SYBASE®

An **SAP**® Company

Release Bulletin

Replication Server® 15.7.1 SP100

Windows

Contents

Product Summary

This release bulletin provides late-breaking information about Replication Server® version 15.7.1 SP100. A more recent version may be available on the Web.

Change in Release Version Number

Software patches currently known to Sybase® customers as ESDs (Electronic Software Deliveries) following major or minor releases are now referred to as SPs (support packages), with numbers of up to three digits.

See SAP® Release Strategy for all Major Software Releases at: *https://service.sap.com/ releasestrategy*.There is no change to upgrade or downgrade procedures because of this change in version number.

Supported Platforms and Operating Systems

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

Platform	Supported Version
Microsoft Windows (32-bit and 64-bit):	One of: • Windows Server 2008 R2 – Service Pack 1 • Windows Server 2012 • Windows 7 – Service Pack 1 • Windows 8 If you are installing Replication Server on Windows 64-bit, download and install the latest security updates from the Microsoft Web site. Before you start the installation, install both Microsoft Visual Studio patches for your x86 or x64 Windows platform, download: • Microsoft Visual C++ 2005 Service Pack 1 Redistributable Package ATL Security Update at *http://www.microsoft.com/download/en/details.aspx?amp;display-lang=en&id=26347*. • Microsoft Visual C++ 2010 Service Pack 1 Redistributable Package MFC Security Update at *http://www.microsoft.com/en-us/download/details.aspx?id=26999*.
VMware VSphere ESXi	VSphere ESXi 5.0 Replication Server on Windows 64-bit

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

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 SP100, 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. See *Obtaining Help and Additional Information > Downloading Products Updates*.

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. See *Obtaining Help and Additional Information > Downloading Products Updates*.

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 critical performance statistics along replication paths and visually displays replication in a topology view. The server monitors also display critical performance counters to aid you in troubleshooting replication performance.

In *Sybase Control Center 3.2.8*, see *Sybase Control Center 3.2.6 for Replication*. Although you can use Sybase Control Center 3.2.6 with Replication Server 15.7.1 SP100, Sybase Control Center 3.2.6 for Replication does not support the new features in Replication Server 15.7.1 SP100.

ExpressConnect for HANA DB

ExpressConnect for HANA DB (ECH) is an embedded library that is loaded by Replication Server for connectivity to support replication to SAP HANA® database.

Replication Server supports the replication of data through ExpressConnect for HANA DB to the HANA database from these primary databases:

• Adaptive Server®
• Oracle
• Microsoft SQL Server
• DB2 UDB on Linux, UNIX, and Windows

See *ExpressConnect for HANA DB and Replicate Database Connectivity for HANA DB* in the *Replication Server Heterogeneous Replication Guide*.

ExpressConnect for Oracle

ExpressConnect for Oracle (ECO) is an embedded library that is loaded by Replication Server for connectivity to support replication to 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.

See the *ExpressConnect for Oracle Configuration Guide* in Replication Server Options 15.7.1 SP100 product documentation.

Separately Licensed Products

Obtain a separate license for each Replication Server and Replication Server Options component.

Replication Server Options

Replication Server Options may consist of a Replication Agent™ and either Enterprise Connect™ Data Access (ECDA), or ExpressConnect (for Oracle or HANA DB). You must have Replication Server to obtain Replication Server Options.

Replication Server Options are available in these data-source-specific versions: for Oracle, Microsoft SQL Server, IBM DB2 Universal Database (UDB), and SAP HANA database. See the *Release Bulletin for Replication Server Options for Linux, Microsoft Windows, and UNIX* for details about supported platforms and compatible Replication Server versions.

ExpressConnect for Oracle
You can use ExpressConnect for Oracle (ECO) if you have a licensed Replication Server and have purchased Replication Server Option for Oracle, which includes the additional ECO license. See *Obtaining ECO Static License* in the *ExpressConnect for Oracle Configuration Guide*.

ExpressConnect for HANA DB
ExpressConnect for HANA DB is installed with Replication Server. There is no separate installer for ExpressConnect for HANA DB. For replication to HANA DB, use the license key that you generate for your product during installation:

- SAP Sybase Replication Server, option for SAP HANA, or
- SAP Sybase Replication Server, SAP HANA edition

See *Replication Server Quick Start Guide for HANA DB*.

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 any combination of Adaptive Server and Sybase® IQ, Oracle, or SAP HANA databases and reports 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.

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 SP100 is fully compatible with both 32-bit and 64-bit versions of Adaptive Server version 15.0.3 and later on Windows.

See the "Interoperability Between Adaptive Server and Replication Server" table.

Warning! Replication Server 15.7.1 is incompatible with the Adaptive Server 15.7 GA release. You can download the latest Adaptive Server 15.7 EBF from the Sybase Downloads Web site or contact Sybase Technical Support for detail to download the latest Adaptive Server 15.7 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.

See also
• *Replication Server Interoperability* on page 7

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.

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 SP100	15.7.1	15.7	15.6	15.5	15.2	15.7 SP100	15.7*	15.5	15.0.3
HP-UX Itanium (64-bit)	x	x	x	x	x	x	x	x	x	x
IBM AIX (32-bit)	n/a	n/a	n/a	n/a	n/a	x	n/a	n/a	n/a	n/a
IBM AIX (64-bit)	x	x	x	x	x	n/a	x	x	x	x
Linux x86 (32-bit)	n/a	n/a	n/a	x	x	x	n/a	n/a	x	x
Linux x86-64 (64-bit)	x	x	x	x	x	n/a	x	x	x	x
Linux on POWER (64-bit)	x	x	x	x	x	x	x	x	x	x
Solaris SPARC (32-bit)	n/a	n/a	n/a	n/a	n/a	x	n/a	n/a	x	x
Solaris SPARC (64-bit)	x	x	x	x	x	n/a	x	x	x	x
Solaris x86-64 (32-bit)	n/a	n/a	n/a	n/a	n/a	x	n/a	n/a	n/a	n/a
Solaris x86-64 (64-bit)	x	x	x	x	x	n/a	x	x	x	x

Operating System	Replication Server						Adaptive Server			
	15.7.1 SP100	15.7.1	15.7	15.6	15.5	15.2	15.7 SP100	15.7*	15.5	15.0.3
Microsoft Windows x86 (32-bit)	x	x	x	x	x	x	x	x	x	x
Microsoft Windows x64 (64-bit)	x	x	x	x	x	n/a	x	x	x	x
VMware VSphere ESXi VSphere ESXi 5.0	x	n/a	n/a	n/a	n/a	n/a	x	n/a	n/a	n/a
Legend: x = compatible; n/a = product not available or does not work with Replication Server on that platform.										
* Adaptive Server 15.7 GA is incompatible with Replication Server 15.7.1, download the latest Adaptive Server 15.7 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 SP100	15.7.1, 15.7	15.6, 15.5	15.2	15.7 SP100	15.7, 15.5	15.0	16.0	15.4	15.3	15.2
HP-UX Itanium (64-bit)	x	x	x	x	x	x	x	n/a	x	n/a	n/a
IBM AIX (32-bit)	n/a	n/a	n/a	x	x	x	x	n/a	n/a	n/a	n/a
IBM AIX (64-bit)	x	x	x	n/a	x	x	x	n/a	x	n/a	x
Linux x86 (32-bit)	n/a	n/a	x	x	x	x	x	n/a	n/a	n/a	n/a
Linux x86-64 (64-bit)	x	x	x	n/a	x	x	x	x	x	x	x

Operating System	Replication Server				Open Client/ Server			Sybase IQ			
	15.7 .1 SP1 00	15.7. 1, 15.7	15.6, 15.5	15. 2	15.7 SP1 00	15. 7, 15. 5	15. 0	16. 0	15. 4	15.3	15. 2
Linux on POW- ER (32-bit)	n/a	n/a	n/a	n/a	x	x	x	n/a	n/a	n/a	n/a
Linux on POW- ER (64-bit)	x	x	x	x	x	x	x	n/a	x	n/a	x
Solaris SPARC (32-bit)	n/a	n/a	n/a	x	x	x	x	n/a	n/a	n/a	n/a
Solaris SPARC (64-bit)	x	x	x	n/a	x	x	x	n/a	x	x	x
Solaris x86-64 (32-bit)	n/a	n/a	n/a	x	x	x	x	n/a	n/a	n/a	n/a
Solaris x86-64 (64-bit)	x	x	x	n/a	x	x	x	n/a	n/a	n/a	n/a
Microsoft Win- dows x86 (32- bit)	x	x	x	x	x	x	x	n/a	n/a	n/a	n/a
Microsoft Win- dows x64 (64- bit)	x	x	x	n/a	x	x	x	n/a	x	x	n/a
VMware VSphere ESXi VSphere ESXi 5.0	x	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

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

Sybase Control Center Compatibility

Sybase Control Center 3.2.8 includes Sybase Control Center 3.2.6 for Replication. Although you can use Sybase Control Center 3.2.6 with Replication Server 15.7.1 SP100, Sybase Control Center 3.2.6 for Replication does not support the new features in Replication Server 15.7.1 SP100.

In *Sybase Control Center 3.2.8*, see *Sybase Control Center 3.2.6 for Replication*.

HANA DB Compatibility

Replication Server 15.7.1 SP100 supports HANA database version 1.0 revision 48 and later.

See *Replication Server Quick Start Guide for HANA DB* and the *Replication Server Support for HANA DB* in the *Replication Server Quick Start Guide New Features Guide*.

Unsupported Microsoft SQL Server Datatypes

Replication of some Microsoft SQL Server datatypes is not supported when the replicate database is HANA database.

- `varbinary(max)`
- `varchar(max)`
- `nvarchar(max)`

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.

Installing ODBC Libraries for ExpressConnect for HANA DB

ExpressConnect for HANA DB (ECH) does not include the required HANA DB ODBC drivers. Download these libraries from the SAP Service Marketplace and install them after you have installed Replication Server.

1. Download the HANA client for your operating system from the SAP Support Marketplace:
   a) Go to SAP Support Package and Patches at *http://service.sap.com/patches*.
   b) Select **A-Z Index** in the Find your software tab or in the left sidebar.
   c) Click **H** in the Support Packages and Patches tab.

    d) If you see a message regarding the need for authorization at the top of the page, follow the instructions provided to request authorization to download packages before proceeding.

    e) Select **SAP HANA PLATFORM EDITION**.

    f) Select **SAP HANA PLATFORM EDIT. 1.0** or the latest available version.

    g) Select **Comprised Software Component Versions > SAP HANA CLIENT 1.00** or the latest available version.

    h) Select the appropriate operating system, and scroll to the Downloads tab.

    i) Select the appropriate IMDB_CLIENT or the revision level check box, and click **Add to Download Basket**.

    j) In the SAP Download Area pop-up window, click **Download Basket**.
The Download Basket tab shows all items selected for download from the SAP Support Marketplace, including the selected SAP HANA client. Select the item to download. For example, click **Revision 52 for SAP HANA CLIENT 1.00** in the list.

    This package is downloaded to the local file system.

> **Note:** You do not need to select **Get Download Manager** to download this package.

2. Extract the package, and issue:

```
>   sapcar.exe -xvf yourdownloadedpackage.sar
```

where the name of the *sapcar.exe* depends on the operating system and its version selected.

If you do not already have the **SAPCAR** tool, you can obtain it this way:

    a) Go to SAP Support Package and Patches at *http://service.sap.com/patches*

    b) Select **A-Z Index** in the Find your software tab or in the left sidebar.

    c) Click **S** in the Support Packages and Patches tab.

    d) Select **SAPCAR** from the list.

    e) Select **SAPCAR 7.20** or the latest available version.

    f) Repeat steps h through j in step 1.

After extracting the package, you should see the `hdbinst` and `hdbsetup` executables.

3. Follow the instructions in the *SAP HANA Database – Client Installation and Update Guide* at *https://websmp205.sap-ag.de/~sapidb/011000358700000604582011D* to install the HANA client component for your operating system.

You can also obtain this guide in this way:

    a) Go to SAP Help Portal at *http://help.sap.com/*.

    b) Select **SAP In-Memory Computing > SAP HANA**.

    c) Click **Installation and Upgrade Information**.

    d) Select and download the PDF for *SAP HANA Client Installation Guide*.

4. Copy the ODBC driver library from the HANA client installed directory to the `Rep_Server_install_dir\REP-15_5\connector\lib` directory. Install:

Platform	Library Name
Windows (32-bit)	`LIBODBCHDB32.dll`
Windows (64-bit)	`LIBODBCHDB.DLL`
UNIX (64-bit)	`libodbcHDB.so`

Special Upgrade and Downgrade Instructions

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

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.

Incompatible Function String in rs_sqlserver_function_class

When you upgrade from a pre-15.7 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**

Known Issues

Review known issues and workarounds, listed by Change Request (CR) number.

Note: If you have a Sybase® support contract, 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.

If you have an SAP® support contract, use the Sybase xSearch to search for knowledge-based articles and solved cases. Go to the SAP Sybase Support Portal at *http://service.sap.com/ sybase/support*, log in, and select **KBAs & Solved cases** to start the xSearch.

Key to issue types:

- **RTC** – SAP® Release to Customer tracking number.
- **CSN** – SAP Customer Services Network tracking number.
- **CR** – Sybase® Change Request number.
- **N/A** – No tracking number.

Known Issues for Replication Server

Known issues and workarounds for Replication Server.

Table 3. Replication Server Issues

CR#	Description
739573	**Cannot create direct load subscription when there is no route from the replicate Replication Server to the primary Replication Server.** **Workaround:** Either: • Create a route from the replicate Replication Server to the primary Replication Server, or, • From the RSSD of the replicate Replication Server, get the rs_databases row for the replicate database and insert this row to the RSSD of the primary Replication Server, then restart the primary Replication Server.
739186	**Replication Server does not support SQM cache size greater than 2GB.** **Workaround:** Reconfigure the **block_size**, **sqm_page_size**, **sqm_cache_size** parameters to reduce the cache size to less than 2GB. See **configure replication server** in the *Replication Server Reference Manual*.
| **739068** | **Replication Server fails to set `unichar` value when the table has 256 or more columns.**<br><br>When there are more than 255 columns in a table, and if there are primary and replication definition column of unichar or univarchar, **create subscription ... direct load** may fail with this error message in the Replication Server log file:<br><br>```
E. 2013/05/08 14:17:29. ERROR #1027 MatApply( ) - /dsiu-
til.c(420) Open Client
    Client-Library error: Error: 34, Severity 5 -- '[ Ex-
pressConnect for ODBC  Data Source|statement
    ] /calm/bldr/rsconx/odbc/generic/src/odbccolumn.cpp:
1241  odbcCol::SetValue failed, value too
  long. Setting Parameter 15 to it's bind  location failed.
'.
```<br><br>**Workaround:** Set the length of the corresponding replicate column twice as long as the one in the primary column. |

CR#	Description
738978	After using rs_init **user database** "upgrade" function and it finishes successfully, the admin version, "connection" command in Replication Server displays an incorrect `Database information not found` message. **Workaround:** None.
738928	Replication Server does not include the `hds_oracle_new_set-up_for_replicate.sql` script for the Oracle-to-Oracle database resynchronization. **Workaround:** Use the *Oracle-to-Oracle Database Resynchronization Script* on page 18 .
738917	For an Adaptive Server or a non-Adaptive Server primary database, a materialization error occurs in Replication Server if the table replication definition includes: • An LOB column • A column with a **map to** clause • No **replicate_if_changed** *LOB column_name [, column_name]...* clause **Workaround:** Add a **replicate_if_changed** *LOB column_name [, column_name]* clause into the replication definition. For an Oracle primary database, you must define **replicate_if_change**.
738172	When the parallel DSI is enabled, and **dsi_bulk_copy** or **dynamic_sql** is set to on, Replication Server may fail if the transaction size is greater than **dsi_large_xact_size**. **Workaround**: Either set: • The parallel DSI to off, or, • The **dsi_bulk_copy** and **dynamic_sql** to off.
737550	You cannot use **dynamic_sql** with an Adaptive Server replicate data server if tables have more 255 columns. **Workaround**: Configure the replication definition and/or connection to use either Language or Bulk (**dsi_bulk_copy**) interface.
736202	When you set **autocorrection** to on for the replication definition table, Replication Server does not always update `text` columns correctly. **Workaround**: Set **autocorrection** to off.
730159	Replication Server does not use the default value for a target value where none is supplied in the source value in a user-defined datatypes (UDDs) translation. **Workaround**: None.

CR#	Description
728541	**Replication of LOB columns fails when data compression is enabled and you see these error messages in the Replication Server log:** ```E. 2013/04/27 18:07:11. ERROR #5163 DSI EXEC(108(1) repl0_16504.tdb4) - /dsiexec.c(9510) Text data is being converted from one character set to another. The length of the converted text data is longer than the length of the original text data times the config option 'dsi_text_convert_multiplier'. The value for the database 'repl0_16504.tdb4' is '0.000000'. Please increase this value for the database and resume the DSI thread.``` See also Adaptive Server CR #738552. **Workaround**: None.
724706	**Replication Server does not start if the LANG environment variable is set to any value except a valid Open Client/Server language.** **Workaround**: Set the LANG environment variable to a supported Open Client/Server or Replication Server language, or to "".
718889	**If the maintenance user does not have adequate permission on the `rs_dbversion` table, then admin version, "connection" may return incorrect status.** **Workaround**: When issuing **admin version, "connection"**, grant select permission on the rs_dbversion table to maintenance user before the maintenance user executes **admin version, "connection"**.
718342	**Reference implementation fails because rs_init requires a non-NULL password for Replication Server.** **Workaround**: Provide a non-NULL password for the "sa" user in the configuration file.
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**: Either: • Use **sysadmin system_version** to obtain the new version from the ID Server; or, • Restart the preupgrade Replication Server.
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

CR#	Description
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.

696035	**Replication Server does not support upgrade Oracle database connections using ECO.**
	
	For connections with DCO, when you upgrade Replication Server to 15.7.1 GA and later, you see the DSI shutdown error:
	`" "CONN_ID": invalid identifier"`
	
	Workaround: Exclude your Oracle user databases from the seamless upgrade command, issue:
	`repserver -upgr... -nodb oracle_user_db_id`
	
	and manually load the Oracle upgrade scripts.
	
	See *Upgrading Non-ASE User Databases and User Databases Not Supported by sysadmin upgrade* in the *Replication Server Configuration Guide*.

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 15.5.** **Workaround**: Issue this **trace** option in **rs_init**: `rs_init -r resource_file_name -T T_SEND_CLEARTEXT_PASSWORD`
694628	**In Adaptive Server to Adaptive Server replication, Replication Server always uses batch mode to send class-level function strings—such as rs_usedb and rs_set_ciphertext—that set connection attributes, even if you set batch off for the connection.** **Workaround**: None.
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.

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 'all-types.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.
678488	**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.
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.
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
558253	**Creating replication definition fails when using gb18030 character set and the ERSSD.**
	On Windows, when you are creating the replication definition table using **create replication definition**, the gb18030 character set does not work correctly if you are:
	• Using the ERSSD, and • Using multibyte characters in the replication definition name or the table name.
	Workaround: Set the environment variable SACHARSET to GBK before starting the Replication Server.
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.

See also
• *Oracle-to-Oracle Database Resynchronization Script* on page 18

Oracle-to-Oracle Database Resynchronization Script

Use a maintenance user ID in the replicate Oracle to apply this script which replaces the **hds_oracle_new_setup_ for_replicate.sql** script.

```
drop table rs_info;
commit;

create table rs_info (rskey varchar2 (20), rsval varchar2 (20));
commit;

insert into rs_info values ('charset_name', 'iso_1');
commit;

insert into rs_info values ('sortorder_name', 'bin_iso_1');
commit;

drop public synonym rs_lastcommit;
commit;

drop table rs_lastcommit;
commit;

create table rs_lastcommit(
        origin number(8),origin_qid char(72 byte),
        secondary_qid char(72 byte),
        origin_time date,
        dest_commit_time date,
        conn_id number default 0);
commit;
```

```
grant all on rs_lastcommit to public;
commit;

create public synonym rs_lastcommit for rs_lastcommit;
commit;

CREATE OR REPLACE PROCEDURE RS_UPDATE_SEQUENCE
(
    SequenceName VARCHAR2,
    SequenceValue NUMBER,
    Increment NUMBER
)
AS
    CurrentID NUMBER;
    LastID NUMBER;
    SeqCursor INTEGER;
    SQLStmt VARCHAR2(1024);
    Result NUMBER;
BEGIN
    SQLStmt := 'SELECT ' || SequenceName || '.NEXTVAL FROM DUAL';
    SeqCursor := DBMS_SQL.OPEN_CURSOR;DBMS_SQL.PARSE(SeqCursor,
                            SQLStmt,
                            DBMS_SQL.NATIVE);
    DBMS_SQL.DEFINE_COLUMN(SeqCursor,
                    1,
                    LastID);
    Result := DBMS_SQL.EXECUTE_AND_FETCH(SeqCursor);
    DBMS_SQL.COLUMN_VALUE(SeqCursor,1,CurrentID);
    LOOP
        IF ( Increment < 0 ) THEN
            EXIT WHEN CurrentID <= SequenceValue;
            EXIT WHEN CurrentID > LastID;
        ELSE
            EXIT WHEN CurrentID >= SequenceValue;
            EXIT WHEN CurrentID < LastID;
        END IF;
        LastID := CurrentID;
        Result := DBMS_SQL.EXECUTE_AND_FETCH(SeqCursor);
        DBMS_SQL.COLUMN_VALUE(SeqCursor,1,CurrentID);
    END LOOP;
    DBMS_SQL.CLOSE_CURSOR(SeqCursor);
END;
/

grant all on RS_UPDATE_SEQUENCE to public;
commit;

DROP sequence rs_ticket_seq;

CREATE sequence rs_ticket_seq;

Drop table rs_ticket_history;

CREATE TABLE rs_ticket_history (
        cnt numeric(8,0),
```

```
        h1 varchar(10),
        h2 varchar(10),
        h3 varchar(10),
        h4 varchar(50),
        pdb varchar(30),
        prs varchar(30),
        rrs varchar(30),
        rdb varchar(30),
        pdb_t varchar(128),
        exec_t varchar(128),
        dist_t varchar(128),
        rsi_t varchar(128),
        dsi_t varchar(128),
        rdb_t varchar(128) default current_date,
        exec_b numeric(22,0),
        rsi_b numeric(22,0),
        dsi_tnx numeric(22,0),
        dsi_cmd numeric(22,0),
        ticket varchar(1024),
        conn_id number NULL);

create unique index rs_ticket_idx on rs_ticket_history(cnt);

create or replace trigger rs_ticket_tri
before insert on rs_ticket_history  for each row
begin
    if :new.cnt  is null then
        select rs_ticket_seq.nextval into :new.cnt  from dual;
    end if;
end rs_ticket_tri;
/

grant all on rs_ticket_history to public;
commit;

create or replace package RS_TRIGGER_CONTROL
as
    procedure ENABLE;
    function IS_ENABLED
        return boolean;
    end;
/
create or replace package body RS_TRIGGER_CONTROL
as
    fire_trigger   boolean := TRUE;
    function IS_ENABLED return boolean as
    begin
        if fire_trigger then
            return FALSE;
        else
            return TRUE;
        end if;
    end IS_ENABLED;

procedure ENABLE
```

```
as
    begin
        fire_trigger := FALSE;
    end ENABLE;

procedure DISABLE
as
    begin
        fire_trigger := TRUE;
    end DISABLE;
end RS_TRIGGER_CONTROL;
/

grant all on rs_trigger_control to public;

drop public SYNONYM rs_trigger_control;

create public SYNONYM rs_trigger_control for rs_trigger_control;
commit;

CREATE OR REPLACE PROCEDURE rs_send_repserver_cmd(rs_api IN
VARCHAR2)
AS
    cmd VARCHAR2 (4000);
    plsql_block VARCHAR2(50);
    BEGIN
        if (instr(lower(rs_api), 'rs_rcl') > 0) then
            DBMS_OUTPUT.put_line('The Replication Server command
should not contain the keyword ''rs_rcl''');
            return;
        end if;
        cmd := 'rs_rcl ''' ||  replace(rs_api, '''', ''''')  || '''
rs_rcl';
        if ('rs_rcl' !=  substr(cmd, length(cmd) - 5)) then
            DBMS_OUTPUT.put_line('The Replication Server command is
too long.');
            DBMS_OUTPUT.put_line('Please split it into two or more
commands');
            return;
        end if;
        plsql_block := 'begin rs_marker(:a); end;';
        EXECUTE IMMEDIATE plsql_block USING cmd;
    END;
/

drop public SYNONYM rs_send_repserver_cmd;

create public SYNONYM rs_send_repserver_cmd for
rs_send_repserver_cmd;
commit;
```

Known Issues for Replication Agent

Known issues and workarounds for Replication Agent.

Table 4. Replication Agent Issues

CR#	Description
737282	**Trailing whitespace characters truncated in direct load materialization.** Whitespace characters at the end of variable-length character type strings are truncated during direct load materialization. For example, the eight-character varchar string "1234567 " is materialized as "1234567". **Workaround:** None.
| 689941 | **RepAgent for Adaptive Server handles some of the normalization errors from Replication Server as warnings, which may result in data loss.**<br><br>**Workaround**: Upgrade to Replication Server 15.7 and later.<br><br>• If you are using a version of Adaptive Server earlier than 15.7, the RepAgent log may show incorrect normalization errors. For example:<br><br>```
Column unknown.unknown status 'always_replicate' in rep-
lication definition does not match database status 'rep-
licate_if_changed'.  Use 'alter replication definition'
to set 'replicate_if_changed' status, at least until ex-
isting transactions have been processed.  (Refer to Trou-
bleshooting Guide for recovery procedures.)
```<br><br>See the accurate error information in the Replication Server log. For example:<br><br>```
 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 trans-
lated from datatype 'text_status' to the required data-
type 'varchar'.
```<br><br>• 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:<br><br>```
00:0002:00000:00018:2011/11/16 09:17:11.71 server  Rep-
Agent(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'.
``` |

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:
	
	<pre>alter connection to eco2stb.ordb (standby connection)
	set function string class to my_oracle_function_class
	go</pre>

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 5. Replicating to Sybase IQ Issues

CR#	Description
722797	**The default Sybase IQ `NUMERIC` and `DECIMAL` datatypes precision and scale do not match and are incompatible with the isql and the Adaptive Server defaults.** When using the default precision and scale in the replicate Sybase IQ table definition for NUMERIC andDECIMAL datatypes, the Sybase Replication Server DSI thread shows: **ct_results()**: protocol specific layer: external error: There is a tds protocol error. An invalid numeric precision was received. **Workaround**: Define the target Sybase IQ NUMERIC and DECIMAL datatypes with precision less than or equal to 77. See *Numeric Data Types* in the *SAP Sybase IQ Reference: Building Blocks, Tables, and Procedures*.
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
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_iqthresholdddl.cxx 14936)'.```
	Workaround: Change the `sql.ini` file entry for Sybase IQ that the Replication Server uses, to connect to the coordinator node.
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.*x* and later.

Known Issues for Replicating to HANA DB

Known issues and workarounds for replicating to HANA DB.

Table 6. HANA ODBC Drivers Version 1.00.55 Build 0376513-1510 Issues

CR#	Bugzilla#	Description
737642	30506	**Cannot replicate DECFLOAT values between -2.2207e-307 to 2.2207e-308 into a HANA database.**
		Workaround: None.

Table 7. HANA Database Issues

CR#	Description
735171	**When replicating GB 18030 character set to HANA DB for `text` and `ntext` columns, the replicate value differs between the primary Replication Server and replicate Replication Server.** **Workaround:** Do not use `text` or `ntext` columns when you are using the GB 18030 character set.

Known Installation Issues

Known issues and workarounds for Replication Server installation.

Table 8. Installer Issues

CR#	Description

739701	After completing configuring a Replication Server with **rs_init**, you see:
	`This implementation only intended to be used in non-pro-`
	`duction code.`
	
	Workaround: Ignore the message.

718029	**The Replication Server component may not be uninstalled when you uninstall the Replication Server Suite.** **Workaround**: Manually delete the files and folders after uninstallation. Do not delete the `OCS-15_0` directory if it is being used by other products.
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*.

CR#	Description
701924	**The installer does not remove environment variables entries from earlier versions of `%SYBASE%\SYBASE.bat`** **Workaround**: Manually edit the `%SYBASE%\SYBASE.bat` to remove environment variables that are pointing to versions you do not want to include.
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.
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 9. SySAM License Issues

CR#	Description
717668	**Insufficient licenses message in Replication Server log displays an incorrect available number of CPUs when a CPU is added.** The Replication Server log displays the messages twice. The first log message displays an incorrect number of CPUs, but the second log message displays the correct number of CPUs added. **Workaround**: Ignore the incorrect error message.

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.

Documentation Changes

Read about updates, corrections, and clarifications to the documentation released with Replication Server 15.7.1 SP100.

No Support for Oracle to Oracle Reference Implementation

You cannot use the Reference Implementation for Oracle to Oracle Replication.

Disregard *Reference Implementation for Oracle to Oracle Replication* in the *Replication Server Heterogeneous Replication Guide*.

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*.

Replication Server System Tables Diagram

There are changes in the definitions and subscriptions and queues columns tables in the Replication Server system tables diagram.

- Definitions and subscriptions tables – Add these new columns to the `rs_maintusers` table:

Column	Datatype
new_password	varchar(66)
attributes	int
password_date	datetime
expiration_interval	smallint

- Queues tables – Add new `rs_autopartpath` table.

Column	Datatype
name	varchar (30)
path	varchar(255)
size	int
max_size	int
status	int

See *Replication Server System Tables* in the *Replication Server Reference Manual*.

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.

Updated ASA Path Names

Replace `ASA11` with `ASA12` in the path names to set the ERSSD environment variables.

In *Prerequisites for Replication Server Recovery* in the *Replication Server Administration Guide Volume 1*, replace `ASA11` with `ASA12`.

On Windows:

- Set your environment variable PATH to include `%SYBASE%\%SYBASE_REP%`
  `\ASA12\win32`:

```
set PATH=%SYBASE%\%SYBASE_REP%\ASA12\win32;%PATH%
```

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- Online help in the product, if available.

To read or print PDF documents, you need Adobe Acrobat Reader, which is available as a free download from the *Adobe* Web site.

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    d) (Optional) Select a filter, a time frame, or both, and click **Go**.

    e) Select a product.

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    f) Click the **Info** icon to display the EBF/Maintenance report, or click the product description to download the software.

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