

Release Bulletin

Sybase® Replication Server® Version 12.6 for Microsoft Windows

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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 Follow the links to the appropriate Sybase product.
- 3 Select the Release Bulletins link.
- 4 Select the Sybase product version from the Release Bulletins list.
- 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 12.6, which is compatible with the following platform and operating system configurations:

- Microsoft Windows 2000
- Windows Server 2003

Replication Server supports all protocols that are supported by Net-Library™.

If you are using the Novell NetWare IPX/SPX network, see “Using Novell NetWare IPX/SPX network” on page 6 for more information.

2.1 Replication Server

For a brief description of the new features in version 12.6, see “New and changed functionality” on page 8. 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.

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

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).

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 your platform.

3.1 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.

3.2 Other sources of installation information

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

- *Replication Server Installation Guide for Windows*, which 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 Windows* that are related to using Replication Server and to upgrading replicated databases.

- *Replication Server Configuration Guide for Windows*, 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.

3.3 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:) in the earlier example.

3.4 Using Novell NetWare IPX/SPX network

If you use the Novell NetWare IPX/SPX network:

- Make sure that you have properly installed the NWLink IPX/SPX Compatible Transport Driver from the Microsoft Windows NT installation disk.
- Install all Sybase products in the same directory or on separate machines. All Sybase client programs (including `isql`) hang when executed from a directory different from the one in which the server is running, if installed on the same machine.

4. Special upgrade and downgrade instructions

The *Replication Server Configuration Guide for Windows* 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.

❖ **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%
```

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 lmgrd and SYBASE.

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:

- Encrypted columns - Support for the replication of encrypted columns to replicate and warm standby databases has been added as a feature in Replication Server 12.6. See the *New Features Replication Server version 12.6, ESD #5* for detailed information.
- Multi-site 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.
- 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 *Replication Server Administration Guide Volume 2* 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?* and *New Features Replication Server version 12.6*

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 subdirectory in the release 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 <i>%SYBASE%\RMP-12_6\install\spr\spr_rmp</i> file.
Replication Server plug-in	Open and fixed problem reports for Replication Server plug-in are in the Windows <i>%SYBASE%\%SYBASE_RSP%\install\spr</i> directory. The following files contain problem reports for this version of the Replication Server plug-in for Sybase Central: <ul style="list-style-type: none"> • <i>spr_rsmc</i> – open problem reports • <i>cpr_rsmc</i> – 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 <i>%SYBASE%\%SYBASE_RSM%\install\spr</i> subdirectory in the release directory. The following files contain problem reports for Replication Server version 12.6: <ul style="list-style-type: none"> • <i>spr_rsm</i> – open problem reports • <i>cpr_rsm</i> – 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 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
```

6.2.3 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.

6.2.4 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.

6.2.5 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.

6.2.6 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.

6.2.7 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.

6.2.8 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.

6.2.9 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.

6.2.10 *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.

6.2.11 Memory used by Open Client/Server not tracked by Replication Server

[CR #206951] Replication Server version 12.5 uses a public-domain memory-allocation implementation that does not track the additional amount of memory used by Open Client and Open Server™. Replication Server exceeds the amount of memory specified by the memory limit configuration value before shutting down due to excessive memory usage.

Workaround: None.

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 from the repssvr.exe 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.

When using the new ASA-based Embedded RSSD feature, the conversion is incorrect for the following datatypes: date, time, and numeric/decimal.

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 *rsmsen.hlp* help file for *rsmsetup* not found

[CR #277914] If you invoke online help from *rsmsetup* as it is brought up from the configuration utility, *rsmsetup* reports that the *rsmsen.hlp* file cannot be found. In fact, the *rsmsen.hlp* file is already installed, and is in the %SYBASE%\RSM-12_5\install subdirectory.

Workaround: When *rsmsetup* reports that *rsmsen.hlp* cannot be found, you are given the opportunity to find the file. When you enter the correct path, *rsmsetup* updates the registry so it knows where *rsmsen.hlp* is located.

6.3.5 *rsmsetup* gives an inconsistent status message

[CR #275050] When creating two RSM Server entries with the same Server name using *rsmsetup*, the second entry fails because you cannot have two NT services with the same name. *rsmsetup* however, returns a message indicating that it was successful.

6.3.6 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.

6.3.7 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.

6.3.8 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 $\text{MAX}(\text{num_users} + 1, 30)$ at start-up.

6.3.9 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.

6.3.10 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.

6.3.11 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.

6.3.12 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.

6.3.13 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.

6.3.14 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.

6.3.15 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.

6.3.16 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.

6.3.17 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 so that only the RSM Server administrator can read and write to them. Use the File | Properties | General tab in NT Explorer, and select “Hidden.”

6.3.18 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.

6.3.19 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 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.

6.5 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* generates a run file with a \ if it is longer than 256 characters

[CR #341546] Ordinarily, *rs_init* generates the *run* file to specify the full path to your Replication Server in one long line. However, if your path is extremely long, making the *run* file longer than 256 characters, *rs_init* puts a “\” (back-slash) at the end of the 256th character, and moves the rest of the text to a second line. This causes the *run* file to break, and you cannot start Replication Server using *rs_init*.

Workaround: You can either use shorter path names, or manually edit the *run* file by removing the “\” and wrapping the text in the second line to the end of the first.

6.6.2 *rs_init* radio buttons appear as text fields with mixed-language message

[CR #277765] If you use a non-English version of Windows NT, the following occurs when you use a non-English version of *rs_init* with an English-language version of Replication Server version 12.5:

- Some yes/no radio buttons appear incorrectly as text-editable fields.
- Some text in the *rs_init* window appears in English.

This does not affect the functionality of *rs_init*.

Workaround:

- 1 Type “yes” or “no” in the native language. For example in French, type “oui” or “non.”
- 2 Use the English-language version of *rs_init*.

6.6.3 Limitation reading entries from *sql.ini* file

rs_init uses a 20K buffer to read server entries from the *sql.ini* file. If server entries are an average of 10 bytes in length, *rs_init* cannot read more than 2000 server entries.

6.6.4 *rs_init* fails ungracefully if RSSD information incorrect or missing

[CR #277393] While you use the configuration utility, if you fail to fill in, or provide the incorrect server name, username or password for the Adaptive Server that you plan to use as your Replication Server System Database (RSSD), *rs_init* fails and generates an error message in a Windows Application Error pop-up window.

Workaround: Manually restart the configuration utility.

6.6.5 *rs_init* does not update *sql.ini* file automatically

[CR #171729] When attempting to add a Replication Server entry to the *sql.ini* file through *rs_init* using a resource file, a message displays indicating that the *sql.ini* 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 *sql.ini* file manually before using *rs_init* with the resource file.

6.6.6 Missing help screen for RSSD RepAgent information

[CR #166640] rs_init is missing online help for the “Database Replication Agent or LTM” screen. You use this window to enter information about the RSSD RepAgent. You can see this window if you select:

Configure a Server Product | Replication Server |

Install a New Replication Server | Database Replication Agent

If you choose Yes for “RSSD will be replicated” you see only the “Database Replication Agent” window in “Replication Server System Database.”

Workaround: For a description of the fields on the “Database Replication Agent” window, see the *Replication Server Configuration Guide for Windows*.

6.6.7 Adding a warm standby connection

[CR #166508] While attempting to add a warm standby connection (active/standby) to a logical connection, if the names of the logical data server, the logical database, and the physical database names are too long (approximately 30 characters or more), rs_init fails.

Workaround: Make sure the names are less than 30 characters.

6.6.8 Informational messages not displayed in upgrade or downgrade

[CR #87294] Informational messages do not display while rs_init upgrades or downgrades the Replication Server’s RSSD or user databases. For example, the message displaying the new database version does not appear when the upgrade or downgrade is complete; instead, you return to the menu display.

Workaround: None.

6.6.9 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.

6.6.10 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 Highlighted problems using Adaptive Server with Replication Server

This section describes known Adaptive Server problems that can occur with Replication Server version 12.6.

6.7.1 Problems adding a server with *dsedit*

[CR# 171736] If you want to add a server to your replication system using *dsedit*, the NLWNSCK protocol may not be available from the drop-down list.

Workaround: You can enter the NLWNSCK value manually by typing it into the Protocol field.

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 12.5.1.

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 12.5.1 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 Client/Server, and Adaptive Server

Adaptive Server 12.5.1	Adaptive Server 12.0	Open Client/Server 12.5.1	Open Client/Server 12.0	Replication Server 12.6	Replication Server 12.5	Replication Server 12.1
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
Sun Solaris 10 x64 (Opteron 64-bit)	X	X	N/A	X	N/A	N/A
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 All documents

This section describes updates to all the documents in the Replication Server document set.

8.1.1 Incorrect reference to *admin stats_intrusive_counters* command

Replication Server documents incorrectly refer to the `admin stats_intrusive_counters` command. The correct command is `admin stats_intrusive_counter`.

8.2 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.

8.3 Installation Guide

This section describes updates to the Replication Server Installation Guide.

8.3.1 Location of installation directory contents

Location of Replication Server components

To explain the differences between the new Replication Manager plug-in and the existing Replication Server plug-in, there should be a reference to “Introducing Replication Manager,” in Chapter 3, “Introducing Replication Manager” in *What’s New in Replication Server?*

In “Reviewing the Sybase installation directory contents,” in Chapter 2, “Installing Replication Server,” the location of all the components should show that they are within the same directory structure. Not only the components of Replication Server, but all the components listed under “Installation directory after installation from the Server CD,” and “Installation directory after installation from the PC-Client CD,” are installed within the *%SYBASE%* directory.

Location of *vpd.properties* file

In “Checking for a valid installation,” in Chapter 2, “Installing Replication Server” in the *Installation Guide for Windows*, step 2 should be:

Verify that the *vpd.properties* file has been written in the %WINDIR% directory.

Incorrect directory name

In “Starting Replication Server and RSM Server automatically,” in Chapter 2, “Installing Replication Server” in the *Installation Guide for Windows*, all references to “12_5” as part of the directory name should be replaced with a “12_6” as part of the directory name.

8.4 Configuration Guide

This section describes updates to the Replication Server Configuration Guide.

8.4.1 Correct syntax for setting replication system version to 1260

In “Setting the replication system version,” in Chapter 3, “Upgrading or Downgrading an Existing Replication Server,” the correct procedure for setting the system version to 1260 is:

- 1 Log in to the ID Server.
- 2 Execute this command:

```
sysadmin system_version, 1260
```

8.4.2 Upgrade path

In Chapter 4, “Special upgrade and downgrade instructions,” a note should be added on the limitations to the upgrade path. The note should be:

Note For upgrading, the Replication Server version should be 11.5.1 or later and the Adaptive Server containing the RSSD should be 11.5.1 or later. Upgrading from any earlier version requires an intermediate upgrade.

8.4.3 Note on upgrading RSM Servers

In “Upgrading to Replication Server 12.6,” in Chapter 3, “Upgrading or Downgrading an Existing Replication Server,” there is a note recommending that you upgrade RSM Servers before upgrading Replication Servers. This note is incorrect. The correct note should be:

Note Sybase recommends that you upgrade RSM Servers if they will be monitoring a Replication Server that has a version higher than that of the RSM Servers.

The RSM Server can monitor and send commands only to a Replication Server of the same version or earlier than the RSM Server. You can upgrade RSM Server independently of upgrading Replication Server.

8.4.4 Instructions for upgrading to RSM 12.6

The instructions in the for upgrading to RSM 12.6 in “Upgrading to Replication Server 12.6,” in Chapter 3, “Upgrading or Downgrading an Existing Replication Server” are incorrect. The correct instructions are:

❖ **Upgrading from RSM version 12.5 and earlier to RSM version 12.6**

If you have RSM 12.5 and earlier, perform these steps to upgrade to RSM 12.6:

Warning! To avoid problems with incomplete or incorrect scripts, apply Replication Server 12.6 EBFs dated February 6, 2004 or later before proceeding.

- 1 Make backup copies of the RSM Server configuration files, in case you need to downgrade in the future
- 2 Verify that you have the Replication Server 12.6 directory structure in place.
- 3 Copy the *.cfg* file and the *.rsm* files from the
%SYBASE%\%SYBASE_RSM%\admin\config directory of the earlier
version of Replication Server to the
%SYBASE%\%SYBASE_RSM%\admin\config directory of the Replication
Server 12.6 installation.
- 4 Copy any event scripts from the installation of the earlier version of
Replication Server to the corresponding locations in the Replication
Server 12.6 installation directory structure.

- 5 Copy the RUN script from the `%SYBASE%\%SYBASE_RSM%\install` directory of the earlier version of Replication Server to the `%SYBASE%\%SYBASE_RSM%\install directory` of the Replication Server 12.6 installation.
- 6 Verify that the `sql.ini` file in the Replication Server 12.6 installation has been updated with all the relevant RSM entries.
- 7 Start RSM Server from the `%SYBASE%\%SYBASE_RSM%\install` directory of the Replication Server 12.6 installation.
- 8 Log in to Sybase Central.
- 9 Right-click the first Replication Server listed and select Upgrade RSM Procedures.
- 10 Click OK. The RSM server should detect that it has old RSM procedures in this RSSD, and then either automatically upgrade the stored procedures, or prompt you and ask if you want to upgrade.
- 11 Repeat steps 9 and 10 for each Replication Server listed.

8.5 Administration Guide

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

8.5.1 Performance tuning

Sizing the SQT cache

The information given in “Sizing the SQT cache,” in Chapter 16, “Performance Tuning,” in the *Replication Server Administration Guide Volume 2* is updated due to changes in Replication Server version 12.6.

Replication Server 12.6 introduced the `sqt_init_read_delay` and `sqt_max_read_delay` configuration parameters to address SQT performance issues. These configuration parameters and their effects come into play regardless of the setting of SMP. If you observe a slow-down in performance after upgrading from Replication Server 12.5 to Replication Server 12.6, these configuration parameters should be set to their minimum values.

Increasing `sqt_max_cache_size` was used for tuning in Replication Server 12.5. In Replication Server 12.6 the benefit of SQT caching remains but oversizing it can be counter-productive. If an installation has a very large SQT cache, any slowdown in performance from Replication Server 12.5 to Replication Server 12.6 could be attributed to oversizing the SQT cache. The problem can be avoided by decreasing the setting for `sqt_max_cache_size`. SQT cache is sufficiently sized if you do not observe, or observe only infrequently, transactions being flushed from cache because there is not enough room to store more in cache.

The Data Server Interface (DSI) may have problems in the handling of large transactions. Even in the case when single DSI is being used, instead of parallel DSI, the identification of large transactions by the DSI can spell performance difficulties. The solution is to configure DSI so that it does not recognize any large transactions. You can do this by setting `dsi_large_xact_size` to its maximum value of 4,294,967,295.

8.5.2 `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 *Replication System Administration Guide Volume 2*.

8.5.3 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 Volume 1*:

Note Sybase does not support replication of Adaptive Server system databases, such as master, tempdb, model, sybssystemprocs, sybsecurity, sybssystemdb.

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

8.5.4 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.

8.5.5 *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.

8.6 Reference Manual

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

8.6.1 *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.

8.6.2 *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
REAGENT
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 Volume 2*.

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

8.6.3 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 `admin statistics, { module_name [, display_name] | 'all_modules' | sysmon | [, sample_period] | 'flush_status' }`

- Parameters
- *module_name* – displays statistics from all of a module's active counters, where *module_name* is dsi, dsiexec, sqt, dcm, dist, rsi, sqm, sqmr, sync, syncele, repagent, mem, md, or mem_in_use. When used with *display_name*, *module_name* returns statistics from one of the module's counters. You can obtain valid module names by using *rs_helpcounter*.
 - *display_name* – displays the name of a counter and is used to identify counters for RCL. You can obtain valid display names by using *rs_helpcounter*.
 - *all_modules* – displays statistics from all active counters.
 - *sysmon* – displays statistics for modules enabled for flushing. Only counters with *sysmon* status are displayed.
 - *sample_period* – is the number of seconds for the sample run.
 - *flush_status* – indicates which module's counters are flushed or reported, either when flushing counters to the RSSD or when using admin statistics, *sysmon*.

Examples **Example 1** Displays information for the DSI module and connection *rds03.tpcc*.

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
```

37

523

0

0

0

74

95

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.tpcc                 105          1              0
104 (1) rds03.tpcc                 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.

8.6.4 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
```

=====

8.6.5 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)

8.6.6 rs_statcounter table

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">• 1 – total• 2 – last• 3 – maximum• 4 – average

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

Indexes Unique, clustered key rs_key_statcounters on (counter_id)

8.6.7 rs_statdetail table

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)

8.6.8 rs_statrun table

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)	

8.6.9 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 *Replication Server Administration Guide Volume 2*.

8.7 Troubleshooting Guide

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

8.7.1 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.

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