

New Features Bulletin Replication Agent™ 15.2

Document ID: DC00503-01-1520-01

Last revised: May 2009

This document describes the new features that are available for Replication Agent 15.2 for Linux, Microsoft Windows, and UNIX.

Topic	Page
Device block read size	2
Operating system and platform support	2
Real Application Cluster (RAC) Oracle 11g	3
New features added in Replication Agent 15.1 ESDs	3
Oracle 11g support	3
Partitioned tables Oracle 10g and 11g	4
Automatic Storage Management (ASM) Oracle 11g	4
New configuration property	5
New Oracle select privileges required	5
Skipping an operation (for Oracle only)	6
Generating replication definitions	6
Automatic backup of the RASD (For Oracle and Microsoft SQL Server only)	7
Marking tables for replication (For Oracle only)	7
Resuming replication when Replication Server becomes unavailable	7

Copyright 2009 by Sybase, Inc. All rights reserved. Sybase trademarks can be viewed at the Sybase trademarks page at <http://www.sybase.com/detail?id=1011207>. Sybase and the marks listed are trademarks of Sybase, Inc. ® indicates registration in the United States of America. Java and all Java-based marks are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and other countries. Unicode and the Unicode Logo are registered trademarks of Unicode, Inc. All other company and product names mentioned may be trademarks of the respective companies with which they are associated.

Device block read size

To improve Replication Agent performance when reading a transaction log that is on a raw device, these new configuration properties have been added:

- `log_read_block_count` – determines the number of blocks or pages that are read from the log for each read cycle. (For Oracle and Microsoft SQL Server)
- `archive_log_read_block_count` – determines the number of blocks that are read from an Oracle archive log for each read cycle. (For Oracle only)
- `auto_adjust_block_count` – determines whether the Replication Agent automatically adjusts the block count if any part of a read is discarded. (For Oracle and Microsoft SQL Server)

For additional information regarding the configuration properties, see Chapter 2, “Configuration Properties,” in the *Replication Agent Reference Manual*.

Operating system and platform support

- On UNIX platforms, Replication Agent is now supported only on the 64-bit versions. However, Replication Agent continues to be supported on both 32-bit and 64-bit Linux and Microsoft Windows platforms.
- The following are no longer supported:
 - Solaris 9, 10 (SPARC) (32-bit only)
 - HP-UX PA-RISC
 - AIX 5.3 (32-bit only)

For detailed information regarding platforms and operating systems, see the *Replication Agent Release Bulletin 15.2*.

Real Application Cluster (RAC) Oracle 11g

Replication Agent now supports Oracle 11g RAC. A RAC environment supports multiple instances of Oracle that access one database. An instance is where an operating system process executes, performs the work required to satisfy requests, and contains information about the requests. Each instance in the cluster usually runs on a separate server or “node,” maintains its own set of redo log files, and also maintains its own in-memory processes and in-memory storage.

For a detailed description of the RAC process, see the *Replication Agent Primary Database Guide*.

New features added in Replication Agent 15.1 ESDs

The following features have been added with ESDs after the initial Replication Agent 15.1 release and are included in the current 15.2 release.

Oracle 11g support

Oracle 11g is supported as of Replication Agent 15.1 ESD #3. These Oracle 11g features are not supported:

- SecureFiles – this feature is a redesign of the implementation of large object (LOB) storage in Oracle 11g. Tables containing these types of columns can be marked using the force option, but the LOB columns are not replicated.
- Virtual columns – Replication Agent supports the replication of tables containing computed (or virtual) columns in Oracle 11g. However, the replication of individual computed columns is not supported. Tables with virtual columns can be marked using the force option of the `pdb_setreptable` command, but these columns are not replicated.
- Encrypted tablespace – objects (tables and columns) on encrypted tablespace cannot be marked for replication.
- Encrypted columns – tables containing encrypted columns can be marked for replication using the force option of the `pdb_setreptable` command, but these columns are not replicated.

Partitioned tables Oracle 10g and 11g

Replication of Oracle partitioned tables is supported as of Replication Agent 15.1 ESD #3. Partitioning allows a table, index, or index-organized table to be subdivided into smaller pieces, where each piece of such a database object is called a partition. Each partition has its own name, and may optionally have its own storage characteristics. Any table can be partitioned into many separate partitions except those tables containing columns with LONG or LONG RAW datatypes.

Unstructured data (such as images and documents) that is stored in a LOB column in the database can also be partitioned. When a table is partitioned, all the columns reside in the tablespace for that partition, with the exception of LOB columns, which can be stored in their own tablespace. For additional information about Oracle partitioning, see the Oracle Database VLDB and Partitioning Guide

at http://download.oracle.com/docs/cd/B28359_01/server.111/b32024/toc.htm

Note Index Organized Tables (IOTs), whether partitioned or not, are not supported.

Automatic Storage Management (ASM) Oracle 11g

Oracle 11g ASM is supported as of Replication Agent 15.1 ESD #3. ASM provides file system and volume management support for an Oracle database environment. It can be used in both RAC and non-RAC environments. ASM allows definition of a single disk group from a collection of individual disk devices and attempts to balance loads across all of the devices defined to the disk group.

For more information, go to Oracle ASM information at <http://www.oracle.com/technology/products/database/asm/index.html>

For more information, see the *Replication Agent Administration Guide* and the *Replication Agent Primary Database Guide*.

New configuration property

A new configuration property has been added: `lr_send_trunc_partition_ddl`. This property determines whether truncate partition commands are sent as DDL or DML to the replicate database.

- `true` (default) – the truncate partition command is sent as a DDL command (`alter table`). Use this setting to replicate to Oracle.
- `false` – the truncate partition is sent as a DML operation. Use this setting when replicating to databases that treat truncate partition commands as DML, for example, Microsoft SQL Server.

For additional information regarding the configuration property, see Chapter 2, “Configuration Properties,” in the *Replication Agent Reference Manual*.

New Oracle select privileges required

The Replication Agent `pds_username` user requires select privileges to the following Oracle system tables:

- `SYS.OBJ$` – required for processing procedure DDL commands in the repository.
- `SYS.LOB$` – required for LOB replication support.
- `SYS.COLLECTION$` – required for VARRAY replication support.
- `SYS.COL$` – required for table (column info) replication support.
- `SYS.CON$` – required for table (constraint info) replication support.

Note The permissions for `SYS.CON$` and `SYS.CDEF$` are required to handle the constraint information in the `CREATE` and `ALTER TABLE` DDL operations.

- `SYS.CDEF$` – required for table (constraint info) replication support.
- `SYS.USER$` – required for Oracle user identification.
- `SYS.SEQ$` – required for Sequence objects.
- `SYS.COLTYPE$` – required for table (column type info).
- `SYS.TAB$` – required to support table replication.
- `SYS.MLOG$` – required to filter out materialized view log tables.

- SYS.TABPART\$ – required to support partitioned table replication.
- SYS.TABCOMPART\$ – required to support partitioned table replication.
- SYS.TABSUBPART\$ – required to support partitioned table replication.
- SYS.NTAB\$ – required to support table replication.
- SYS.IND\$ – required to identify indexes.
- SYS.INDPART\$ – required to identify indexes.
- SYS.INDCOMPART\$ – required to identify indexes.
- SYS.INDSUBPART\$ – required to identify indexes.
- SYS.LOBCOMPPART\$ – required to support partitioned LOB replication.
- SYS.LOBFRAG\$ – required to support partitioned LOB replication.
- SYS.TS\$ – required to identify tablespace encryption in Oracle 11g.
- SYS.SNAP\$ – required to filter out materialized view tables.
- SYS.PROCEDUREINFO\$ – required for procedure replication support.
- SYS.ARGUMENT\$ – required for procedure (argument info).
- SYS.TYPE\$ – required for Oracle predefined Type and UDD.
- SYS.ATTRIBUTE\$ – required for Oracle type (type attribute info).
- SYS.CCOL\$ – required for table (column constraint info).

Skipping an operation (for Oracle only)

The `pdb_skip_op` command has been changed to allow you to specify the `SUBSCN` field values for skipping an operation.

Generating replication definitions

Replication Agent provides a new parameter, `rs_replicate_owner_required`, that allows Replication Agent to always supply the owner in the replicate table name when the replication definition is generated.

For more information on the new parameter, see the *Replication Agent Reference Manual*.

Automatic backup of the RASD (For Oracle and Microsoft SQL Server only)

Sybase automatically backs up the Replication Agent System Database when the transaction log is re-initialized. The most recent database backup is saved in a repository backup directory with a time stamped name. In addition, two new Replication Agent commands, `rasd_helpbackup` and `rasd_removebackup`, are available for managing the Replication Agent System Database backups.

For more information on the new commands, see the *Replication Agent Reference Manual*.

Marking tables for replication (For Oracle only)

Changes in the Replication Agent command `pdb_setreptable` allows marking of tables that contain column datatypes that are not supported for replication. This allows supported column data to be replicated, instead of excluding the entire table from replication. To force the Replication Agent to mark the table for replication, the `force` keyword option has been added to the command syntax for any `pdb_setreptable` command mark request.

For more information on the new command, see the *Replication Agent Reference Manual*.

Resuming replication when Replication Server becomes unavailable

Support has been added for Replication Server connection retry. If Replication Server is unavailable during data replicating, Replication Agent changes its state to “ADMIN - Reconnecting to Replication Server,” then tests the connectivity to Replication Server. If Replication Server becomes available, Replication Agent resumes, which makes replication start again. In the “ADMIN - Reconnecting to Replication Server” state, users can issue suspend commands to send Replication Agent to “ADMIN” state, or issue a resume command to start replication manually.

