

In this case, all transactions with the same name are applied serially and all transactions with different names are allowed to be applied in parallel. The origin of the transaction is irrelevant.

If `ignore_origin` is listed in the second or a succeeding position in the alter connection statement, Replication Server ignores it.

## 8.4 *Reference Manual*

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

### 8.4.1 *rs\_configure* stored procedure changes

The *rs\_configure* stored procedure is obsolete. It has been replaced by *configure replication server*, *alter connection*, and *alter route* commands. The *Replication Server Reference Manual* no longer contains information about *rs\_configure*.

Use *configure replication server* to configure a parameter for all instances. Use *alter connection* or *alter route* to configure a parameter for a specific connection or route.

### 8.4.2 *rs\_helpcounter* stored procedure examples

The examples for the *rs\_helpcounter* procedure in *Replication Server Reference Manual* are incorrect. Replace them with the following:

#### Examples

**Example 1** Lists all module names and syntax for using *rs\_helpcounter* to find detailed information:

```
1> rs_helpcounter
2> go
```

```
ModuleName
-----
CM
DIST
DSI
DSIEXEC
REPAGENT
RSI
SQM
SQMR
SQT
STS
SYNC
SYNCELE
(12 rows affected)

rs_helpcounter
```

#### How to Use *rs\_helpcounter*

```
-----

rs_helpcounter [intrusive | sysmon | rate | duration | internal
               | must_sample | no_reset | keep_old | configure]
rs_helpcounter ModuleName [, {type | short | long}]
```

```
rs_helpcounter keyword    [, {type | short | long}]
```

```
(return status = 0)
```

**Example 2** Displays all of the counters with the SQMR module name:

```
1> rs_helpcounter sqmr, type
2> go
```

Display Name	Module Name	Counter Type	Counter Status
-----	-----	-----	-----
BlocksRead	SQMR	Total	0000008c
BlocksReadCached	SQMR	Total	0000008c
CmdsRead	SQMR	Total	0000008c
SleepsStartQR	SQMR	Total	00000000
SleepsWriteQ	SQMR	Total	00000004
XNLInterrupted	SQMR	Total	00000000
XNLPartials	SQMR	Total	00000000
XNLReads	SQMR	Total	00000000

```
(8 rows affected)
```

Table 2 shows the definitions of the bitmap strings in the Counter Status column. For more information, see the *Replication Server Administration Guide*.

**Table 2: Status column definitions**

Bitmap string	Datatype	Definition
CNT_INTRUSIVE	int	0x001
CNT_INTERNAL	int	0x002
CNT_SYSMON	int	0x004
CNT_MUST_SAMPLE	int	0x008
CNT_NO_RESET	int	0x010
CNT_DURATION	int	0x020
CNT_RATE	int	0x040
CNT_KEEP_OLD	int	0x080
CNT_CONFIGURE	int	0x100

### 8.4.3 admin statistics, sysmon command changes

Update syntax, parameters, and examples section of the admin statistics, sysmon command in the *Reference Manual* with the following:

**admin statistics**

Description	Displays information and statistics about Replication Server counters.
Syntax	<code>admin statistics, { <i>module_name</i> [, <i>display_name</i>]   'all_modules'   sysmon   [, <i>sample_period</i>]   'flush_status' }</code>
Parameters	<ul style="list-style-type: none"> <li>• <i>module_name</i> – displays statistics from all of a module's active counters, where <i>module_name</i> is dsi, dsiexec, sqt, dcm, dist, rsi, sqm, sqmr, sync, syncele, repagent, mem, md, or mem_in_use. When used with <i>display_name</i>, <i>module_name</i> returns statistics from one of the module's counters. You can obtain valid module names by using <code>rs_helpcounter</code>.</li> <li>• <i>display_name</i> – displays the name of a counter and is used to identify counters for RCL. You can obtain valid display names by using <code>rs_helpcounter</code>.</li> <li>• <i>all_modules</i> – displays statistics from all active counters.</li> <li>• <i>sysmon</i> – displays statistics for modules enabled for flushing. Only counters with <i>sysmon</i> status are displayed.</li> <li>• <i>sample_period</i> – is the number of seconds for the sample run.</li> <li>• <i>flush_status</i> – indicates which module's counters are flushed or reported, either when flushing counters to the RSSD or when using <code>admin statistics</code>, <code>sysmon</code>.</li> </ul>
Examples	<p><b>Example 1</b> Displays information for the DSI module and connection <code>rds03.tpcc</code>.</p>

---

**Note** The information appears in a horizontal format on your screen – that is, the counter names are spread out horizontally on the screen.

---

```
1> admin statistics,sysmon
2> go
```

```
Sybase Replication Server Statistics Report
```

```
=====
```

```
RepServer Name: prs03
```

```
Report Time: 11/10/03 01:22:53 PM
```

```
=====
```

```
RepServer Runtime Configurations
```

```
-----
```

```
memory_limit:      900
```

```
init_sqm_write_delay:      1000
```

```
init_sqm_write_max_delay:      10000
```

```
sqm_write_flush:      off
```

```

sqt_max_cache_size:          104857600
sqt_init_read_delay:         1000
sqt_max_read_delay:          1000
sts_cachesize:               200
sqm_recover_segs:            1
smp_enable:                   off
=====
DSI Statistics
-----
Info          Instance_ID Instance_Val TransTotal NgTransTotal
TransSucceeded CmdGroups TransInCmdGroups CmdGroupsCommit
CommitsInCmdGroup CmdsSucceed GroupsClosedBytes GroupsClosedNoneOrig
GroupsClosedTranPartRule PartitioningWaits AllThreadsInUse
AllLargeThreadsInUse ExecsCheckThrdLock TrueCheckThrdLock
CommitChecksExceeded GroupsClosedTrans
-----
-----
-----
-----
-----
104 rds03.tpc  104      -1      44      875      45
44      875      45      895      0
0      0      0      0      0
44      0      0      0      0
0      0
Info          Instance_ID Instance_Val TransApplied NgTrans
CmdsApplied TransMaxGroup MemUsedMaxGroup SysTransRead InsertsRead
UpdatesRead DeletesRead ExecsWritetext TPS_Average NgTPSaverage
ErrsDeadlock ErrsOutOfLock SendTimeAvg DSIEBPSaverage TransAvgGroup
MemUsedAvgGroup SendRPCTimeAvg DSIEResultTimeAve DSIEBatch
DSIEBatchTimeAve DSIEBatchSizeMax DSIEBatchSizeAve DSIEOCmdCountAve
DSIEICmdCountAve DSIEBFCommitNext DSIEBFMaxCmds DSIEBFMaxBytes
DSIEFMapTimeAve DSIESCCTimeAve DSIESCBTimeAve DSIETranTimeMax
DSIETranTimeAve
-----
-----
-----
-----
-----
104(1) rds03.tpc  104      1      44      875

```

13790	20	211161	0	3801
7899	333	0	0	0
0	0	0	29	19
0	5	44	7	154941
7077	19	20	90	8182
523	0	0	0	0
95				74

**Example 2** Displays the total memory in use in bytes.

```
admin statistics, mem_in_use

Memory_in_Use
-----
14215074
```

**Example 3** Displays the value of the DSIETranTimeAve counter in the DSIEXEC module:

```
1> admin statistics,dsiexec,DSIETranTimeAve
2> go
Info                               Instance_ID  Instance_Val  DSIETranTimeAve
-----
105 (1) rds04.tpc                 105          1             0
104 (1) rds03.tpc                 104          1             95
101 (1) edsprs03.edbprs03         101          1             0
```

Usage	Displays statistics information, currently available or accumulated over a specified period of time. When the option flush_status is used, admin statistics displays the current flushing status of the various modules.
Permissions	Any user can execute this command.
See also	admin stats_config_connection, admin stats_config_route, admin stats_config_module.

8.4.4 admin statistics, sysmon command example

The first example in the Replication Server command admin statistics, sysmon is incorrect. In its place, see the following output, which appears when you have configured no counters to flush:

```
Sybase Replication Server Statistics Report
=====
```

```

RepServer Name:          SAMPLE_RS

Start Date:              10/14/03 01:51:40 PM

End Date:                10/14/03 01:51:41 PM

Sample Interval (secs): 1

```

```

=====

RepServer Runtime Configurations
-----

```

```

memory_limit:            20

init_sqm_write_delay:    1000

init_sqm_write_max_delay: 10000

sqm_write_flush:         on

sqt_max_cache_size:      1048576

sqt_init_read_delay:     2000

sqt_max_read_delay:      10000

sts_cachesize:           100

sqm_recover_segs:        1

smp_enable:              off

```

#### 8.4.5 *rs\_subcmp* procedure changes

Add the following bullet to the *rs\_subcmp* procedure in the *Replication Server Reference Manual*:

- Using the `set textsize Adaptive Server` command as part of the `select` statement can limit the amount of text compared. The following example shows the effect of setting the text size to 10. The first `select` statement returns 30 characters of text:

```
set textsize 30 select * from zetext
```

a	b	c
abba	apples	odd one here
beta	banana	rotten
caro	celery	not carrots

The next select statement sets the textsize to 10:

```
1> set textsize 10 select * from zetext
2> go
```

a	b	c
abba	apples	odd one
beta	banana	rotten
caro	celery	not carrots

(3 rows affected)

8.4.6 rs\_statcounter table

**[CR336244]** A description of the rs\_statcounter table was not included in Chapter 8, “Replication Server System Tables.”

Description Stores descriptive information about each counter. These values do not change.

Column	Datatype	Description
counter_id	int	Unique counter identification number
counter_name	varchar(60)	Descriptive counter name
module_name	varchar(30)	Name of module to which the counter belongs
display_name	varchar(30)	Counter name used for RCL commands
counter_type	int	Counter records values of these types: <ul style="list-style-type: none"><li>1 – total</li><li>2 – last</li><li>3 – maximum</li><li>4 – average</li></ul>

Column	Datatype	Description
counter_status	int	Counter status. Bit-mask values are: <ul style="list-style-type: none"> <li>• 0x001 – intrusive counter (only recorded if intrusive counters are turned on)</li> <li>• 0x002 – internal use, does not display</li> <li>• 0x004 – sysmon (counter flushed as output of admin statistics, sysmon)</li> <li>• 0x008 – must sample (counter sampled at all times)</li> <li>• 0x010 – no reset (counter is never reset)</li> <li>• 0x020 – duration (typically also intrusive, counter records amount of time to complete an action—usually in .01 seconds)</li> <li>• 0x040 – rate (counter measures rate, usually in units per second)</li> <li>• 0x080 – keep old (previous value of counter retained, usually to aid calculation during next observation period)</li> <li>• 0x100 – configuration (counter records current configuration values)</li> </ul>
description	varchar(255)	Description of counter

Indexes Unique, clustered key rs\_key\_statcounters on (counter\_id)

#### 8.4.7 rs\_statdetail table

**[CR336244]** A description of the rs\_statdetail table was not included in Chapter 8, “Replication Server System Tables.”

Description Stores counter metrics that have been flushed to the RSSD.

Column	Datatype	Description
run_id	rs_id	Number assigned to the run or observation period.
instance_id	int	An ID that identifies a module instance.  Counters are grouped by modules. A module may have one instance or multiple instances. Defined module IDs are used when available. For example, the instance_id for a DSI module is the database ID associated with the DSI.
instance_val	int	An ID that identifies a module instance when instance_id cannot identify it uniquely.
counter_id	int	Unique counter identification number.
counter_val	int	Value of counter for the current run or observation period.
label	varchar(255)	Descriptive information about the module instance associated with the counter, such as the data server and database name.

Indexes Unique, nonclustered key rs\_key\_statdetail on (run\_id, instance\_id, instance\_val, counter\_id)

### 8.4.8 *rs\_statrun* table

**[CR336244]** A description of the *rs\_statrun* table was not included in Chapter 8, “Replication Server System Tables.”

Description Stores descriptive information about each observation period or run.

Column	Datatype	Description
run_id	rs_id	Number assigned to an observation period or run.
run_date	datetime	Date and time of observation period or run.
run_interval	int	Duration of observation period or run in seconds.
run_user	varchar(30)	Name of user who flushed the counters to the RSSD. Value is dSTATS for the Statistics daemon.
run_status	int	Status of run.

Indexes Unique, nonclustered key *rs\_key\_statdetail* on (*run\_id*)

### 8.4.9 *alter connection* and *dsi\_serialization\_method* parameter

In the “alter connection” section, Table 3-15, “Parameters affecting database connections,” contains an error. The *dsi\_serialization\_method* parameter description lists the *wait\_for\_commit* option two times. It should list and describe the *wait\_for\_start* and the *wait\_for\_commit* options. The correctly named options and descriptions are:

- *wait\_for\_start* – specifies that a transaction cannot start until the transaction scheduled to commit immediately preceding it is ready to commit.
- *wait\_for\_commit* – maintains transaction serialization by instructing the DSI to wait until a transaction is ready to commit before initiating the next transaction (off) or wait until a transaction has committed before initiating the next transaction (on).

This information is described correctly in the *Administration Guide*.

## 8.5 *Troubleshooting Guide*

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

### 8.5.1 Error message changes

Add the following step to the procedure for fixing error messages.

**9202: nested stored procedures not allowed (LTM 1033)****6.5 Nested Replicated Stored Procedure****Symptoms**

The Adaptive Server error log displays these error messages:

```
96/03/04 14:01:53.34 RepAgent (10) Error: 9202,
Severity: EX_CMDFATAL, State: 1
Nested replicated stored procedure detected.
Transaction log may be corrupt. Please contact SYBASE
Technical Support.

W. 96/03/04 14:01:53. WARNING #1033 logscan
thread(NYDS.nydb1) - /ltmscan.c(4689) Nested replicated
stored procedure is not allowed. The procedure name =
'south_nested', pid = '456', rid = '2'.
```

**Explanation**

A nested stored procedure is called from within another stored procedure. The stored procedure that calls the nested stored procedure is called the outer stored procedure.

If stored procedures with nested stored procedures are marked for replication with `sp_setreproc`:

- The RepAgent shuts down,
- The RepAgent forwards only the outer stored procedure call to the Replication Server, and
- An error message is displayed in the Adaptive Server error log.

**Solution**

Do not use nested replicated stored procedures.

**v Solving the problem**

1 Skip the nested stored procedure transaction:

a Find the page of the secondary truncation point by executing:

```
dbcc gettrunc
```

b Find a valid page after the nested stored procedure transaction by executing, where *pageid* is the ID for the page you received by executing `dbcc gettrunc` in step a:

```
dbcc traceon(3604)
dbcc pglinkage(dbid, pageid, 0,2,0,1)
```

c Set a new secondary truncation point on a valid page after the nested stored procedure transaction by executing, where *pageid* is the ID for the page *after* the current page you retrieved using `dbcc pglinkage` in step b:

```
dbcc settrunc ('ltm', 'pageid', pageid)
```

d    Reset the locator by executing:

```
rs_zeroltm
```

- 2    Reapply only the nested stored procedure transaction.
- 3    Restart RepAgent.

---

**Note** This procedure can also cause data loss because manually setting the secondary truncation point to a later page in the log skips any begin transaction statements on skipped pages. Those transactions do not replicate.

---

## 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 `ejis` and `sjis` character sets, cannot be converted. Converting data that contains Hankaku Katakana characters between `ejis` 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.

#### v **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 Sybase Technical Library CD and the Technical Library 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 Technical Library CD. It is included with your software. To read or print documents on the Getting Started CD you need Adobe Acrobat Reader (downloadable at no charge from the Adobe Web site, using a link provided on the CD).
- The Technical Library CD contains product manuals and is included with your software. The DynaText reader (included on the Technical Library CD) allows you to access technical information about your product in an easy-to-use format.

Refer to the *Technical Library Installation Guide* in your documentation package for instructions on installing and starting the Technical Library.

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

To access the Technical Library 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.

#### v Finding the latest information on product certifications

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

- 2 Select Products from the navigation bar on the left.
- 3 Select a product name from the product list and click Go.
- 4 Select the Certification Report filter, specify a time frame, and click Go.
- 5 Click a Certification Report title to display the report.

v **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 updates

v **Finding the latest information on EBFs and software updates**

- 1 Point your Web browser to the Sybase Support Page at <http://www.sybase.com/support>.
- 2 Select EBFs/Updates. Enter user name and password information, if prompted (for existing Web accounts) or create a new account (a free service).
- 3 Select a product.
- 4 Specify a time frame and click Go.
- 5 Click the Info icon to display the EBF/Update report, or click the product description to download the software.

