

# Release Bulletin

## Mirror Replication Agent™ 15.0

### for Linux, Microsoft Windows, and UNIX

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## 1. Accessing current release bulletin information

A more recent version of this release bulletin may be available on the Web. To check for critical product or document information added after the product release, use the Sybase® Product Manuals Web site.

**❖ Accessing release bulletins at the Sybase Product Manuals Web site**

- 1 Go to Product Manuals at <http://www.sybase.com/support/manuals/>.
- 2 Select a product and language, and click Go.
- 3 Select a product version from the Document Set list.
- 4 Select the Release Bulletins link.
- 5 From the list of individual documents, select the link to the release bulletin for your platform. You can either download the PDF version or browse the document online.

## 2. Product summary

Mirror Replication Agent™ 15.0 is available only as a component of the Mirror Activator™ 15.0 product for the following platforms:

- AIX
- HP-UX
- Linux
- Microsoft Windows
- Solaris

See “Compatibility” on page 2 for more information about specific platform requirements for Mirror Activator 15.0.

Mirror Replication Agent 15.0 runs on the platform and operating system configurations listed in Table 1.

### 2.1 Compatibility

Mirror Replication Agent 15.0 is compatible with the platforms and operating systems shown in Table 1.

**Table 1: Platform and operating system requirements**

Platform	Operating system version
HP 9000(8xx)	HP-UX 11i, 11iR2
IBM RISC System/6000	IBM AIX 5.2, 5.3
Linux/Intel x86	<ul style="list-style-type: none"> <li>Red Hat Enterprise Linux 3.0: <ul style="list-style-type: none"> <li>Kernel version 2.4.9-e.27 or later</li> </ul> </li> <li>Red Hat Enterprise Linux 4.0: <ul style="list-style-type: none"> <li>Kernel version 2.6.9-22.EL</li> </ul> </li> <li>SuSE Linux Enterprise Server 9: <ul style="list-style-type: none"> <li>Kernel version 2.6.5-7.191 or later</li> </ul> </li> </ul>
Microsoft Windows 2000	Windows 2000 v. 5.0.2195
Microsoft Windows Server 2003	Windows Server 2003 v. 5.2.3790
Sun Solaris (SPARC) system	Sun Solaris 8, 9, 10

**Operating system patch levels**

Operating system patch levels on all platforms must be current to support Java 1.4.2. See the following Web sites to determine if patches are required for your operating system, and for current information about JREs for your platform:

- <http://www.hp.com/products1/unix/java/patches> for information about HP-UX patches and JREs
- <http://www.ibm.com/servers/eserver/support/pseries/fixes> for information about AIX patches and JREs
- <http://www.redhat.com> for information about Linux patches
- <http://www.microsoft.com/windows2000/downloads> for information about Windows 2000 patches only
- <http://www.microsoft.com/windowsserver2003/downloads> for information about Windows Server 2003 patches only
- <http://sunsolve.sun.com> for information about Sun Solaris patches only
- <http://java.sun.com/j2se> for information about Solaris, Windows, and Linux JREs

**Product compatibility**

Mirror Replication Agent 15.0 is compatible with other Sybase products listed in Table 2.

**Table 2: Mirror Replication Agent 15.0 compatibility**

Sybase product	Version
Replication Server	12.5, 12.6, 15.x
Sybase Software Asset Management (SySAM)	2.0

Mirror Activator version 15.0 supports the database servers and versions listed in Table 3.

**Table 3: Databases compatible with Mirror Activator**

Database	Versions
Adaptive Server® Enterprise (ASE) database	12.5.1, 12.5.4, 15.0
Oracle database	9i (9.2.0), 10g (10.1, 10.2)

**Note** Mirror Replication Agent 15.0 does not currently support replication from Oracle databases configured with Real Application Clusters (RAC) or with *log* files under Automatic Storage Management (ASM).

Mirror Activator version 15.0 requires a JDBC 3.0-compliant driver to communicate with the primary data server. Table 4 lists the JDBC drivers that are compatible with Mirror Replication Agent 15.0.

**Table 4: Drivers compatible with Mirror Replication Agent**

Driver	Versions
jConnect™ for JDBC™	6.05
Oracle JDBC driver	10.2 for JDK 1.4

## 2.2 Hardware requirements

Mirror Activator 15.0 requires the following minimum physical memory, storage, and media device on all platforms:

- Memory – 128Mb RAM
- Storage – 300Mb hard disk
- Media device – CD-ROM drive

**Note** Your Mirror Activator 15.0 configuration may require more memory and storage than the minimums listed here.

## 2.3 Mirror Activator 15.0 solution

The Mirror Activator 15.0 solution includes the following Sybase software products:

- Mirror Replication Agent 15.0
- Replication Server 15.0.1
- Enterprise Connect™ Data Access (ECDA) Option for Oracle 15.0 (previously DirectConnect™ for Oracle)

Each Mirror Activator 15.0 solution package includes:

- Mirror Activator “Getting Started” CD, which includes:
  - Mirror Replication Agent *New Features Guide*
  - Mirror Replication Agent *Installation Guide*
  - Mirror Activator *Quick Start Guide*
  - Mirror Replication Agent *Release Bulletin*
- Mirror Activator 15.0 platform-specific distribution media
- Replication Server 15.0.1 platform-specific distribution media
- ECDA Option for Oracle 15.0 platform-specific distribution media
- Replication Server 15.0.1 SyBooks™ CD
- “Getting Started with Sybase” document packet
- Replication Server System Tables poster

For more information about the contents of the Replication Server 15.0.1 distribution media, see the Replication Server *Installation Guide* 15.0.1.

For more information about the contents of the ECDA Option for Oracle distribution media, see the Enterprise Connect Data Access *Installation Guide* 15.0.

## 2.4 Mirror Activator 15.0 distribution media contents

The following Mirror Replication Agent products and features are included on the Mirror Activator 15.0 distribution media (for each platform):

- Mirror Replication Agent 15.0
- SySAM 2.0 (the Sybase Software Asset Management license manager)

## 3. Special installation instructions

This section documents installation issues not covered in the Mirror Replication Agent *Installation Guide*.

### 3.1 Special upgrade instructions for an ASE environment

You can “convert” an existing Replication Server warm standby application for ASE, with existing primary (active) and standby databases, to a Mirror Activator system by:

- Implementing a disk replication system to provide synchronous replication of the primary database log devices to mirror log devices at a remote (standby) site, and
- Replacing the ASE RepAgent thread in the primary database with the Mirror Activator.

For more information, see the Mirror Activator *Administration Guide*.

### 3.2 Empty directories after uninstalling

After uninstalling Mirror Replication Agent software, some empty directories might be left. To safely remove them, go to the installation directory and delete the Mirror Activator directory (*MA-15\_0*) and all its subdirectories and their contents.

### 3.3 Operating system patch requirements

Mirror Replication Agent 15.0 is compatible with Microsoft Windows 2000 and 2003, as well as several UNIX operating systems. See “Product summary” on page 2 for more information on operating system versions supported by Mirror Activator 15.0.

There might be Java-related patches for the Solaris, HP-UX, and AIX operating systems that you should install before installing the Java Runtime Environment (JRE) 1.4.2 (32-bit) included with Mirror Activator. The following sections describe how to find any operating system patches that might be required for Mirror Replication Agent 15.0.

See the Web site for your operating system to verify that the patches for your database server are current.

### 3.3.1 HP-UX

HP-UX PA-RISC patches can be found at this URL:

<http://www.hp.com/products1/unix/java/patches/index.html>

### 3.3.2 Solaris

Solaris SPARC patches can be found at this URL:

<http://java.sun.com/j2se/1.4.2/download.html>

### 3.3.3 IBM AIX

AIX patches can be found at this URL:

<http://www.ibm.com/developerworks/java/jdk/aix/service.html>

## 4. Known problems

This section describes known problems in Mirror Replication Agent 15.0 at the time of release. These problems are identified with Change Request (CR) numbers, to which you can refer when contacting Sybase Technical Support. Workarounds are provided where available.

### 4.1 Known issues for the Sybase installer

This section describes known issues with the Sybase installer that are not specific to a particular data server type.

#### 4.1.1 Text fields cannot be viewed properly when you use a Hummingbird Exceed client

If you use Hummingbird Exceed from a Windows workstation to install Mirror Activator on a UNIX host, you might not be able to view all of the text fields on the Sybase Installer windows.

*Workaround:* Use a native X-Windows session to run the Sybase installer, or run the Sybase installer in console or silent mode. See the Mirror Replication Agent *Installation Guide* for details.

### 4.1.2 Uninstall program not available on HP-UX 11.23

[CR# 398447] The uninstall program is not created on HP-UX 11.23 platforms.

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**Note** Although CR 398447 references ASE 15.0.1, it also applies to Mirror Activator 15.0.

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*Workaround:* To uninstall Mirror Replication Agent, run this command (*all on a single line*):

```
$JAVA_HOME/bin/java -classpath  
$SYBASE/uninstall/MA-15_0/uninstall.jar -Dtemp.dir=/var/tmp  
-Dis.jvm.home$JAVA_HOME -Dis.jvm.temp=1  
-Dis.launcher.file=$SYBASE/uninstall/MA-15_0/uninstall -Xms20m  
-Xmx60m run -console
```

where:

- `$JAVA_HOME` is the *JRE 1.4.X* directory.
- `$SYBASE` is where you installed Mirror Replication Agent.

### 4.1.3 Sybase Central fails to open after uninstalling Mirror Replication Agent

[CR# 399954] After the uninstallation of Mirror Replication Agent, the SYBASE system environment variable is removed and Sybase Central does not open.

*Workaround:* Redefine the SYBASE system environment variable.

### 4.1.4 Installing on AIX returns an erroneous error message

[CR#423825] During an installation of the AIX operating system, this message may display on the console:

```
tzmappings: Illegal format at near line 11
```

This issue does not cause any problems and may be ignored.

## 4.2 Known generic issues for Mirror Replication Agent 15.0

This section describes known issues in Mirror Replication Agent 15.0 that are not specific to a particular environment or data server type.



### 4.2.1 Pending property changes may not take effect

[CR#211427] Changes made to Mirror Replication Agent configuration parameters might not occur until the Mirror Replication Agent instance is restarted. Also, if you enter an invalid configuration parameter value, an error might not be returned until the Mirror Replication Agent instance is restarted.

*Workaround:* Restart the Mirror Replication Agent instance immediately after you change a configuration parameter that requires a restart to take effect.

### 4.2.2 Viewing trace log in vi returns error

[CR# 404994] When you view a trace log in vi, you may receive this error:

```
Line too long
```

*Workaround:* View the trace log using a different editor.

### 4.2.3 New implementation of JISAutoDetect

The following JREs that have the Daylight Saving Time fix also have a bug associated with the use of the JISAutoDetect character set:

Solaris SPARC, Linux, Windows: 1.4.2\_12

HP PA-RISC: 1.4.2\_11

For this reason, Mirror Replication Agent currently does not support this character set. The JISAutoDetect character set “Detects and converts from Shift-JIS, EUC-JP, ISO 2022 JP (conversion to Unicode only).”

## 4.3 Known issues for ASE when migrating Mirror Replication Agent

This section describes known issues in Mirror Replication Agent 15.0 that are specific to ASE.

### 4.3.1 Cannot automatically migrate Mirror Replication Agent for ASE from 12.6 to 15.0

[CR #454600] If you have used the -u option of the ma\_admin utility to upgrade, all of the verifiable Mirror Replication Agent for ASE 12.6 instances to Mirror Replication Agent for ASE 15.0 instances cannot be automatically migrated using the ra\_migrate command.

*Workaround:* Download and install Mirror Replication Agent 15.0 ESD #1 or later. Then, follow the migration instructions provided in the Mirror Replication Agent *Primary Database Guide*.

### 4.3.2 Cannot automatically migrate Mirror Replication Agent when upgrading ASE 12.5 to 15.0

[CR #455944] If your Mirror Replication Agent instance is connecting to an ASE 12.5 server and you are upgrading the primary ASE to version 15.0, you cannot use the `ra_migrate` command.

*Workaround:* Download and install Mirror Replication Agent 15.0 ESD #1 or later. Then, follow the migration instructions provided in the Mirror Replication Agent *Primary Database Guide*.

## 4.4 Known issues for Oracle

This section describes known issues in Mirror Activator version 15.0 that are specific to the Oracle data server.

### 4.4.1 The `rasd_database` and `rasd_tran_log` commands fail with default value

[CR# 386246] When you change the `rasd_database` and `rasd_tran_log` commands back to their default values, the commands fail.

*Workaround:* Supply a specific value.

### 4.4.2 Replicating a sequential update to a primary key column fails

[CR# 397826] If you replicate a sequential update to a primary key column, it fails. For example, this update will not be replicated correctly:

```
update test_table set pkey = pkey + 1
```

*Workaround:* Change the primary key column or add a unique index that is more broad.

### 4.4.3 Disabling the recycle bin in Oracle 10.1

The Oracle recyclebin configuration property was not added until Oracle 10.2. To disable the recycle bin in Oracle 10.1, you must set the Oracle hidden property:

```
ALTER SYSTEM SET "_recyclebin"=FALSE SCOPE = BOTH;
```

#### 4.4.4 The ***create index*** command with ***desc*** produces an incorrect index

[CR# 403786] Replication of the create index DDL command with the desc property (descending) does not produce a descending index at the standby site. The index created is an ascending index.

*Workaround:* Manually recreate the descending index at the replicate site.

#### 4.4.5 The ***pdb\_setrepddl enable*** command fails when ***use\_rssd*** is set to ***false***

[CR# 404985] If you use a database replication definition when use\_rssd is set to false, the pdb\_setrepddl enable command fails.

*Workaround:* Set use\_rssd to true.

#### 4.4.6 The ***alter type*** DDL command has limited support

[CR# 405206] During replication of the alter type command, the changed type does not propagate to the dependents of the type.

*Workaround:* The Mirror Replication Agent must be reinitialized to recognize the changed type.

#### 4.4.7 The ***create table*** DDL command has limited support for UDD object types

[CR# 405207] UDD object types with nested object types are not supported for create table DDL commands.

*Workaround:* You must reinitialize the Mirror Replication Agent to recognize the new table.

#### 4.4.8 The ***pdb\_setreptable*** command may fail for a table column containing a new UDD object type

[CR# 405269] The pdb\_setreptable command may fail for a table that contains a column with a UDD object type that has been created *after* initialization and *before* resuming replication.

*Workaround:* Resume replication and then wait to allow the redo log information containing the UDD DDL command to be read and processed by the Mirror Replication Agent. Then, mark the table again.

#### 4.4.9 Stopping Mirror Replication Agent fails to stop ASA (Linux only)

[CR# 421928] Stopping Mirror Replication Agent, when it was started in the background on Linux, fails to stop Adaptive Server Anywhere (ASA).

*Workaround:* The Mirror Replication Agent will start successfully with ASA running. Use one of these methods:

- Use the `kill -9 process_id` to shut down the dbeng ASA process, or
- Start the Mirror Replication Agent in the foreground.

#### 4.4.10 Invalid locator occurs after zeroing locators and switching log files

[CR# 422415] When you attempt to re-initialize the Mirror Replication Agent after failover processing, you receive an invalid locator value. This occurs after performing `rs_zeroltm` in Replication Server and setting the `ra_locator` value in the Replication Agent to zero.

*Workaround:* Instead of using a series of database, Mirror Replication Agent, and RSSD commands, issue the `pdb_init move_truncpt` command, as documented in the failback instructions.

#### 4.4.11 The `ra_init force` command fails if a marked object is not found in the repository

[CR# 422425] When objects owned by users contained in the owner filter list are marked, subsequent reinitialization (`ra_init force`) fails with this exception:

```
Article not found
```

*Workaround:* Perform a full initialization of the Mirror Replication Agent.

#### 4.4.12 Mirror Replication Agent BFILE is not supported

[CR# 423329] Replication of the BFILE data, which is stored external to the database, is not supported.

*Workaround:* Rows pointing to BFILE data at the standby site must be manually updated to point to the local BFILE data.

#### 4.4.13 An update operation to a table with more than one unique index fails

[CR# 424459] An update operation to a table with more than one unique index fails in Replication Server because the where clause contains no value.

This problem is related to Oracle behavior as well as to supplemental data that is written to the Oracle *redo* logs. If a table has no primary key column defined but contains more than one unique constraint that is defined, Oracle records only one of the constraint column values in the *redo* log. The selection of which column will be logged is determined arbitrarily by Oracle.

*Workaround:* Mirror Replication Agent requires you to turn on supplemental logging in Oracle to ensure that primary key and unique index information is logged to the *redo* logs. To enable supplemental logging, enter this Oracle command:

```
ALTER DATABASE ADD SUPPLEMENTAL LOG DATA (PRIMARY KEY,  
UNIQUE INDEX) COLUMNS;
```

You can read about supplemental logging in Oracle documentation at [http://download-west.oracle.com/docs/cd/B10501\\_01/server.920/a96521/logminer.htm#25840](http://download-west.oracle.com/docs/cd/B10501_01/server.920/a96521/logminer.htm#25840)

#### 4.4.14 RMS sends illegal command *sp\_mda* to Mirror Replication Agent

[CR# 425309] If Replication Monitoring Services (RMS) is connected to (monitoring) a Mirror Replication Agent and the Mirror Replication Agent has turned on tracing, this error may appear in the agent's log:

```
Got login event: sa  
Maintenance user <sa> successfully logged in from  
host=<chooch> with locale=us_english  
Got RPC event from TDS: sp_mdareceive() - cmd: sp_mda  
<1>, <7>  
Illegal command: <sp_mda>, received: -  
Received execution status for sp_mda  
Command failed  
Exception message: Illegal command: <sp_mda> -  
Error number: 0  
Error level: 0  
Result data is null  
Got RPC event from TDS: dba.sp_mda
```

This error does not cause any problem and you can ignore it.

#### 4.4.15 Re-materialization of the primary database overwrites stored procedure

[CR# 425348] When stored procedures are marked for replication, the procedure is modified to record its parameter values in Mirror Replication Agent system tables created in the database. If, after failover, the primary database is re-materialized from data at the standby site, the modified procedure and Mirror Replication Agent system tables are overwritten, disabling replication of the stored procedures.

*Workaround:* After re-materialization, perform a full initialization of the Mirror Replication Agent and re-mark objects you want for replication.

#### 4.4.16 Scripts to support Oracle replication

[CR# 463369] The installation of Mirror Replication Agent 15.0 includes scripts to support Oracle replication. The script named `$SYBASE/MA-15_0/scripts/oracle/hds_oracle_funcstrings.sql` supplied with Mirror Replication Agent 15.0 can only be used with Replication Server 12.6 ESD #6 or earlier.

If you are using a version of Replication Server that is later than Replication Server 12.6 ESD #6 or Replication Server 15.0, you can apply the `hds_oracle_funcstrings.sql` script included with the Replication Server release and ignore the one provided in the Mirror Replication Agent 15.0 installation. The `hds_oracle_funcstrings.sql` script in the Replication Server installation resides in the `$SYBASE/REP-15_0/scripts/hds_oracle_funcstrings.sql` directory.

## 5. Technical support

Each Sybase installation that has purchased a support contract has one or more designated people who are authorized to contact Sybase Technical Support. If you have any questions about this installation or if you need assistance during the installation process, ask the designated person to contact Sybase Technical Support or the Sybase subsidiary in your area.

## 6. Other sources of information

Use the Sybase Getting Started CD, the SyBooks™ CD, and the Sybase Product Manuals Web site to learn more about your product:

- The Getting Started CD contains release bulletins and installation guides in PDF format, and may also contain other documents or updated information not included on the SyBooks CD. It is included with your software. To read or print documents on the Getting Started CD, you need Adobe Acrobat Reader, which you can download at no charge from the Adobe Web site using a link provided on the CD.
- The SyBooks CD contains product manuals and is included with your software. The Eclipse-based SyBooks browser allows you to access the manuals in an easy-to-use, HTML-based format.

Some documentation may be provided in PDF format, which you can access through the PDF directory on the SyBooks CD. To read or print the PDF files, you need Adobe Acrobat Reader.

Refer to the *SyBooks Installation Guide* on the Getting Started CD, or the *README.txt* file on the SyBooks CD for instructions on installing and starting SyBooks.

- The Sybase Product Manuals Web site is an online version of the SyBooks CD that you can access using a standard Web browser. In addition to product manuals, you will find links to EBFs/Maintenance, Technical Documents, Case Management, Solved Cases, newsgroups, and the Sybase Developer Network.

To access the Sybase Product Manuals Web site, go to Product Manuals at <http://www.sybase.com/support/manuals/>.

## 6.1 Sybase certifications on the Web

Technical documentation at the Sybase Web site is updated frequently.

### ❖ Finding the latest information on product certifications

- 1 Point your Web browser to Technical Documents at <http://www.sybase.com/support/techdocs/>.
- 2 Click Certification Report.
- 3 In the Certification Report filter select a product, platform, and time frame and then click Go.
- 4 Click a Certification Report title to display the report.

### ❖ Finding the latest information on component certifications

- 1 Point your Web browser to Availability and Certification Reports at <http://certification.sybase.com/>.

- 2 Either select the product family and product under Search by Base Product; or select the platform and product under Search by Platform.
- 3 Select Search to display the availability and certification report for the selection.

❖ **Creating a personalized view of the Sybase Web site (including support pages)**

Set up a MySybase profile. MySybase is a free service that allows you to create a personalized view of Sybase Web pages.

- 1 Point your Web browser to Technical Documents at <http://www.sybase.com/support/techdocs/>.
- 2 Click MySybase and create a MySybase profile.

## 6.2 Sybase EBFs and software maintenance

❖ **Finding the latest information on EBFs and software maintenance**

- 1 Point your Web browser to the Sybase Support Page at <http://www.sybase.com/support>.
- 2 Select EBFs/Maintenance. If prompted, enter your MySybase user name and password.
- 3 Select a product.
- 4 Specify a time frame and click Go. A list of EBF/Maintenance releases is displayed.

Padlock icons indicate that you do not have download authorization for certain EBF/Maintenance releases because you are not registered as a Technical Support Contact. If you have not registered, but have valid information provided by your Sybase representative or through your support contract, click Edit Roles to add the “Technical Support Contact” role to your MySybase profile.

- 5 Click the Info icon to display the EBF/Maintenance report, or click the product description to download the software.

## 7. Accessibility features

This document is available in an HTML version that is specialized for accessibility. You can navigate the HTML with an adaptive technology such as a screen reader, or view it with a screen enlarger.



Mirror Replication Agent 15.0 and the HTML documentation have been tested for compliance with U.S. government Section 508 Accessibility requirements. Documents that comply with Section 508 generally also meet non-U.S. accessibility guidelines, such as the World Wide Web Consortium (W3C) guidelines for Web sites.

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**Note** You might need to configure your accessibility tool for optimal use. Some screen readers pronounce text based on its case; for example, they pronounce ALL UPPERCASE TEXT as initials, and MixedCase Text as words. You might find it helpful to configure your tool to announce syntax conventions. Consult the documentation for your tool.

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For information about how Sybase supports accessibility, see Sybase Accessibility at <http://www.sybase.com/accessibility>. The Sybase Accessibility site includes links to information on Section 508 and W3C standards.

For a Section 508 compliance statement for Mirror Replication Agent 15.0, see Sybase Accessibility at <http://www.sybase.com/accessibility>.

