



**Release Bulletin**

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**SAP Replication Server® 15.7.1**  
**SP200**

UNIX and Linux

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# Product Summary

This release bulletin provides late-breaking information about SAP® Replication Server® version 15.7.1 SP200. A more recent version may be available on the Web.

## Supported Platforms and Operating Systems

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

Platform	Supported Operating Systems and Version
HP-UX Itanium (64-bit)	<ul style="list-style-type: none"><li>HP-UX 11.31</li></ul> <hr/> <b>Note:</b> The installer requires the <b>gzip</b> utility. Ensure that the path to <b>gzip</b> is set in the \$PATH environment variable. <hr/>

Platform	Supported Operating Systems and Version
<p>Linux x86-64 (64-bit)</p>	<ul style="list-style-type: none"> <li>• Red Hat Enterprise Linux 5.5 <ul style="list-style-type: none"> <li>• kernel – 2.6.18-194.el5 #1 SMP</li> <li>• glibc – 2.5-49</li> </ul> </li> <li>• Red Hat Enterprise Linux 5.6 <ul style="list-style-type: none"> <li>• kernel – 2.6.18-238.5.1.el5 #1 SMP</li> <li>• glibc – 2.5-58</li> </ul> </li> <li>• Red Hat Enterprise Linux 5.7 <ul style="list-style-type: none"> <li>• kernel – 2.6.18-274.el5</li> <li>• glibc – 2.5-49 (64-bit)</li> </ul> </li> <li>• Red Hat Enterprise Linux 5.8 <ul style="list-style-type: none"> <li>• kernel – 2.6.18-339.el5</li> <li>• glibc – 2.5-105</li> </ul> </li> <li>• (ExpressConnect for SAP HANA® database) Red Hat Enterprise Linux 6</li> <li>• Red Hat Enterprise Linux 6.2 <ul style="list-style-type: none"> <li>• kernel – 2.6.32-131.0.15.el6.x86_64 #1 SMP</li> <li>• glibc – 2.12-1.47</li> </ul> </li> <li>• Red Hat Enterprise Linux 6.3 <ul style="list-style-type: none"> <li>• kernel – 2.6.32-220.el6.x86_64 #1 SMP</li> <li>• glibc – 2.12-1.80</li> </ul> </li> <li>• Red Hat Enterprise Linux 6.5 <ul style="list-style-type: none"> <li>• kernel – 2.6.32-431.el6.x86_64 #1 SMP</li> <li>• glibc – glibc-2.12-1.132</li> </ul> </li> <li>• (ExpressConnect for SAP HANA database) SuSE Linux Enterprise Server SLES 11</li> <li>• SuSE Linux Enterprise Server SLES 11.1 <ul style="list-style-type: none"> <li>• kernel – 2.6.32.12-0.7-default #1 SMP</li> <li>• glibc – 2.11.1-0.17.4</li> </ul> </li> <li>• SuSE Linux Enterprise Server SLES 11.2 <ul style="list-style-type: none"> <li>• kernel – default-3.0.13-0.27.1</li> <li>• glibc – 2.11.3-17.31.1</li> </ul> </li> </ul>

Platform	Supported Operating Systems and Version
Linux on IBM p-Series (Linux on POWER) (64-bit)	<ul style="list-style-type: none"> <li>• Red Hat Enterprise Linux 5.5 <ul style="list-style-type: none"> <li>• kernel – 2.6.18-53.el5 #1 SMP</li> <li>• glibc – 2.5-49</li> </ul> </li> <li>• Red Hat Enterprise Linux 5.7 <ul style="list-style-type: none"> <li>• kernel – 2.6.18-274.el5</li> <li>• glibc – 2.5-49 (64-bit)</li> </ul> </li> <li>• Red Hat Enterprise Linux 5.8 <ul style="list-style-type: none"> <li>• kernel – 2.6.18-339.el5</li> <li>• glibc – 2.5-105</li> </ul> </li> <li>• Red Hat Enterprise Linux 6.0 <ul style="list-style-type: none"> <li>• kernel – 2.6.32-71.el6.ppc64 #1 SMP</li> <li>• glibc – 2.12-1.7.el6.ppc64</li> <li>• glibc – 2.12-1.7.el6.ppc</li> </ul> </li> <li>• Red Hat Enterprise Linux 6.5 <ul style="list-style-type: none"> <li>• kernel – 2.6.32-431.el6.ppc64 #1 SMP</li> <li>• glibc – glibc-2.12-1.132</li> </ul> </li> <li>• SuSE Linux Enterprise Server SLES 11 <ul style="list-style-type: none"> <li>• kernel – 2.6.27.19-5-ppc64 #1 SMP</li> <li>• glibc – 2.9-13.2</li> </ul> </li> <li>• SuSE Linux Enterprise Server SLES 11.2 <ul style="list-style-type: none"> <li>• kernel – default-3.0.13-0.27.1</li> <li>• glibc – 2.11.3-17.31.1</li> </ul> </li> </ul> <hr/> <p><b>Note:</b> ExpressConnect for SAP HANA database is not supported on Linux on IBM p-Series.</p> <hr/> <p>Before you install SAP Replication Server, install the runtime libraries for the IBM XL C compiler. To verify that IBM XL C runtime packages are installed, issue:</p> <pre>vacpp.rte-10.1.0-0</pre> <p>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 <a href="https://www-304.ibm.com/support/docview.wss?uid=swg24021253">https://www-304.ibm.com/support/docview.wss?uid=swg24021253</a>. Make sure you select the appropriate installation package for your operating systems from the download table.</p>

Platform	Supported Operating Systems and Version
IBM AIX (64-bit)	<ul style="list-style-type: none"> <li>• AIX 6.1</li> <li>• AIX 7.1</li> </ul> <p>Before you install SAP 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.</p> <p>These libraries are also available from the IBM AIX Web site:</p> <ul style="list-style-type: none"> <li>• The IBM XL C/C++ Runtime for AIX is available on the Web site under “Latest updates for supported IBM C and C++ compilers.”</li> <li>• 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.”</li> </ul> <p>To verify that the libraries are installed, issue:</p> <pre>source \$SYBASE/SYBASE.csh cd \$SYBASE/\$SYBASE_REP/bin ldd ./repserver</pre>
Solaris (64-bit)	<ul style="list-style-type: none"> <li>• Solaris 10</li> <li>• Solaris 11</li> </ul>

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 SAP Replication Server components.

Contact your operating system representative for patches recommended for your installation 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 Platform Certification Web site at <http://certification.sybase.com/ucr/search.do>.



## **SAP Replication Server 15.7.1 SP200 64-bit for HP-UX Itanium**

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

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

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

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## **SAP Replication Server**

The replication software coordinates data replication activities across the enterprise to ensure data delivery, real-time business intelligence, and zero operational downtime.

For detailed information about new features in version 15.7.1 SP200, see the *New Features Guide*.

## **SAP Control Center**

SAP® 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 replication in a topology view. The server monitors also show critical performance counters, might be helpful when you troubleshoot replication performance.

In *SAP Control Center 3.3*, see *SAP Control Center 3.3 for Replication*. You can use SAP Control Center 3.3 with SAP Replication Server 15.7.1 SP200; however, SAP Control Center 3.3 for Replication does not support the new features in version 15.7.1 SP200.

## **ExpressConnect for SAP HANA Database**

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

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

- SAP® Adaptive Server® Enterprise (SAP® ASE)
- Oracle

## Product Summary

- Microsoft SQL Server
- DB2 UDB on Linux, UNIX, and Windows

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

## ExpressConnect for Oracle

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ExpressConnect for Oracle (ECO) is an embedded library that is loaded by SAP 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 SAP® Replication Server® Options 15.7.1 SP200 product documentation.

## Separately Licensed Products

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

## SAP Replication Server Options

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

SAP 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 *SAP Replication Server Options for Linux, Microsoft Windows, and UNIX Release Bulletin* for details about supported platforms and compatible SAP Replication Server versions.

### *ExpressConnect for Oracle*

You can use ExpressConnect for Oracle (ECO) if you have a licensed SAP Replication Server and have purchased SAP 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 SAP HANA Database*

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

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

See the *Quick Start Guide for SAP HANA Database*.

## **SAP Replication Server Data Assurance Option**

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

Replication Server DA Option compares row data and schema, and reports discrepancies, between any combination of SAP ASE and SAP® IQ, Oracle, Microsoft SQL Server, IBM DB2 Universal Database (UDB), and SAP HANA databases.

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

## **Product Editions and Licenses**

SAP 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 SAP 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 SAP Replication Server Options documentation.

See *Product Editions and License Types* in the *SAP Replication Server Installation Guide*.

To purchase licensed options, contact your SAP sales representative.

## **Product Compatibility**

SAP Replication Server has been tested for compatibility with SAP ASE and other products.

## SAP ASE

A replication system can include SAP ASEs, SAP Replication Servers, DirectConnect™ products, and RepAgents on various operating systems. SAP Replication Server is compatible with several versions of SAP ASE on various operating systems.

SAP Replication Server version 15.7.1 SP200 is fully compatible with both 32-bit and 64-bit versions of SAP ASE version 15.0.3 and later on HP-UX, IBM AIX, Linux, and Solaris.

**Warning!** SAP Replication Server 15.7.1 is incompatible with the SAP ASE 15.7 GA release. You can download the latest SAP ASE 15.7 EBF from the SAP Service Marketplace (SMP) Web site or contact SAP Technical Support for detail to download the latest SAP ASE 15.7 EBF for compatibility with SAP Replication Server 15.7.1.

### See also

- *SAP Replication Server Interoperability* on page 8

## Schema Comparison with rs\_subcmp

You cannot use **rs\_subcmp** for schema comparisons of SAP ASE 15.7 SP100 and later; use the Replication Server Data Assurance Option instead. See the SAP Replication Server Data Assurance Option documentation.

## SAP Replication Server Interoperability

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

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 SAP Replication Server and SAP ASE**

Operating System	SAP Replication Server					SAP ASE			
	15.7.1 SP200	15.7.1 SP100	15.7.1	15.7	15.6	16.0	15.7 SP100	15.7*	15.5 , 15.0 .3
HP-UX Itanium (64-bit)	x	x	x	x	x	x	x	x	x
IBM AIX (64-bit)	x	x	x	x	x	x	x	x	x
Linux x86 (32-bit)	n/a	n/a	n/a	n/a	x	n/a	n/a	x	x

Operating System	SAP Replication Server					SAP ASE			
	15.7.1 SP200	15.7.1 SP100	15.7.1	15.7	15.6	16.0	15.7 SP100	15.7*	15.5 , 15.0.3
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 (64-bit)	x	x	x	x	x	x	x	x	x
Solaris x86-64 (64-bit)	x	x	x	x	x	x	x	x	x
Microsoft Windows x86 (32-bit)	x	x	x	x	x	n/a	x	x	x
Microsoft Windows x64 (64-bit)	x	x	x	x	x	x	x	x	x
VMware VSphere ESXi VSphere ESXi 5.0	x	x	n/a	n/a	n/a	x	n/a	n/a	n/a
<p>Legend: x = compatible; n/a = product not available or does not work with SAP Replication Server on that platform.</p> <p>* SAP ASE 15.7 GA is incompatible with SAP Replication Server 15.7.1. You can download the latest SAP ASE 15.7 EBF from the SAP Service Marketplace (SMP) Web site or contact SAP Technical Support for detail to download the latest SAP ASE 15.7 EBF for compatibility with SAP Replication Server 15.7.1.</p>									

**Table 2. Interoperability Between SAP Replication Server and SAP IQ**

Operating System	SAP Replication Server					SAP IQ			
	15.7.1 SP200	15.7.1 SP100	15.7.1	15.7	15.6	16.0	15.4	15.3	15.2
HP-UX Itanium (64-bit)	x	x	x	x	x	x	x	n/a	n/a
IBM AIX (64-bit)	x	x	x	x	x	x	x	n/a	x
Linux x86 (32-bit)	n/a	n/a	n/a	n/a	x	n/a	n/a	n/a	n/a

Operating System	SAP Replication Server					SAP IQ			
	15.7.1 SP200	15.7.1 SP100	15.7.1	15.7	15.6	16.0	15.4	15.3	15.2
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	n/a	x
Solaris SPARC (64-bit)	x	x	x	x	x	x	x	x	x
Solaris x86-64 (64-bit)	x	x	x	x	x	x	x	x	x
Microsoft Windows x86 (32-bit)	x	x	x	x	x	n/a	n/a	n/a	n/a
Microsoft Windows x64 (64-bit)	x	x	x	x	x	x	x	x	n/a
VMware VSphere ESXi VSphere ESXi 5.0	x	x	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 SAP Replication Server on that platform.									

## **SAP Control Center Compatibility**

SAP Control Center 3.3 includes SAP Control Center 3.3 for Replication. You can use SAP Control Center 3.3 with SAP Replication Server 15.7.1 SP200; however, SAP Control Center 3.3 for Replication does not support the new features in version 15.7.1 SP200.

In *SAP Control Center 3.3*, see *SAP Control Center 3.3 for Replication*.

## **SAP HANA Database Compatibility**

SAP Replication Server 15.7.1 SP200 is compatible with SP 06 and SP 07 versions. If you are replicating cluster tables, make sure you apply SP 07 and later.

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

## SAP Business Suite Database Compatibility

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SAP Replication Server 15.7.1 SP200 supports SAP HANA 1.00.62 and later.

SAP Replication Server requires SAP kernel 720, 721, 740, or 741.

See the *Quick Start Guide for SAP HANA Database* and the *SAP Replication Server Support for SAP Business Suite Database Materialization and Replication* in the *New Features Guide*.

## 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 *Installation Guide*.

## Special Installation Instructions

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

### Installing ODBC Libraries for ExpressConnect for SAP HANA database

ExpressConnect for SAP HANA database (ECH) does not include the required SAP HANA database 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 **Entry by Component > HANA Client**.
  - h) Select **SAP HANA CLIENT 1.00**.

- i) Select the appropriate operating system, and scroll to the Downloads tab.
- j) Select the appropriate IMDB\_CLIENT or the revision level check box, and click **Add to Download Basket**.
- k) 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 70 for SAP HANA CLIENT 1.00** in the list.

This package is downloaded to the local file system.

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

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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
<b>Windows (32-bit)</b>	LIBODBCHDB32.dll
<b>Windows (64-bit)</b>	LIBODBCHDB.DLL
<b>UNIX (64-bit)</b>	libodbcHDB.so



## **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 all applications and processes.

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 SAP ASE.
- *ugrp* is the group to which the user ID belongs.

## **Special Upgrade and Downgrade Instructions**

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

The *Configuration Guide* contains detailed upgrade and downgrade instructions. SAP strongly recommends that you read this information before you upgrade or downgrade the software.

## **Incompatible Function String in rs\_sqlserver\_function\_class**

When you upgrade from a pre-15.7 version of SAP Replication Server using a customized **rs\_sqlserver\_function\_class** in your connection, you may lose some customized function-string-class scope functions.

SAP 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**

## **ERSSD Upgrade Requirement**

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

If you are upgrading to SAP Replication Server 15.7.1 SP200 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 SAP SQL Anywhere database.

# **Known Issues**

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

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**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 Support Portal at <http://service.sap.com/sybase/support>, log in, and select **KBAs & Solved cases** to start the xSearch.

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Key to issue types:

- **RTC** – SAP® Release to Customer tracking number.
- **CSN** – SAP Customer Services Network tracking number.
- **CR** – Sybase® Change Request number.
- **AG** – Agentry® tracking number.

- N/A – No tracking number.

## Known Issues for SAP Replication Server

Known issues and workarounds for SAP Replication Server.

**Table 3. SAP Replication Server Issues**

CR#	Description
757999	<p><b>You cannot create a subscription and use the multiple select threads option on a DB2 primary database older than version 9.7, if the num_selects option is greater than 1.</b></p> <p><b>Workaround:</b> Create the subscription without using the <b>num_selects</b> option, which means the number of select threads is forced to 1.</p>
757913	<p><b>If you create a subscription with a where clause for the DDL on an Oracle or a DB2 primary database, the command may fail with an error message.</b></p> <p>Msg 57, Level 12, State 0: Server '&lt;repserver name&gt;', Line 0: Type 0 is not a legal type.</p> <p><b>Workaround:</b> You cannot use DDL to create a subscription with a <b>where</b> clause on these primary databases.</p>
757763	<p><b>When the DSI suspends, the SAP Replication Server log displays message 5024 "the database with siteid '0 ' does not exist".</b></p> <p><b>Workaround:</b> You can safely ignore this message.</p>
757536	<p><b>You cannot successfully complete an upgrade for a standalone SAP Replication Server if you are using an SAP ASE Replication Server System Database (RSSD) that does not have a RepAgent.</b></p> <p><b>Workaround:</b> Use a text editor to set these statements as comments in the <code>rsproc_ase.sql</code> script before upgrading its RSSD.</p> <pre>sp_setrepproc rs_cmd_marker, 'function' go sp_setrepproc rs_section_marker, 'function' go</pre>
752396	<p><b>The Replication Server distributor thread shuts down if you attempt to insert data into a table in SAP ASE 15.7 SP120 configured with Multi-Path Replication™.</b></p> <p>See also CR #751192.</p> <p><b>Workaround:</b> Do not use Multi-Path Replication.</p>

CR#	Description
750140	<p><b>In some cases, when SAP Replication Server version 15.7.1 SP120 or later connects via an SSL connection to a replicate SAP ASE version 15.7 SP120 and later, the connection may fail.</b></p> <p><b>Workaround:</b> Increase the maximum size of the network packet and the default network packet size to 4096 or larger.</p>
740507	<p><b>Under some specific circumstances with some types of databases, unexpected rows may be materialized to the replicate server.</b></p> <p>This issue does not occur during continuous replication; it occurs only during materialization when all the following conditions are met:</p> <ul style="list-style-type: none"> <li>• The subscription <b>where</b> clause includes a <code>varchar</code> datatype column, and the column includes trailing blanks.</li> <li>• The primary data server does not allow trailing blanks in a <b>where</b> clause, for example, <code>'abc' = 'abc '</code>.</li> <li>• The primary data server allows trailing blanks in the <code>varchar</code> datatype column. For instance, SAP ASE trims trailing blanks, but other database types do not.</li> </ul> <p><b>Workaround:</b></p> <ul style="list-style-type: none"> <li>• Do not use a <code>varchar</code> datatype column with trailing blanks in a subscription <b>where</b> clause, if the primary data server (for example, UDB) does not allow trailing blanks.</li> <li>• If the <code>varchar</code> datatype column must be added to the subscription <b>where</b> clause, and the primary data server does not allow trailing blanks. Before materialization, trim the trailing blanks for the <code>varchar</code> datatype columns in the <b>where</b> clause.</li> <li>• If either option works and if the DSI is down in normal replication due to duplicate insert error, enable auto-correction and resume DSI. After the failed row is replicated, disable autocorrection.</li> </ul>
739186	<p><b>SAP Replication Server does not support SQM cache size greater than 2GB.</b></p> <p><b>Workaround:</b> Reconfigure the <code>block_size</code>, <code>sqm_page_size</code>, <code>sqm_cache_size</code> parameters to reduce the cache size to less than 2GB.</p> <p>See <b>configure replication server</b> in the <i>Reference Manual</i>.</p>
724706	<p><b>SAP Replication Server does not start if the LANG environment variable is set to any value except a valid Open Client/Server language.</b></p> <p><b>Workaround:</b> Set the LANG environment variable to a supported Open Client/Server or SAP Replication Server language, or to <code>""</code>.</p>

CR#	Description
718889	<p>If the maintenance user does not have adequate permission on the <b>rs_dbversion</b> table, then <b>admin version, “connection”</b> may return incorrect status.</p> <p><b>Workaround:</b> When issuing <b>admin version, “connection”</b>, grant select permission on the <b>rs_dbversion</b> table to maintenance user before the maintenance user executes <b>admin version, “connection”</b>.</p>
708716	<p>Upgrading versions of SAP Replication Server earlier than 15.5 to version 15.5 and later may fail if the preupgrade SAP Replication Server is not an ID Server.</p> <p><b>Workaround:</b> Either:</p> <ul style="list-style-type: none"> <li>• Use <b>sysadmin system_version</b> to obtain the new version from the ID Server; or,</li> <li>• Restart the preupgrade SAP Replication Server.</li> </ul>
704615	<p>SAP Replication Server may incorrectly interpret LTL commands sent by Rep-Agent if you enable both the asynchronous parser and Executor command cache features simultaneously.</p> <p><b>Workaround:</b> Do not use both features simultaneously</p>
702699	<p>(Linux) You cannot create an ExpressConnect for Oracle (ECO) connection if you have selected the sample Replication Server during installation.</p> <p><b>Workaround:</b> Manually start the sample Replication Server after installation.</p>
694983	<p><b>rs_init</b> does not connect to an Embedded Replication Server System Database (ERSSD) using SAP SQL Anywhere when upgrading or downgrading with versions earlier than 15.5.</p> <p><b>Workaround:</b> Issue this <b>trace</b> option in <b>rs_init</b>:</p> <pre>rs_init -r resource_file_name -T T_SEND_CLEARTTEXT_PASSWORD</pre>
694628	<p>In SAP ASE to SAP ASE replication, SAP Replication Server always uses batch mode to send class-level function strings—such as <b>rs_usedb</b> and <b>rs_set_ciphertext</b>—that set connection attributes, even if you set batch off for the connection.</p> <p><b>Workaround:</b> None.</p>

CR#	Description
690422	<p><b>Incorrect value for <code>text</code> and <code>image</code> columns.</b></p> <p>In a warm standby environment, if you set <code>text</code> and <code>image</code> columns of a table to <b>do_not_replicate</b> on the active database, and you create a table replication definition for this table without <b>send standby replication definition columns</b>, the replication definition does not include the <code>text</code> and <code>image</code> columns. As a result, the standby database gets incorrect value for the <code>text</code> and <code>image</code> columns.</p> <p><b>Workaround:</b></p> <ol style="list-style-type: none"> <li>1. Create the table replication definition with <b>send standby replication definition columns</b> clause.</li> <li>2. Drop the table replication definition if it is not necessary.</li> </ol>
678521	<p><b>Cannot find a matching function string for the function-string class <code>rs_sqlserver_function_class</code>.</b></p> <p>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:</p> <pre>Cannot find a matching function string for function 'all- types.rs_writetext' and function string class 'rs_sqlserver_function_class'.</pre> <p><b>Workaround:</b></p> <ol style="list-style-type: none"> <li>1. Clear the failed Data Server Interface (DSI) connection queue by executing <code>re-sume/skip tran</code> until the DSI connection resumes.</li> <li>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.</li> </ol>
678488	<p><b>Cannot replicate BLOB data into non-nullable <code>blob</code> column in UDB and DB2 target databases.</b></p> <p><b>Workaround:</b> Define the <code>blob</code> column as nullable:</p> <ul style="list-style-type: none"> <li>• In the database, and,</li> <li>• If you have a table-level replication environment, the replication definition created for the <code>blob</code> table replication.</li> </ul>

CR#	Description
642091	<p><b>RepAgent fails when an SAP Replication Server is configured to use Secure Sockets Layer (SSL) with an ERSSD.</b></p> <p><b>Workaround:</b> Either:</p> <ul style="list-style-type: none"> <li>• Disable SSL using <b>configure replication server</b> with the <b>use_ssl</b> option, or,</li> <li>• Do not use ERSSD if the SAP Replication Server is configured to use SSL.</li> </ul>
618624	<p><b>Insufficient number of threads in SAP Replication Server.</b></p> <p>If you increase the number of client connections and did not increase the number of SAP Open Server threads that the SAP Replication Server can use, SAP Replication Server may shut down.</p> <p><b>Workaround:</b></p> <ol style="list-style-type: none"> <li>1. Log in to RSSD.</li> <li>2. Increase the value of <b>num_threads</b>.</li> <li>3. Restart SAP Replication Server.</li> </ol>
452806	<p><b>An application deadlock involving SAP Replication Server and SAP ASE may occur when the SAP Replication Server is configured to use parallel DSI while applying transactions to a table containing <b>text</b> and <b>image</b> columns.</b></p> <p><b>Workaround:</b> Suspend and resume the DSI connection. If the DSI thread does not suspend, restart the SAP Replication Server.</p>

## Known Issues for Replication Agent

Known issues and workarounds for Replication Agent.

**Table 4. Replication Agent Issues**

CR#	Description
689941	<p><b>RepAgent for SAP ASE handles some of the normalization errors from SAP Replication Server as warnings, which may result in data loss.</b></p> <p><b>Workaround:</b> Upgrade to SAP Replication Server 15.7 and later.</p> <ul style="list-style-type: none"> <li>If you are using a version of SAP ASE earlier than 15.7, the RepAgent log may show incorrect normalization errors. For example:           <pre>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.)</pre> <p>See the accurate error information in the SAP Replication Server log. For example:</p> <pre>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'.</pre> </li> <li>If you are using a version of SAP ASE later than 15.7, the RepAgent log shows the correct error information. For example, the RepAgent log shows:           <pre>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'.</pre> </li> </ul>



## Known Issues for Replicating to SAP IQ

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

**Table 5. Replicating to SAP IQ Issues**

CR#	Description
722797	<p><b>The default SAP IQ NUMERIC and DECIMAL datatypes precision and scale do not match and are incompatible with the isql and the SAP ASE defaults.</b></p> <p>When using the default precision and scale in the replicate SAP IQ table definition for NUMERIC and DECIMAL datatypes, the SAP Replication Server DSI thread shows:</p> <pre>ct_results(): protocol specific layer: external error: There is a tds protocol error. An invalid numeric precision was received.</pre> <p><b>Workaround:</b> Define the target SAP IQ NUMERIC and DECIMAL datatypes with precision less than or equal to 77. See <i>Numeric Data Types</i> in the <i>SAP IQ Reference: Building Blocks, Tables, and Procedures</i>.</p>
695949	<p><b>Connection to SAP IQ 15.4 fails when create connection using profile with UTF-8 character set.</b></p> <p><b>Workaround:</b> Use SAP IQ 15.4 ESD #1.</p>
620097	<p><b>Data corruption when replicating data to SAP IQ 15.x in RTL.</b></p> <p>When RTL replicates data to SAP IQ 15.x, data inserted into time and time-stamp columns may be corrupted. There is no warning nor error message indicating that the data is corrupted.</p> <p><b>Workaround:</b> Select one of:</p> <ul style="list-style-type: none"> <li>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 <b>insert-location</b>. Issue this command:  <pre>alter connection to data_server.database for replicate table named table_name set dsi_compile_enable "off"</pre> This will effectively slow down the process.</li> <li>If there is text or image in the table, apply SAP IQ 15.x and later.</li> </ul>

## Known Issues for Replicating to SAP HANA Database

Known issues and workarounds for replicating to SAP HANA database.

**Table 6. SAP HANA ODBC Drivers Version 1.00.71.00 Build 0388428-1510 Issues**

CR#	Bugzilla#	Description
755778	47344	<p>(Solaris) When using either version 70 or 71 of the ODBCdriver, the SAP Replication Server fails while creating the initial connection to the SAP HANA database. After restarting the server, the connection may drop and re-create.</p> <p><b>Workaround:</b> None.</p>

**Table 7. SAP HANA ODBC Drivers Version 1.00.55 Build 0376513-1510 Issues**

CR#	Bugzilla#	Description
737784	25968	<p>You cannot create a connection to a replicate SAP HANA database if you do not have write privileges to the \$HOME directory before you start SAP Replication Server.</p> <p>Without these privileges, when creating the connection to the SAP HANA database, the connection fails and the SAP Replication Server generates and displays the errors.</p> <p><b>Workaround:</b> Make sure you have write privileges to the \$HOME directory when starting an SAP Replication Server.</p>
737642	30506	<p>Cannot replicate DECFLOAT values between -2.2207e-307 to 2.2207e-308 into an SAP HANA database.</p> <p><b>Workaround:</b> None.</p>

**Table 8. SAP HANA Database Issues**

CR#	Description
735171	<p>When replicating GB 18030 character set to SAP HANA database for <code>text</code> and <code>ntext</code> columns, the replicate value differs between the primary Replication Server and replicate Replication Server.</p> <p><b>Workaround:</b> Do not use <code>text</code> or <code>ntext</code> columns when you are using the GB 18030 character set.</p>

**Table 9. Replicating from SAP Business Suite to SAP HANA Database Issues**

CR#	Description
755511	<p><b>Replication Agent for Microsoft SQL Server does not truncate tables that are marked for replication.</b></p> <p><b>Workaround:</b> Execute the <b>sp_SybTruncateTable</b> stored procedure to truncate tables that are marked for replication.</p> <p><b>sp_SybTruncateTable</b> temporarily turns off the replication flag for the marked tables, issues the <b>truncate table</b> command, then turns on the replication flag. See <i>Replication Agent for Microsoft SQL Server</i> in the <i>Replication Agent Primary Database Guide</i>.</p> <p>If you are replicating SAP Business Suite applications, download the latest patch of the SAP kernel that uses the <b>sp_SybTruncateTable</b> stored procedure. See <i>SAP Note 1972365 – Retry on error 4711</i>.</p>
753984	<p><b>If pdb_automark_tables is true when you create a new table, Replication Agent for UDB cannot replicate the transactions into the table.</b></p> <p><b>Workaround:</b></p> <ul style="list-style-type: none"> <li>For non-SAP Business Suite applications – when creating tables in Replication Agent for UDB, add the <b>DATA CAPTURE</b> attribute to the <b>create table</b> statement, or include the <b>alter table DATA CAPTURE</b> statement in the same transaction as the <b>create table</b> statement.</li> <li>For SAP Business Suite applications – see <i>SAP Note 1991666 - DB6: Using Sybase Replication Server Software</i> for the patch and configuration instructions that add the <b>DATA CAPTURE</b> attribute to <b>create table</b> statements issued by the SAP ABAP stack. However, this patch does not include <b>create table</b> statements issued by the SAP Business Suite Java stack.</li> </ul>

**Table 10. Replicating from Oracle to SAP HANA Database Issues**

CR#	Description
757705	<p><b>If you deploy a new model and there are existing interfaces entries with same name and port number, the model does not deploy and generates an error.</b></p> <p><b>Workaround:</b> Manually edit the interfaces file to delete the existing entries.</p>
756231	<p><b>An error is generated when you replicate the <b>TIMESTAMP WITH TIME ZONE</b> Oracle datatype into an SAP HANA database.</b></p> <p><b>Workaround:</b> Explicitly create a table replication definition that includes the <b>map to char</b> clause.</p>

## Known Issues for SCC for Replication

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See the *SAP Control Center 3.3 Release Bulletin* for its workarounds.

## Known Installation Issues

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Known issues and workarounds for the installer.

**Table 11. Installer Issues**

CR#	Description
718029	<p><b>The software component may not be uninstalled when you uninstall the SAP Replication Server Suite.</b></p> <p><b>Workaround:</b> Manually delete the files and folders after uninstallation. Do not delete the <code>OCS-16_0</code> directory if it is being used by other products.</p>
706443	<p><b>Cannot validate passwords if you start sample Replication Server after installation.</b></p> <p><b>Workaround:</b> Manually edit these attributes in the <code>SAMPLE_RS.res</code> file:</p> <ul style="list-style-type: none"> <li>• <code>rs.rs_idserver_pass</code></li> <li>• <code>rs.rs_rssd_prim_pass</code></li> <li>• <code>rs.rs_rssd_maint_pass</code></li> <li>• <code>rs.rs_ltm_rs_pass</code></li> <li>• <code>rs.rs_rs_sa_pass</code></li> <li>• <code>rs.rs_rs_pass</code></li> </ul> <p>See <i>Syntax and Parameters for a Resource File</i> in the <i>Configuration Guide</i>.</p>
701924	<p><b>The installer does not remove environment variables entries from earlier versions of <code>\$SYBASE/SYBASE.sh</code> and <code>\$SYBASE/SYBASE.csh</code></b></p> <p><b>Workaround:</b> Manually edit the <code>\$SYBASE/SYBASE.sh</code> and <code>\$SYBASE/SYBASE.csh</code> to remove environment variables that are pointing to versions you do not want to include.</p>

CR#	Description
620755	<p><b>Installation fails on Solaris SPARC.</b></p> <p>When the file descriptor limit is set to “unlimited,” the installer fails with this message:</p> <pre>awk: insufficient memory for string storage Context is: &gt;&gt;&gt;                &lt;&lt;&lt;</pre> <p><b>Workaround:</b> Set the hard file descriptor limit to a number.</p>
619793	<p><b>You cannot use the Tab and arrow keys to navigate the Choose Product Features window of the installation or uninstallation program.</b></p> <p><b>Workaround:</b></p> <ul style="list-style-type: none"> <li>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.</li> <li>Installer – use the mouse to select the features in the Choose Product Features window.</li> </ul>
619784	<p><b>Cannot run installer with default tar tool.</b></p> <p>You see this error when the installer uses the GNU <b>tar</b> tool to extract files from the SAP Replication Server suite archive:</p> <pre>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.</pre> <p><b>Workaround:</b> Define <code>/usr/bin/tar</code> in <code>\$PATH</code>.</p>
619779	<p><b>The installer fails to launch if you specify a path to <code>setup.bin</code> that contains “.”.</b></p> <p><b>Workaround:</b> Ensure that the path to <code>setup.bin</code> does not contain “.”.</p>
618722	<p><b>Interactive installation using response file does not work.</b></p> <p>When installing the software 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.</p> <p><b>Workaround:</b> None.</p>

## Documentation Changes

Read about updates, corrections, and clarifications to the documentation released with SAP Replication Server 15.7.1 SP200.

### **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 *Heterogeneous Replication Guide*.

### **SAP SQL Anywhere Replication Support**

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

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

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Use the Product Documentation site and online help to learn more about this product release.

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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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**Note:** A more recent release bulletin, with critical product or document information added after the product release, may be available from the Product Documentation Web site.

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