SYBASE®
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Release Bulletin

Replication Server® 15.7.1

UNIX and Linux

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Contents

Product Summary

This release bulletin provides late-breaking information about Replication Server® version 15.7.1. A more recent version may be available on the Web.

Supported Platforms and Operating Systems

Check the system requirements and system patches for the server on which you will install Replication Server.

Platform	Supported Operating Systems and Version
HP-UX Itanium (64-bit)	• HP-UX 11.31 **Note:** The installer requires the **gzip** utility. Ensure that the path to **gzip** is set in the $PATH environment variable.

Linux x86-64
(64-bit)
	• Red Hat Enterprise Linux 5.5
	  • kernel – 2.6.18-194.el5 SMP
	  • glibc – 2.5-49
	• Red Hat Enterprise Linux 6.0
	  • kernel – 2.6.32-71.el6.x86_64 SMP
	  • glibc – 2.12-1.7.el6.x86_64
	  • glibc – 2.12-1.7.el6.i686
	• Red Hat Enterprise Linux 6.1
	  • kernel – 2.6.32-131.0.15.el6.x86_64
	  • glibc – 2.12-1.25.el6.x86_64
	  • glibc – 2.12-1.25.el6.i686
	• SuSE Linux Enterprise Server SLES 10, Service Pack 2
	  • kernel – 2.6.16.60-0.21 SMP
	  • glibc – 2.4-31.54
	• SuSE Linux Enterprise Server SLES 11
	  • kernel – 2.6.27.19-5.1
	  • glibc – 2.9-13.2
	• SuSE Linux Enterprise Server SLES 11, Service Pack 1
	  • kernel – 2.6.32.12-0.7
	  • glibc – 2.11.1-0.17.4

Platform	Supported Operating Systems and Version

Linux on IBM p-Series
(Linux on POWER)
(64-bit)
	• Red Hat Enterprise Linux 5.5
	  • kernel – 2.6.18-194.el5 SMP
	  • glibc – 2.5-49
	• Red Hat Enterprise Linux 6.0
	  • kernel – 2.6.32-71.el6.ppc64 SMP
	  • glibc – 2.12-1.7.el6.ppc64
	  • glibc – 2.12-1.7.el6.ppc
	• SuSE Linux Enterprise Server SLES 10, Service Pack 2
	  • kernel – 2.6.16.60-0.21-ppc64 SMP
	  • glibc – 2.4-31.54
	• SuSE Linux Enterprise Server SLES 11, Service Pack 1
	  • kernel – 2.6.32.12-0.7-ppc64 SMP
	  • glibc – 2.11.1-0.17.4
	
	Before you install Replication Server, install the runtime libraries for the IBM XL C compiler. To verify that IBM XL C runtime packages are installed, issue:
	`vacpp.rte-10.1.0-0`
	
	If the message is "`package vacpp.rte-10.1.0-0 is not installed`", download the IBM XL C version 10.1 runtime executables from the IBM Web site at *https:// www-304.ibm.com/support/docview.wss?uid=swg24021253*. Make sure that you select the appropriate installation package for your operating systems from the download table.

Platform	Supported Operating Systems and Version

IBM AIX
(64-bit)
	• AIX 6.1
	• AIX 7.1
	Before you install Replication Server, install the IBM XL C/C++ Runtime for AIX and the SMP Runtime Libraries required for your version of AIX. Obtain the libraries from your IBM AIX operating system installation media.
	These libraries are also available from the IBM AIX Web site:
	• The IBM XL C/C++ Runtime for AIX is available on the Web site under "Latest updates for supported IBM C and C++ compilers."
	• The SMP Runtime Libraries for AIX are available on the Web site under "IBM XL C/C++ Enterprise Edition for AIX, Runtime Environment and Utilities."
	To verify that the libraries are installed, issue:
	`source $SYBASE/SYBASE.csh`
	`cd $SYBASE/$SYBASE_REP/bin`
	`ldd ./repserver`

Solaris (64-bit)	• Solaris 10 SPARC • Solaris 10 x64

On Linux: Linux distribution vendors often provide errata packages, allowing you to upgrade and fix known issues within a release. Contact your Linux distributor for more information.

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

Contact your operating system representative for patches recommended for Replication Server installed on your system. Do not use a patch that is older than the version suggested for your operating system. Use the patch recommended by the operating system vendor even if the patch version supersedes the listed patch.

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

Replication Server 15.7.1 64-bit for HP-UX Itanium

The 64-bit version of Replication Server for HP-UX Itanium uses the `libtcl64.cfg` file to to provide configuration information such as driver, directory, and security services for Open Client/Server™ applications.

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

Note: Consider all references to `libtcl.cfg` in the Replication Server documentation as `libtcl64.cfg` for HP-UX Itanium.

Internet Protocol Version 6

Operating systems and versions that support Internet Protocol version 6 (IPv6).

- HP-UX Itanium 11.31
- IBM AIX 6.1 and 7.1
- Linux RHEL 5.5 and 6.0
- Solaris 10 SPARC and Solaris 10 x64

Replication Server

Replication Server coordinates data replication activities for local databases and exchanges data with Replication Servers that manage data at other sites.

For detailed information about new features in Replication Server 15.7.1, see the *Replication Server New Features Guide*.

Replication Manager

The Replication Manager (RM) is a utility for creating, managing, and monitoring replication environments, and is available as a plug-in to Sybase Central™.

With Replication Server 15.7.1, Replication Server installation media does not include Replication Manager. To continue using Replication Manager, download and install these tools from the Sybase Web site. Refer to the Replication Manager `README` for its known issues and workarounds.

Replication Manager is not certified for use with Replication Server Multi-Path Replication™ or Adaptive Server® Enterprise Cluster Edition.

For detailed information about Replication Manager, see the *Replication Server Administration Guide Volume 1*.

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

Replication Monitoring Services

Replication Monitoring Services (RMS) monitors the servers and components in a replication environment, provides the ability to control the flow of data in the replication environment, and sets the configuration parameters.

With Replication Server 15.7.1, Replication Server installation media does not include Replication Monitoring Services. To continue using Replication Monitoring Services, download and install these tools from the Sybase Web site. Refer to the Replication Monitoring Services `README` for its known issues and workarounds.

RMS is not certified for use with Replication Server Multi-Path Replication or Adaptive Server Enterprise Cluster Edition.

For detailed information about RMS, see the *Replication Server Administration Guide Volume 1*.

Sybase Control Center

Sybase Control Center (SCC) for Replication provides status information at a glance, using server monitors and a heat chart for displaying the availability or status of a specific server. The server monitors display high-level information, such as server version and platform. The server monitors also display critical performance counters to aid you in troubleshooting replication performance.

In Sybase Control Center 3.2.6, see *Sybase Control Center for Replication*.

ExpressConnect for Oracle

ExpressConnect for Oracle is an embedded library loaded by Replication Server for Oracle replication.

ExpressConnect for Oracle (ECO), which is available with Replication Server Options 15.5 and later, provides direct communication between Replication Server and a replicate Oracle data server. ECO eliminates the need for installing and setting up a separate gateway server, thereby improving performance and reducing the complexities of managing a replication system.

To use ECO, make sure:

- Replication Server is installed using the REP_EC_ORA license.

- The version of ECO that must be installed is ECO 15.7.1. Replication Server 15.7.1 does not work with ECO 15.5 or 15.5 ESD #1.

See the *ExpressConnect for Oracle Installation and Configuration Guide* in Replication Server Options 15.7.1 product documentation.

Separately Licensed Products

Obtain a separate license for each Replication Server Options component.

ExpressConnect for Oracle, Replication Agent, and Enterprise Connect Data Access

ExpressConnect for Oracle, Replication Agent™, and Enterprise Connect™ Data Access are available as a product called Replication Server Options that are available separately from Replication Server. You must have Replication Server to obtain Replication Server Options.

Replication Server Options provide bidirectional replication across distributed, heterogeneous systems. You can use the Replication Server Option components to implement replication on the Microsoft Windows and UNIX platforms.

Replication Server Options are available in three data-source-specific versions: Oracle, Microsoft SQL Server, and IBM DB2 UDB. See the *Release Bulletin for Replication Server Options 15.7.1 for Linux, Microsoft Windows, and UNIX* for details about supported platforms and compatible Replication Server versions.

Replication Server Data Assurance Option

Replication Server Data Assurance (DA) Option is available as a separately licensed product for Replication Server and supports Replication Server versions 15.1 and later.

Replication Server DA Option compares row data and schema between two or more Adaptive Server® databases, and reports and optionally reconciles, discrepancies.

Replication Server Data Assurance Option is licensed through SySAM license manager and is available on multiple platforms. See Replication Server Data Assurance Option documentation for additional information.

Product Editions and Licenses

Replication Server is released as two separate product editions— Enterprise Edition (EE) and Real-Time Loading Edition (RTLE) — that comprise different base and optional features, and which require separate licences.

Although real-time loading is supported on all platforms that Replication Server supports, Replication Agent for Oracle (RAO) is not available on Linux on POWER. However, you can

run RAO on any of the platforms it supports. For platforms on which RAO is available, see the *Installation Guide for Replication Agent* in the Replication Server Options documentation.

See *Replication Installation Guide > Planning Your Installation > Obtaining a License*.

To purchase licensed options, contact your Sybase sales representative.

Generate Licenses at SPDC or SMP

When you purchase SySAM 2–enabled Sybase products, you must generate, download, and deploy SySAM product licenses.

- If you purchased your product from Sybase or an authorized Sybase reseller, go to the secure Sybase Product Download Center (SPDC) at *https://sybase.subscribenet.com* and log in to generate license keys. The license generation process may vary slightly, depending on whether you ordered directly from Sybase or from a Sybase reseller
- If you ordered your product under an SAP® contract and were directed to download from SAP Service Marketplace (SMP), you can use SMP at *http://service.sap.com/licensekeys* to generate license keys for Sybase products that use SySAM 2-based licenses.

Product Compatibility

Replication Server has been tested for compatibility with Adaptive Server Enterprise and other Sybase products.

Adaptive Server Enterprise

Review the Adaptive Server versions and its operating systems that are compatible with Replication Server.

Replication Server version 15.7.1 is fully compatible with both 32-bit and 64-bit versions of Adaptive Server version 15.0 and later on HP-UX, IBM AIX, Linux, and Solaris.

See the “Interoperability Between Adaptive Server and Replication Server” table.

Warning! Replication Server 15.7.1 is not compatible with the Adaptive Server 15.7 GA release. You can download the most current Adaptive Server 15.7 ESD #1 EBF from the Sybase Downloads Web site or contact Sybase Technical Support for detail to download the most current Adaptive Server 15.7 ESD #1 EBF for compatibility with Replication Server 15.7.1.

See the *Replication Server New Features Guide*.

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

Note: Sybase SQL Server versions 11.0.*x*, and Adaptive Server Enterprise 12.5.4 and earlier are no longer supported.

See also

- *Replication Server Interoperability* on page 9

Compressed LOB Column Replication

Only Adaptive Server 15.7 ESD #1 and later and Replication Server 15.7.1 and later support compressed large object (LOB) column replication. All intermediate Replication Servers in the route from Adaptive Server must also be version 15.7.1 and later.

In-Row LOB Column Replication

The semantics and interface for replicating in-row large object (LOB) columns in Adaptive Server 15.7 is the same as that for LOB columns in versions earlier than 15.7.

Note: Neither Adaptive Server nor Replication Server supports compressed in-row LOB.

To mark in-row LOB columns for replication, use:

```
sp_setrepcol table_name [, {column_name | null} [,
{do_not_replicate | always_replicate |
replicate_if_changed}]] [, use_index]
```

In addition, when replicating an in-row LOB column on the primary database, you can store the replicated data in-row or off-row, depending on the replicated database and replicated table settings. For example, if the page size is smaller in the replicate than in the primary, the replicated table row size is smaller, and the replicated LOB does not fit in-row; therefore the in-row value on the primary may be replicated as an off-row LOB value on the replicate.

In-Row LOB Compressed Data

Replication Server does not support replication of in-row LOB compressed data.

Password Compatibility with Replication Server

There are some compatibility issues with replicating logins and roles between different versions of Adaptive Server.

You can replicate logins from Adaptive Server version 15.0.2 and later to earlier server versions only during the password downgrade period when **allow password downgrade** is set to 1.

You cannot replicate roles with passwords from Adaptive Server 15.7 and later to earlier server versions.

Replication Server Interoperability

Review the interoperability of Replication Server against other Sybase products, across different platforms, and versions.

Replication Server is available as either a 32-bit application or a 64-bit application on Windows. The 32-bit version of Replication Server has been certified on both the 32-bit and 64-bit versions of Windows operating system. The 64-bit version of Replication Server is not certified on the 32-bit version of Windows operating system.

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

Table 1. Interoperability Between Adaptive Server and Replication Server

Operating System	Replication Server						Adaptive Server		
	15.7.1	15.7	15.6	15.5	15.2	15.1	15.7*	15.5	15.0.x
HP-UX Itanium (64-bit)	x	x	x	x	x	x	x	x	x
IBM AIX (32-bit)	n/a	n/a	n/a	n/a	x	x	n/a	n/a	n/a
IBM AIX (64-bit)	x	x	x	x	x	x	x	x	x
Linux x86 (32-bit)	n/a	n/a	x	x	x	x	n/a	x	x
Linux x86-64 (64-bit)	x	x	x	x	x	x	x	x	x
Linux on POWER (64-bit)	x	x	x	x	x	x	x	x	x
Solaris SPARC (32-bit)	n/a	n/a	n/a	n/a	x	x	n/a	x	x
Solaris SPARC (64-bit)	x	x	x	x	x	x	x	x	x
Solaris x86-64 (32-bit)	n/a	n/a	n/a	n/a	x	x	n/a	n/a	n/a
Solaris x86-64 (64-bit)	x	x	x	x	x	x	x	x	x
Microsoft Windows x86 (32-bit)	x	x	x	x	x	x	x	x	x
Microsoft Windows x64 (64-bit)	x	x	x	x	n/a	n/a	x	x	x

Operating System	Replication Server						Adaptive Server		
	15.7.1	15.7	15.6	15.5	15.2	15.1	15.7*	15.5	15.0.x

Legend: x = compatible; n/a = product not available or does not work with Replication Server on that platform.

* Adaptive Server 15.7 GA is not compatible with Replication Server 15.7.1, download the most current Adaptive Server 15.7 ESD #1 EBF from the Sybase Downloads Web site.

Table 2. Interoperability Between Replication Server, Open Client/Server, and Sybase® IQ

Operating System	Replication Server			Open Client/ Server			Sybase IQ		
	15.7.1, 15.7	15.6, 15.5	15.2, 15.1	15.7	15.5	15.0	15.4	15.3	15.2, 15.1
HP-UX Itanium (64-bit)	x	x	x	x	x	x	x	n/a	n/a
IBM AIX (32-bit)	n/a	n/a	x	x	x	x	n/a	n/a	n/a
IBM AIX (64-bit)	x	x	x	x	x	x	x	n/a	x
Linux x86 (32-bit)	n/a	x	x	x	x	x	n/a	n/a	n/a
Linux x86-64 (64-bit)	x	x	x	x	x	x	x	x	x
Linux on POWER (32-bit)	n/a	n/a	n/a	x	x	x	n/a	n/a	n/a
Linux on POWER (64-bit)	x	x	x	x	x	x	x	n/a	x
Solaris SPARC (32-bit)	n/a	n/a	x	x	x	x	n/a	n/a	n/a
Solaris SPARC (64-bit)	x	x	x	x	x	x	x	x	x
Solaris x86-64 (32-bit)	n/a	n/a	x	x	x	x	n/a	n/a	n/a
Solaris x86-64 (64-bit)	x	x	x	x	x	x	n/a	n/a	n/a
Microsoft Windows x86 (32-bit)	x	x	x	x	x	x	n/a	n/a	n/a
Microsoft Windows x64 (64-bit)	x	x	n/a	x	x	x	x	x	n/a

Operating System	Replication Server			Open Client/ Server			Sybase IQ		
	15.7.1, 15.7	15.6, 15.5	15.2, 15.1	15.7	15.5	15.0	15.4	15.3	15.2, 15.1
Legend: x = compatible; n/a = product not available or does not work with Replication Server on that platform.									

Sybase Control Center Compatibility

Replication Server 15.7.1 is compatible with Sybase Control Center version 3.2.6.

Installation and Upgrade

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

For detailed information about installing and upgrading, see the *Replication Server Installation Guide*.

Special Installation Instructions

Additional installation updates for Replication Server that are omitted from or incorrect in the installation guide.

Sample Replication Server for Linux on POWER

Replication Server 15.7.1 installation process for Linux on POWER does not include starting a sample Replication Server. This is because ERSSD is not supported for 64-bit Linux on POWER.

The ERSSD requires Sybase SQL Anywhere® Server, which is not available in Replication Server 15.7.1 for Linux on POWER. Therefore, the procedures related to starting a sample Replication Server in the *Replication Server Installation Guide* are not relevant.

Enabling Asynchronous Disk I/O

HP-UX users must enable asynchronous I/O. Enabling asynchronous I/O improves I/O performance on character or raw block devices.

Prerequisites

Shut down Replication Server.

Install HP asynchronous I/O driver from the system administration manager (SAM). For help with installing this driver, contact your operating system administrator or HP technical support.

Task

1. Launch the kernel configuration:
   ```
   kcweb -F
   ```
2. Select **Modules**.
3. Select **asyncdsk** and change the **Next Boot** to **static**.
4. Rebuild the kernel and restart the system.
5. Using *userid*, root, execute:
   ```
   #/etc/mknod/dev/async c 101 4
   #chmod 0660/dev/async
   #chown uid /dev/async
   #/etc/setprivgrp ugrp MLOCK
   ```
   where:
   - *uid* is the user ID who is starting Adaptive Server.
   - *ugrp* is the group to which the user ID belongs.

Coexisting with Older Versions of SySAM

Replication Server 15.7.1 uses SySAM 2. You may use an earlier version of SySAM, but it must be modified.

Replication Server version 15.7.1 uses a newer version of Sybase Software Asset Management System (SySAM) and an updated license format. You can run only one instance of a license server on a computer. To use earlier versions of Sybase products with Replication Server 15.7.1, see *SySAM Users Guide* for details.

For instructions on migrating a license server, see the *SySAM Users Guide*.

Special Upgrade and Downgrade Instructions

Review the additional special upgrade and downgrade instructions for Replication Server.

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

Warning! Before upgrading the user database to support Replication Server, upgrade Adaptive Server Enterprise to version 15.*x*. Otherwise, the upgrade fails.

Incompatible Function String in rs_sqlserver_function_class

When you upgrade from an earlier version of Replication Server using a customized **rs_sqlserver_function_class** in your connection, you may lose some customized function-string-class scope functions.

Sybase recommends that you back up these function strings before upgrading:

- **rs_commit**
- **rs_get_lastcommit**
- **rs_get_thread_seq**
- **rs_get_thread_seq_noholdlock**
- **rs_initialize_threads**
- **rs_ticket_report**
- **rs_update_threads**

ExpressConnect for Oracle Upgrade Requirement

Replication Server 15.7.1 does not work with ECO 15.5. When upgrading to Replication Server 15.7.1, install ECO 15.7.1 or a more recent version.

See the *ExpressConnect for Oracle Installation and Configuration Guide*.

ERSSD Upgrade Requirement

Embedded Replication Server System Database (ERSSD) requires Sybase SQL Anywhere, which is compatible with 64-bit versions operating system.

If you are upgrading to Replication Server 15.7.1 on Solaris SPARC, Solaris 10 x64, or IBM AIX, and using ERSSD, platforms must be 64-bit for the upgrade to function properly. For these operating systems, ERSSD can only be run on 64-bit machines. This is a restriction of the underlying SQL Anywhere database.

Known Issues

Review the known issues and provided workarounds.

Find issues by Change Request (CR) number.

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

Known Issues for Replication Server

Known issues and workarounds for Replication Server.

Table 3. Replication Server Issues

CR#	Description
708716	**Upgrading versions of Replication Server earlier than 15.5 to version 15.5 and later may fail if the preupgrade Replication Server is not an ID server.** **Workaround**: Use **sysadmin system_version** to set the ID server system version to 1260 or later, and then restart the preupgrade Replication Server. You can also use **sysadmin system_version** to check the system version at the preupgrade Replication Server.

CR#	Description

708398	**If high-volume adaptive replication (HVAR) is set to on and if the length of the `text` or `image` column of a noncompilable table is:**
	• Greater than 32K, you see `"Incorrect syntax near '?'"` and the DSI thread shuts down.
	• Less than 32K and the column has compressed Adaptive Server data, this data become corrupted in the replicate database.
	A table becomes noncompilable if:
	• You explicitly mark it as noncompilable, or,
	• Replication Server internally flags it as noncompilable when a:
	  • Primary key is being changed, and some column values are missing in the outbound queue which happens when the table replication definition has the **replicate minimal columns** clause and the update only changes a subset of columns;
	  • Primary key is being changed, and some column values are missing in the outbound queue which happens when the table `text` column has the **replicate_if_changed** attribute and some `text` columns are not being changed;
	  • Foreign key is being updated – the foreign key in the **{ column_name [references [table_owner.]table_name }**) replication definition clause.
	Workaround: Set **dsi_compile_enable** off to disable HVAR.

708134	**When replicating in-row `text` or `image` columns from Adaptive Server, use one of these workarounds to avoid potential incorrect replication.** **Workaround**: • Mark the in-row LOB columns that are to be replicated as **always_replicate** instead of **replicate_if_changed**. • Do not use the in-row LOB feature in Adaptive Server (that is to set in-row length to 0) when the column is to be replicated. • Set **dsi_compile_enable** off to disable HVAR on the replicate Replication Server. If these workarounds do not resolve the issue, contact Sybase Technical Support to obtain an EBF.
705657	**Cannot set sqm_cmd_cache_size to greater than 2GB on 64-bit platforms.** Although the maximum allowable size is 2,251,799,813,685,247, the actual maximum value is 2,147,483,647 (2GB -1). **Workaround**: None.
704748	**(HVAR and RTL) Replication Server fails when a replication definition has more columns than the table schema in the replicate database.** **Workaround**: Alter the replication definition to match the table schema.

CR#	Description
704615	**Replication Server may incorrectly interpret LTL commands sent by RepAgent if you enable both the asynchronous parser and Executor command cache features simultaneously.** **Workaround**: Do not use both features simultaneously.
704573	**Alternate connection is not populated into replicate Replication Server RSSD after route upgrade.** When you upgrade a route from pre-15.7 versions to version 15.7 in a mixed-replication environment, the alternate connection at the primary Replication Server is not populated into the replicate Replication Server RSSD. **Workaround**: After upgrading the route, at the primary Replication Server: **1.** Drop the alternate connection. **2.** Re-create the alternate connection.
703894	**When you set "Initialize standby using dump and load" to yes either in a resource file or in an interactive rs_init, rs_init does not add the maintenance user ID, and the Replication Server objects, such as tables and stored procedures, to the standby database.** **Workaround**: Use **sp_addlogin** to add the maintenance user to the standby database.
703832	**Cannot replicate BLOB data into non-nullable `blob` column in UDB and DB2 target databases.** **Workaround**: Define the `blob` column as nullable: • In the database, and, • If you have a table-level replication environment, the replication definition created for the `blob` table replication.
702699	**(Linux) You cannot create an ExpressConnect for Oracle (ECO) connection if you have selected the sample Replication Server during installation.** **Workaround**: Manually start the sample Replication Server after installation.
701082	**Incorrect replication when large object (LOB) compression is changed on table.** These steps result in some updates replicating incorrectly: **1.** Use **sp_setrepcol** to enable replication of the compressed LOB column to **always_replicate** in your table replication, **2.** Start replicating data, and **3.** Mark the column to not be compressed. **Workaround**: Use **sp_setrepcol** to enable replication of the compressed LOB column to **replicate_if_changed** in your table replication.

CR#	Description
696238	**Increasing the block size increases segment size, instead of recalculating the number of blocks in a segment, resulting in an incorrect disk space size.** **Workaround**: Drop and re-create the partitions that were created before the block size change.
694983	**rs_init does not connect to an Embedded Replication Server System Database (ERSSD) using Adaptive Server® Anywhere when upgrading or downgrading with versions earlier than 15.2.** **Workaround**: Issue this **trace** option in **rs_init**: **rs_init** `-r` *`resource_file_name`* `-T T_SEND_CLEARTEXT_PASSWORD`
690422	**Incorrect value for `text` and `image` columns.** In a warm standby environment, if you set `text` and `image` columns of a table to **do_not_replicate** on the active database, and you create a table replication definition for this table without **send standby replication definition columns**, the replication definition does not include the `text` and `image` columns. As a result, the standby database gets incorrect value for the `text` and `image` columns. **Workaround**: 1. Create the table replication definition with **send standby replication definition columns** clause. 2. Drop the table replication definition if it is not necessary.
689026	**Risk of data loss or duplication when altering multipath replication topology.** Data loss or data duplication may occur if you change any of these items in a multipath replication system: • Bindings of objects to paths • Number of paths when distributing objects by connections • Configuration of logical paths • Replication Server entries in the `interfaces` file **Workaround**: Before you alter the system topology, ensure that: • All Replication Servers involved in the previous topology are quiesced. Verify with **admin quiesce_check**. • RepAgent starts reading from the end of the primary database log.

CR#	Description
678521	**Cannot find a matching function string for the function-string class rs_sqlserver_function_class.** If you create multiple replication definitions for a specified primary table and you subsequently alter a column without an LOB datatype to be an LOB column in one of the replication definitions, the LOB-related function strings are not created automatically for one of the replication definitions at the replicate Replication Server. The replicate Replication Server log shows: `Cannot find a matching function string for function 'alltypes.rs_writetext' and function string class 'rs_sqlserver_function_class'.` **Workaround**: 1. Clear the failed Data Server Interface (DSI) connection queue by executing `resume/skip tran` until the DSI connection resumes. 2. Drop the subscription to the problem replication definition at the replicate Replication Server, then drop the replication definition at the primary Replication Server, then re-create both.

657575	**If a Stable Queue Transaction (SQT), Stable Queue Manager (SQM) page caches, or DSI Bulk/HVAR buffers are using heavy memory loads, Replication Server may fail when it exceeds the low default ulimit settings in the operating system.**
	
	Workaround: Either:
	
	• Modify the runserver file with these settings:
	  • ulimit -d 'unlimited'
	  • ulimit -c 'unlimited'
	  • ulimit -m 'unlimited'
	• As an alternative, modify system wide limits. For example, on IBM AIX, change these default settings in `/etc/security/limits` file:
	  • fsize = -1
	  • core = 2097151
	  • cpu = -1
	  • data = -1
	  • rss = -1
	  • stack = 65536
	  • nofiles = 2000
	
	See your operating system documentation for similar implementations.

CR#	Description

653626	**DSI may shut down when creating connections to:**
	• **Oracle using profile rs_ase_to_oracle**
	• **DB2 using profile rs_ase_to_db2**
	• **UDB using profile rs_ase_to_udb**
	At the time of shutting down, Replication Server generates an error message. You see:
	`Message from server: Message: 2601, State 6, Severity 14 -- 'Attempt to insert duplicate key row in object 'rs_translation' with unique index 'rs_key_translation'`
	The `rs_translation` system table has unique index on (`classid`, `source_dtid`). The two translation (ASE binary to *rs_oracle_binary* and ASE timestamp to *rs_oracle_binary*) generates the duplicate key insert error.
	Workaround: For Replication Server versions 15.5 and later, you have to manually remove the translations when you encounter this error. Open the SQL scripts and search for `timestamp` to find the related SQL statements.
	For ase_to_oracle:
	`delete from rs_profdetail where profid = 0x000000000e000000 and pdetailid = 0x000000000e00003f`
	`delete from rs_systext where parentid = 0x000000000e00003f and sequence = 1`
	`delete from rs_profdetail where profid = 0x000000000e000000 and pdetailid = 0x000000000e000040`
	`delete from rs_systext where parentid = 0x000000000e000040 and sequence = 1`
	For ase_to_oracle_eco:
	`delete from rs_profdetail where profid = 0x000000000e010000 and pdetailid = 0x000000000e010042`
	`delete from rs_systext where parentid = 0x000000000e010042 and sequence = 1`
	`delete from rs_profdetail where profid = 0x000000000e010000 and pdetailid = 0x000000000e010043`
	`delete from rs_systext where parentid = 0x000000000e010043 and sequence = 1`
	For ase_to_oracle_ecda:
	`delete from rs_profdetail where profid = 0x000000000e020000 and pdetailid = 0x000000000e02003f`
	`delete from rs_systext where parentid = 0x000000000e02003f and sequence = 1`
	`delete from rs_profdetail where profid = 0x000000000e020000 and pdetailid = 0x000000000e020040`
	`delete from rs_systext where parentid = 0x000000000e020040 and sequence = 1`
	For ase_to_udb:

CR#	Description

	`delete from rs_profdetail where profid = 0x000000000e00000c and pdetailid = 0x000000000e000c27`
	`delete from rs_systext where parentid = 0x000000000e000c27 and sequence = 1`
	`delete from rs_profdetail where profid = 0x000000000e00000c and pdetailid = 0x000000000e000c28`
	`delete from rs_systext where parentid = 0x000000000e000c28 and sequence = 1`
	
	For ase_to_db2:
	`delete from rs_profdetail where profid = 0x000000000e000012 and pdetailid = 0x000000000e001231`
	`delete from rs_systext where parentid = 0x000000000e001231 and sequence = 1`
	`delete from rs_profdetail where profid = 0x000000000e000012 and pdetailid = 0x000000000e001232`
	`delete from rs_systext where parentid = 0x000000000e001232 and sequence = 1`

642091	**RepAgent fails when Replication Server is configured to use Secure Sockets Layer (SSL) with an ERSSD.** **Workaround**: Either: • Disable SSL using **configure replication server** with the **use_ssl** option, or, • Do not use ERSSD if the Replication Server is configured to use SSL.

629548	**On IBM AIX 64-bit platforms, isql cannot connect to Replication Server using SSL.**
	
	If you use **isql** and `SYBASE.csh` to connect to Replication Server through SSL, the connection fails. **isql** does not initialize the network filter.
	
	Workaround: Edit the LIBPATH environment variable in `SYBASE.csh` or `SYBASE.sh`.
	
	In SYBASE.csh:
	`source SYBASE.csh`
	`setenv LIBPATH $SYBASE/$SYBASE_OCS/lib3p:$LIBPATH`
	
	In SYBASE.sh:
	`source SYBASE.sh`
	`export LIBPATH=$SYBASE/SYBASE_OCS/lib3p:$LIBPATH`

CR#	Description

621751	**Replication Server cannot connect to LDAP on 64-bit platforms.**
	If the `libsybdldap.so` and `libsybdldap64.so` are not specified in the Directory section in `libtcl.cfg`, Replication Server cannot connect to the LDAP.
	Workaround: Manually edit the `libtcl.cfg` in `$SYBASE/$SYBASE_OCS/config` directory to include `libsybdldap.so` and `libsybdldap64.so`.
	For example:
	`[DIRECTORY]`
	`ldap32=libsybdldap.so ldap://sylvester:3389/dc=Sybase,dc=com??one??bindname=cn=Manager,dc=Sybase,dc=com??secret`
	`ldap64=libsybdldap64.so ldap://sylvester:3389/dc=Sybase,dc=com??one??bindname=cn=Manager,dc=Sybase,dc=com??secret`
	The entry name has changed from ldap to ldap32. To start the LDAP session with **dscp** utility:
	open ldap32

620380	**Use rs_init to configure Replication Server with an existing RSSD.** When configuring Replication Server 15.5 or later using the **rs_init** with an existing RSSD, an error occurs in **rs_init**. **Workaround**: Drop the RSSD before configuring the Replication Server.
618624	**Insufficient number of threads in Replication Server.** If you increase the number of client connections and did not increase the number of Open Server™ threads that the Replication Server can use, Replication Server may shut down. **Workaround**: **1.** Log in to RSSD. **2.** Increase the value of **num_threads**. **3.** Restart Replication Server.

CR#	Description

616941	**Stack trace error at start-up when sort order is not in the `objectid.dat` file.**
	If the sort order is not set correctly in the [*collate*] section of `$SYBASE/config/objectid.dat`, a stack trace error occurs during Replication Server start-up.
	Workaround:
	1. Make sure that the character set and set order have been set correctly in `Rep_Server_name.cfg` file. For example:
	• RS_charset=cp850
	• RS_sortorder=scannocp
	2. Go to `$SYBASE/charsets/character set`; for example, `$SYBASE/charsets/cp850`.
	3. Locate and open corresponding sort order file; for example, `scannocp.srt`.
	4. Check the line that has an "id" and find the sort order ID, for example,
	`id = 0x30; Unique ID # (48) for the sort order`
	The sort order ID is 48.
	5. In `$SYBASE/config/objectid.dat`, check that there is a line for that sort order under the [*collate*] section:
	`1.3.6.1.4.1.897.4.9.3.48 = scannocp`
	The last number is the sort order ID (48), all other numbers are identical for all lines. If you have a custom sort order, add this line for it.
	6. Restart Replication Server.

614717	**Issues with parallel_dsi parameter** When you change the value of the **parallel_dsi** parameter using the **alter connection** command or **configure replication server** command, Replication Server changes the existing configuration values of these parameters: • **dsi_num_threads** • **dsi_num_large_xact_threads** • **dsi_serialization_method** • **dsi_sqt_max_cache_size** This may impact your replication performance. **Workaround**: Set the **parallel_dsi** parameter first, and then manually set the desired values for the above-mentioned parameters for your environment if you do not want to use the default values.

CR#	Description
607273	**When the RSSD is loaded in an Adaptive Server 12.5.4 *x* server, rs_helprep fails when the *repdef_name* is greater than 30 characters.** **Workaround**: • Use single quote (‘) or double quote(“) around the long *repdef_name*. • Use a truncated *repdef_name*. Truncate the *repdef_name* to the first 29 characters when issuing the **rs_helprep** request. The **rs_helprep** then appends the % wildcard at the end when it queries the RSSD tables. • Upgrade RSSD data server to Adaptive Server 15.*x*.
571435	**During subscription materialization, using quoted identifiers with a custom function string that includes a quoted constant causes a query failure. The replicate data server identifies the quoted constant as a column instead of a constant**. **Workaround**: Create the subscription without a quoted constant or create the subscription without materialization.
452806	**An application deadlock involving Replication Server and Adaptive Server may occur when Replication Server is configured to use parallel DSI while applying transactions to a table containing `text` and `image` columns.** **Workaround**: Suspend and resume the DSI connection. If the DSI thread does not suspend, restart the Replication Server.

Known Issues for Replication Agent

Known issues and workarounds for Replication Agent.

Table 4. Replication Agent Issues

CR#	Description
696071	**In rare circumstances in some Adaptive Server Cluster Edition configurations, you may receive Adaptive Server 624 and 69x errors during replication of a database or tables within a database.** In active-active or active-passive cluster configurations, you can configure RepAgent to run on only one node of the cluster. When RepAgent reads an older image of database log pages on disk, while the latest image is on another node, you may receive these errors. **Workaround**: Sybase recommends that for the: • Active-passive configuration – run RepAgent on the active node to ensure that data and log pages are on the same node as RepAgent. • Active-active configuration – start Adaptive Server with the 16872 trace flag to prevent log page corruption and 69x errors. However, using this flag degrades server performance.

CR#	Description
689941	**RepAgent for Adaptive Server handles some of the normalization errors from Replication Server as warnings, which may result in data loss.** **Workaround**: Upgrade to Replication Server 15.7 and later. • If you are using a version of Adaptive Server earlier than 15.7, the RepAgent log may show incorrect normalization errors. For example: `Column unknown.unknown status 'always_replicate' in replication definition does not match database status 'replicate_if_changed'. Use 'alter replication definition' to set 'replicate_if_changed' status, at least until existing transactions have been processed. (Refer to Troubleshooting Guide for recovery procedures.)` See the accurate error information in the Replication Server log. For example: `E2011/11/16 09:17:11. ERROR #32057 REP AGENT(ost_replnxb9_32.pdb1) - /nrm/nrm.c(4175) The value given for 'blurbs.copy' cannot be translated from datatype 'text_status' to the required datatype 'varchar'.` • If you are using a version of Adaptive Server later than 15.7, the RepAgent log shows the correct error information. For example, the RepAgent log shows: `00:0002:00000:00018:2011/11/16 09:17:11.71 server RepAgent(4): Received the following error message from the Replication Server: Msg 32057. The value given for 'blurbs.copy' cannot be translated from datatype 'text_status' to the required datatype 'varchar'.`
630089	**Replication Agent for Oracle does not support the resynchronization scenario described in the *Replication Server Heterogeneous Replication Guide* > *Oracle Replicate Databases Resynchronization* > *Database Resynchronization Scenarios Resynchronization* topic.** **Workaround**: None.

CR#	Description

596321, 596320	**Replication Server does not support specifying owner information of stored procedures in the function replication definition for Oracle.**
	Therefore, Replication Agent cannot send that information to Replication Server. Because the owner information is not available, the replicated stored procedure fails to execute at the Oracle standby database.
	Workaround: For each stored procedure that is replicated from an active to a standby database, create a corresponding function string. Specify owner information in the target stored procedure.
	To customize the function-string class of the standby connection, which is inherited from **rs_oracle_function_class**, enter:
	`alter connection to dco2stb.ordb (standby connection)`
	`set function string class to my_oracle_function_class`
	`go`

Known Issues for Replication Server and Sybase IQ InfoPrimer Integration

These known issues concern the integration of Replication Server and Sybase IQ InfoPrimer.

Table 5. Replication Server and Sybase IQ InfoPrimer Integration Known Issues

CR#	Description
668152	**Unexpected column mapping may occur in SQL Transformation projects.** By default, staging table columns may not map to base table columns as expected if a base table column is: • An included attribute (column) in the Target tab in the Generic Transformation editor • A key attribute (column) • Has an expression specified in the Target tab of the Generic Transformation editor **Workaround**: For an update staging table, all transformations must be described in the Target tab of the Generic Transformation editor. All base table columns that are included attributes (columns) in the Target tab in the Generic Transformation editor must have expressions specified in the Target tab.

CR#	Description
668147	**Incorrect SQL may be generated for update operations.** A SQL transformation for an update must check the bitmap column or columns of the update staging table to determine if transformations must be applied to base table columns. These transformations are specified in the Function column of the Attributes tab of the Generic Transformation editor and should be wrapped in CASE statements in the Generated Transformation. SQL statements, constant or calculated values, and functions that take more than one argument may not be properly wrapped in CASE statements. **Workaround**: Manually edit the Generated Transformation.
665408	**Tables with Java-type or encrypted columns are not supported when no primary key is specified.** In constructing the delete and update staging tables, Sybase IQ InfoPrimer includes only primary-key columns as published in the replication definition for the primary table. If no primary-key columns are specified, Sybase IQ InfoPrimer uses all published columns in the delete and update staging table schema, excluding LOB columns, Java columns, encrypted columns, and floating-point columns. However, Sybase IQ InfoPrimer cannot distinguish between Java columns and columns that have user-defined datatypes, nor can it determine which columns might be encrypted. Sybase IQ InfoPrimer therefore does not support primary tables containing Java-type or encrypted columns and for which you specify no primary key.

Known Issues for Replicating to Sybase IQ

Known issues concerning replication to Sybase IQ from Adaptive Server using real-time loading (RTL) in Replication Server.

Table 6. Replicating to Sybase IQ Issues

CR#	Description
696035	**Connection to Sybase IQ suspends with a `Waiting for upgr` message when upgrading to Replication Server version 15.7.1.** **Workaround**: Upgrade Sybase IQ user database objects, such as stored procedures, tables, and so on, to Replication Server version 15.7.1. See *Upgrades to RSSD or ERSSD and User Databases* in the *Replication Server Configuration Guide*.
695949	**Connection to Sybase IQ 15.4 fails when create connection using profile with UTF-8 character set.** **Workaround**: Use Sybase IQ 15.4 ESD #1.

CR#	Description

692893	**RTL fails to replicate to Sybase IQ when the last three digits of the microsecond in `time`, `datetime`, and `smalldatime` columns in `TIMESTAMP` datatype are any value but zero.**
	When you manually materialize a replicate table using the Sybase IQ **INSERT ... LOCATION** statement, retrieving the result set directly from the primary database causes the last three digits of the microsecond in `TIMESTAMP` columns to use the values 000, 333, or 666. For example:
	`insert test_datetime_iq4 location 'zeus.primaryDB4' { select c1,c2,c3,c4,c5 from test_datetime_iq4 }`
	where c2 is `datetime` and c4 is `time`.
	Workaround: Either:
	• Manually materialize the Sybase IQ tables by enforcing explicit conversion of the `TIMESTAMP` datatype to string:
	`insert test_datetime_iq4 location 'zeus.primaryDB4' { select c1,convert(varchar,c2,109), c3,convert(varchar,c4,20),c5 from test_datetime_iq4 }`
	• Or, do not modify `TIMESTAMP` columns on Sybase IQ tables.

641373	**Lock table failure when replicating in Sybase IQ multiplex environment.** Because Replication Server connects and issues the **lock table** command, you must make the connection from the Replication Server to Sybase IQ in a multiplex environment to the coordinator node. Otherwise, you see: `E. 2010/09/14 08:51:13. ERROR #1028 DSI EXEC(104(1) pocmpx.iqdb) - dsiqmint.c(4234) Message from server: Message: -1004015, State 0, Severity 14 -- 'SQL Anywhere Error -1004015: Permission denied: Command not allowed on Multiplex Writer servers. (saint_iqthresholddl.cxx 14936)'.` **Workaround**: Change the `interfaces` file entry for Sybase IQ that the Replication Server uses, to connect to the coordinator node.

CR#	Description
620097	**Data corruption when replicating data to Sybase IQ 15.*x* in RTL.** When RTL replicates data to Sybase IQ 15.*x*, data inserted into `time` and `timestamp` columns may be corrupted. There is no warning nor error message indicating that the data is corrupted. **Workaround**: Select one of: • If there is no `text` or `image` in the table, mark the table to not be compiled. RTL uses the function string to process instead of **insert-location**. Issue this command: `alter connection to data_server.database for replicate table named table_name set` **dsi_compile_enable** `"off"` This will effectively slow down the process. • If there is `text` or `image` in the table, apply Sybase IQ 15.1 ESD #3 or use Sybase IQ 12.7 ESD #4 and later.
619358	**`Text` and `image` column values are truncated when inserted into a Sybase IQ 15.1 database. This problem occurs in Sybase IQ 15.1 GA, ESD #1, and ESD #2.** **Workaround**: Apply Sybase IQ 15.1 ESD #3 or use Sybase IQ 12.7 ESD #4 and later.
594620	**When inserting data from Replication Server to Sybase IQ 15.0 and later using INSERT ... LOCATION, you may encounter the error "`Right truncation of string data`".** **Workaround**: In Sybase IQ, apply this command: `set option public.STRING_RTRUNCATION = “OFF”` By default, the STRING_RTRUNCATION option is set to on in Sybase IQ 15.0 and later.

Known Installation Issues

Known issues and workarounds for Replication Server installation.

Table 7. Installer Issues

CR#	Description
706443	**Cannot validate passwords if you start sample Replication Server after installation.** **Workaround**: Manually edit these attributes in the `SAMPLE_RS.res` file: • **rs.rs_idserver_pass** • **rs.rs_rssd_prim_pass** • **rs.rs_rssd_maint_pass** • **rs.rs_ltm_rs_pass** • **rs.rs_rs_sa_pass** • **rs.rs_rs_pass** See *Syntax and Parameters for a Resource File* in the *Replication Server Configuration Guide*.
705090	**When you install Sybase IQ 15.4 ESD #1 into the same directory as Replication Server 15.7.1, the installation completes with an error.** **Workaround**: Ignore the error and warning messages.
701924	**The installer does not remove environment variables entries from earlier versions of `$SYBASE/SYBASE.sh` and `$SYBASE/SYBASE.csh`** **Workaround**: Manually edit the `$SYBASE/SYBASE.sh` and `$SYBASE/SYBASE.csh` to remove environment variables that are pointing to versions you do not want to include.

CR#	Description

685036	**Installer generates incorrect value in a response file.**
	The response file created by the installer includes extra characters that may cause errors during installation.
	For example:
	`#Start Sample Replication Server`
	`#------------------------------`
	`RS_START_SAMPLE_RS=\"\",\"No\" <---- wrong value`
	`RS_START_SAMPLE_RS_1=`
	`RS_START_SAMPLE_RS_2=No`
	`RS_START_SAMPLE_RS_BOOLEAN_1=0`
	`RS_START_SAMPLE_RS_BOOLEAN_2=1`
	`#`
	Workaround: Edit the response file and change the response to Yes or No as appropriate.

668368	**"./setup.bin: !: not found" message appears.**
	You see an error message when you install Replication Server on a Solaris machine.
	`Preparing to install...`
	`./setup.bin: !: not found`
	`Extracting the installation resources from the installer archive...`
	`Configuring the installer for this system's environment...`
	Workaround: Ignore the message and continue with the installation.

620755	**Installation fails on Solaris SPARC.**
	When the file descriptor limit is set to “unlimited,” the installer fails with this message:
	`awk: insufficient memory for string storage  Context is:`
	`>>>             <<<`
	Workaround: Set the hard file descriptor limit to a number.

619817	**If the df command fails, the installer stops responding before the preinstallation summary pane appears.** **Workaround**: Execute **strace -e statfs, statfs64 df** to identify the NFS mounts that have a problem. Then execute **umount -l <path>** to unmount all trouble NFS mounts. Re-run the installer.

CR#	Description
619793	**You cannot use the Tab and arrow keys to navigate the Choose Product Features window of the installation or uninstallation program.** **Workaround**: • Uninstaller – use the mouse to click the Choose Product Features window. This sets the focus on the window and allows you to use your keyboard. • Installer – use the mouse to select the features in the Choose Product Features window.
619784	**Cannot run installer with default tar tool.** You see this error when the installer uses the GNU **tar** tool to extract files from the Replication Server suite archive: `The included VM could not be unarchived (TAR). Please try to download the installer again and make sure that you download using 'binary' mode.  Please do not attempt to install this currently downloaded copy.` **Workaround**: Define `/usr/bin/tar` in $PATH.
619779	**The installer fails to launch if you specify a path to `setup.bin` that contains "..".** **Workaround**: Ensure that the path to `setup.bin` does not contain "..".
618722	**Interactive installation using response file does not work.** When installing Replication Server in an interactive mode using a response file, the installer does not use the values stored in the file. In silent mode, the response file works as expected. **Workaround**: None.

Known Issues for SySAM License

Known issues and workarounds for SySAM License from Sybase SPDC and SAP Service Marketplace (SMP).

Table 8. SySAM License Issues

CR#	Description

625227	**SPDC- or SMP-generated served partition-level license may not work.**
	When you use a served partition-level license generated from the Sybase Product Download Center or the SAP Service Marketplace (SMP) to start a SySAM server, you see a message that you are using an invalid license key, similar to:
	`(SYBASE) Invalid license key (inconsistent authentication code)`
	`(SYBASE) License server system started on hpiabou`
	`(SYBASE) No features to serve, exiting`
	`(SYBASE) EXITING DUE TO SIGNAL 49 Exit reason 4`
	`(lmgrd) SYBASE exited with status 49 (No features to serve)`
	`(lmgrd) SYBASE daemon found no features.  Please correct`
	`(lmgrd) license file and re-start daemons.`
	`(lmgrd)`
	`(lmgrd) This may be due to the fact that you are using`
	`(lmgrd) a different license file from the one you expect.`
	`(lmgrd) Check to make sure that:`
	`(lmgrd)  /remote/cat_fc/nli/iq152.hpia/SYSAM-2_0/licenses/18965_hpiabou_`
	`(lmgrd) is the license file you want to use.`
	Workaround: Use the old host IDs for the license running on the license server.

Known Issues for Replication Server Unsupported Operations

There are some limitations when using Replication Server unsupported operations.

These Adaptive Server operations may cause incorrect replication:

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

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

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

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

Known Issues with Language and Globalization

There is a limitation when using Japanese character sets in Replication Server. Neither the eucjis nor the sjis character set can be converted; this issue affects both Adaptive Server and Open Client™ and Open Server libraries.

Hankaku Katakana Conversion

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

This conversion problem affects both Adaptive Server and the Sybase Open Client and 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.

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.

This 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 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.

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.

Documentation Changes

Read about updates, corrections, and clarifications to the documentation released with Replication Server 15.7.1.

Adaptive Server Login Password

The note reports to leave blank if you have null password in the Adaptive Server login password parameters in the Replication Server ASE-to-ASE Replication Quick Start Guide is incorrect. Sybase recommends that passwords used for Adaptive Server must not be blank.

The affected password parameters are **rs.rs_rssd_sa_pass** and **rs.rs_ds_sa_password**.

License Generation at SAP SMP

Updates to SAP Service Marketplace (SMP) download location and license generation.

In addition to SPDC, information about download location and license generation in these guides should include SMP:

- *Replication Server ASE-to-ASE Replication Quick Start Guide*.
- *Replication Server Getting Started*.

See also

- *Generate Licenses at SPDC or SMP* on page 7

Multi-Path Replication Quick Start

Update "Multi-Path Replication Quick Start" procedure in the Replication Server Administration Guide Volume 2.

Set up a multi-path replication replication system comprising of two primary and replicate paths for end-to-end replication

1. Select or create two sets of tables or stored procedures that you want to replicate through two replication paths.
2. Use **rs_init** to add the primary and replicate Adaptive Server databases to the replication system.
3. Enable multithreaded RepAgent.
   At the primary Adaptive Server, enter:

   ```
   sp_config_rep_agent primary_database_name, 'multithread rep
   agent', 'true'
   go
   ```
4. Set the number of replication paths for RepAgent.
   For example, to enable two paths, enter:

```
sp_config_rep_agent primary_database_name, 'max number
replication paths', '2'
go
```

5. Create an alternate replication path from the primary database to Replication Server.

   a) Create the alternate physical RepAgent replication path named *alternate_path_name*. At the primary Adaptive Server, enter:

   ```
   sp_replication_path primary_database_name, 'add',
   "alternate_path_name", "repserver_name",
   "repserver_user", "repserver_password"
   go
   ```

   b) Create the corresponding alternate primary connection from Replication Server to the primary database and bind it to the alternate physical RepAgent replication path by using the same RepAgent replication path name—*alternate_path_name*.
   At the Replication Server, enter:

   ```
   create alternate connection to
   primary_dataserver.primary_database
   named primary_dataserver.alternate_path_name
   go
   ```

   See "**create alternate connection**" in the *Replication Server Reference Manual* for details.

   The replication system contains two primary replication paths—the default and *alternate_path_name*

6. Restart RepAgent.

   ```
   sp_stop_rep_agent primary_database_name
   go
   sp_start_rep_agent primary_database_name
   go
   ```

7. Create an alternate replicate connection from Replication Server to the replicate database using the same alternate replication path name—*alternate_path_name*.

   ```
   create alternate connection to
   replicate_dataserver.replicate_database
   named replicate_dataserver.alternate_path_name
   go
   ```

   The replication system contains two replicate replication paths—the default and *alternate_path_name*

8. Bind one set of objects such as tables or stored procedures to the alternate replication path.

   ```
   sp_replication_path primary_database_name, 'bind', "table",
   "[table_owner].table_name", "alternate_path_name"
   go
   ```

   The other set of objects uses the default replication path. You can only bind objects to alternate replication paths. All objects that you do not bind to an alternate replication path, use the default path instead.

9. Verify object bindings.

```
sp_replication_path primary_database_name,'list'
go
```

10. Create a replication definition against the primary database.
    For example to create the **authors_rep** replication definition for the `authors` table:

```
create replication definition authors_rep
with primary at primary_dataserver.primary_database
with all tables named 'authors'
...
go
```

    If the default primary connection and the alternate primary connection are on different Replication Servers, create replication definitions on each Replication Server.

11. Create a subscription against the default primary connection and the default replicate connection.

```
create subscription subscription_default_path for
replication_definition
with primary at primary_dataserver.primary_database
with replicate at replicate_dataserver.replicate_database
go
```

12. Create a subscription against the alternate primary connection and the alternate replicate connection.

```
create subscription subscription_alternate_path for
replication_definition
with primary at primary_dataserver.alternate_path_name
with replicate at replicate_dataserver.alternate_path_name
go
```

Replication Manager Plug-In Route Upgrade

Route upgrade in the Replication Manager plug-in to Sybase Central is deprecated.

Use the **sysadmin upgrade "route"** Replication Server command instead.

See *Upgrading Routes* in the *Replication Server Configuration Guide*.

SQL Anywhere Replication Support

Read about updates, corrections, and clarifications for SQL Anywhere documentation.

For information on SQL Anywhere support as a primary or a replicate database, see the SQL Anywhere documentation.

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