

# Release Bulletin Adaptive Server<sup>®</sup> Enterprise 12.5.4 for Linux

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Topic	Page
1. Accessing current release bulletin information	3
2. Product summary	4
2.1 Encrypted Column support	4
2.2 Installation kit	4
2.3 Server components	4
2.4 PC-Client components	5
2.5 Operating system updates	6
3. Special installation instructions	7
3.1 Installing Adaptive Server on Linux platforms	7
3.2 Running dbcc checkcatalog	8
3.3 Installing Adaptive Server version 12.5.4 with earlier versions	9
3.4 General configuration steps for Kerberos	9
3.5 Changing the default language	9
3.6 Known installation issues	9
3.7 Post installation tasks	10
4. Special upgrade instructions	12
4.1 Upgrading Job Scheduler	12
4.2 Downgrading Job Scheduler	13
4.3 Upgrade support for Adaptive Server version 12.5.4	14

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Message Format Libraries, Sybase Central, Sybase Client/Server Interfaces, Sybase Development Framework, Sybase Financial Server, Sybase Gateways, Sybase IQ, Sybase Learning Connection, Sybase MPP, Sybase SQL Desktop, Sybase SQL Lifecycle, Sybase SQL Workgroup, Sybase Synergy Program, Sybase Virtual Server Architecture, Sybase User Workbench, SybaseWare, Syber Financial, SyberAssist, SybFlex, SybMD, SyBooks, System 10, System 11, System XI (logo), SystemTools, Tabular Data Stream, The Enterprise Client/Server Company, The Extensible Software Platform, The Future Is Wide Open, The Learning Connection, The Model For Client/Server Solutions, The Online Information Center, The Power of One, TotalFix, TradeForce, Transact-SQL, Translation Toolkit, Turning Imagination Into Reality, UltraLite, UltraLite.NET, UNIBOM, Unilib, Uninull, Unisep, Unistring, URK Runtime Kit for UniCode, Viafone, Viewer, VisualWriter, VQL, WarehouseArchitect, Warehouse Control Center, Warehouse Studio, Warehouse WORKS, Watcom, Watcom SQL, Watcom SQL Server, Web Deployment Kit, Web.PB, Web.SQL, WebSights, WebViewer, WorkGroup SQL Server, XA-Library, XA-Server, XcelleNet, XP Server, XTNDAccess and XTNDConnect are trademarks of Sybase, Inc. or its subsidiaries. 05/06

<b>Topic</b>	<b>Page</b>
5. Product and platform interoperability matrix	14
6. Known problems	17
6.1 Highlighted encrypted columns issues	17
6.2 SSL and Replication Agent	18
6.3 alter table and triggers with if update() clauses	18
6.4 Truncation error using select with power() function and numeric argument	18
6.5 Some messages returned incorrectly on UTF-8 servers	19
6.6 Cross-platform of parsed XML images	19
6.7 Limited number of arguments can be passed to Java user-defined functions	19
6.8 srvbuild errors	20
6.9 Memory allocation failure	20
6.10 Using mapped base in the run_server file	20
6.11 Migration of stored procedures	20
6.12 cis connect timeout and enable SNMP are not implemented	20
6.13 XP Server returns incorrect results	21
6.14 Network license daemon support	21
6.15 Configuring connectivity for clients accessing wide data	21
6.16 Upgrading check constraints	22
6.17 Handling multibyte character sets during migration	22
6.18 Increasing the stack size	22
6.19 LDAP User Authentication	23
6.20 LDAP User Authentication attribute	23
6.21 Installing Linux on IBM pseries	23
6.22 Delimiter go	24
6.23 Truncating strings	24
6.24 sp_help with encryption key	24
6.25 mount and unmount	24
6.26 Remote backup server and compressed dumps	25
6.27 Running Adaptive Server on Linux kernel 2.6 and above can degrade IO performance	25
6.28 Kernel asynchronous I/O	25
6.29 PC-Client and Sybase Drivers	25
6.30 Async I/O support on SuSE platforms	26
7. Product compatibilities	26
7.1 Known compatibility issues	27

<b>Topic</b>	<b>Page</b>
8. Documentation updates and clarifications	29
8.1 Installation Guide for Adaptive Server Enterprise version 12.5.4	29
8.2 Web Services User's Guide	30
8.3 Utility Guide	30
8.4 Reference Manual: Building Blocks	31
8.5 Reference Manual: Commands	32
8.6 Reference Manual: Procedures	33
8.7 System Administration Guide	42
8.8 Performance and Tuning Guide	43
8.9 XA Interface Integration Guide for CICS, Encina, and TUXEDO	43
8.10 Transact-SQL User's Guide	44
8.11 New Features Adaptive Server Enterprise 12.5.3a	44
9. Technical support	45
10. Other sources of information	45
10.1 Sybase certifications on the Web	45
10.2 Sybase EBFs and software maintenance	46

## 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 release of the product CD, use the Sybase Technical Library Product Manuals Web site.

### ❖ Accessing release bulletins at the Technical Library Product Manuals Web site

- 1 Go to Product Manuals at <http://sybooks.sybase.com>.
- 2 Follow the links to the appropriate Sybase product.
- 3 Select the Release Bulletins link.
- 4 Select the Sybase product version from the Release Bulletins list.
- 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

Enclosed is Sybase® Adaptive Server® Enterprise version 12.5.4. Server and client components are distributed on separate CDs.

For details on system requirements, including disk space and RAM, see the installation guide for your platform.

For more information specific to jConnect™ for JDBC™, jisql, and Ribo, see the jConnect documentation.

### 2.1 Encrypted Column support

This version of Adaptive Server supports encrypted columns. For more information about encrypted columns, see *New Features Adaptive Server® Enterprise 12.5.3a*.

### 2.2 Installation kit

The installation kit includes:

- The server CD – for contents list, see “Server components” on page 4.
- The PC-Client CD – contains software client components to be installed on Windows 2000, Windows XP Pro, and Windows 2003 computers.
- *Release Bulletin for Adaptive Server Enterprise Version 12.5.4 for Linux* (this document).
- *Installation Guide for Adaptive Server Enterprise 12.5.4 for Linux*.

### 2.3 Server components

The Server CD includes the following components:

- Sybase servers:
  - Adaptive Server 12.5.4
  - Adaptive Server Enterprise Monitor™ Server 12.5.4
  - Historical Server 12.5.4
- Language Modules 12.5.4
- Adaptive Server Administration Tools
  - Sybase Central™ 4.3

- Adaptive Server plug-in 12.5.4
- Job Scheduler Templates and Utilities 2.2
- SQL Advantage™
- Software Developer's Kit (SDK) 12.5.1, which includes the following:
  - Connectivity:
    - Open Client™ 12.5.1
    - Embedded SQL™/C 12.5.1
  - Monitor Client Library 12.5.4
  - XA Interface for Adaptive Server Distributed Transaction Manager 12.5.1
- jConnect for JDBC 5.5 and related utilities and documentation
- jConnect for JDBC 6.05 and related utilities and documentation
- OLE DB Provider by Sybase 12.5.4
- ODBC Driver by Sybase 12.5.4

## 2.4 PC-Client components

The PC-Client CD includes the following components:

- Software Development Kit (SDK) 12.5.1, which includes the following:
  - Open Client 12.5.1
  - Embedded SQL/C 12.5.1
  - Embedded SQL/COBOL 12.5.1
  - Monitor Client Library 12.5.4
  - XA Interface for Adaptive Server Distributed Transaction Manager 12.5.1
- Adaptive Server Data Providers:
  - ADO.NET 1.1
  - OLE DB Provider by Sybase 12.5.4
  - ODBC Driver by Sybase 12.5.4
- Language Modules 12.5.4

- jConnect 5.5 for JDBC and related utilities and documentation
- jConnect 6.05 for JDBC and related utilities and documentation
- Adaptive Server Administration Tools:
  - Sybase Central 4.3.0.2428
  - Adaptive Server Plug-in
  - Job Scheduler Templates and Utilities 2.2
  - SQL Advantage
  - Microsoft Cluster Server Administration Extensions
- InfoMaker™ 10.5
- PowerDesigner™ 12.0
- PowerTransfer™ 12.5.3

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**Note** Adaptive Server version 12.5.4 contains new ODBC and OLE DB drivers developed by Sybase. The third-party rebranded ODBC and OLE DB Driver Kits included with previous versions are no longer shipped with the product.

See the Sybase Web site at <http://www.sybase.com/detail?id=1040652> for the End of Life notification for these drivers.

---

## 2.5 Operating system updates

- Linux x86-32
- Linux x86-64
- Linux Pseries
- Linux Itanium

For latest Linux certifications, see the Technote at <http://certification.sybase.com/ucr/search.do>. The certification information in this database for Adaptive Server version 12.5 is also true for Adaptive Server version 12.5.4.

If your operating system requires patches, install them before you install Adaptive Server components.

For a complete list of patches, contact your operating system representative. Do not use a patch that is earlier than the version suggested for your operating system. Use the patch recommended by the operating system vendor even if it supersedes the patch listed here.

## 3. Special installation instructions

This section provides information for installing Adaptive Server version 12.5.4 and later that is not included or should be corrected in the installation guide.

---

**Note** Sybase recommends that you not install an older version of a Sybase product in a *SYBASE* directory that already includes a newer Sybase products as this may not work. For example, if you install an older version of Replication Server™ on top of Adaptive Server 12.5.4, either Adaptive Server or Replication Server may be inoperable, depending on the options you selected during the installation process.

---

### 3.1 Installing Adaptive Server on Linux platforms

The following information was not included in the Adaptive Server version 12.5.4 Installation Guide for Linux.

#### 3.1.1 System requirements

- For Intel x86:
  - Red Hat Enterprise Linux (AKA Red Hat Advanced Server): AS, ES, and WS editions.
  - SuSE Linux Enterprise Server.

#### 3.1.2 Setting operating system shared memory

The operating system shared memory default for most Linux releases is 32MB. The minimum required by Adaptive Server is 64MB with a default Server at 2K pages. You must increase the default to increase the total amount of memory available to Adaptive Server.

To check the current shared memory size, enter:

```
# /sbin/sysctl kernel.shmmax
```

To adjust the shared memory size, enter:

```
# /sbin/sysctl -w kernel.shmmax=nnn
```

where *nnn* is the new size in bytes (at least 64MB which is 67108864 bytes).

To guarantee that this value is applied every time the system is started, add the above line to your */etc/rc.d/rc.local* file or, on SuSE systems, */etc/init.d/boot.local*.

### 3.1.3 Runtime libraries required for Linux on POWER installation

---

**Warning!** Linux on POWER does not install without the following procedure.

---

#### ❖ Installing Visual Age xlc compiler runtime libraries

To install the required Visual Age xlc compiler runtime libraries:

- 1 Adaptive Server Enterprise is compiled and linked with the Visual Age compiler, xlc version 7.0. Before installing Adaptive Server, you must install the runtime libraries for the Visual Age compiler on your system.
- 2 To see whether the runtime libraries are installed, enter:

```
rpm -q vacpp.rte-7.0.0-0
```

If the command returns “vacpp.rte-7.0.0-0”, the Visual Age runtime packages are installed and you can skip the following steps.

If the above command returns the message that “vacpp.rte-7.0.0-0” is not installed, you must install them. Go to the IBM Web site at <http://www-1.ibm.com/support/docview.wss?uid=swg24007906>.

- 3 Follow the instructions to download and install the runtime libraries on your operating system. Select the package appropriate for your Linux distribution (RH 3.0 or SuSE Linux 9.0).

## 3.2 Running *dbcc checkcatalog*

Adaptive Server has been enhanced to validate the row and column length in database tables, using information stored within the system catalogs in that database. Any discrepancy is reported in the error log with this message:

```
Invalid column length: <length>. Value must be between  
0 and <max col length> for '<row type>' row with minimum  
row length of <min row length>.
```



This check requires accurate information within the system catalogs. If you have upgraded from an earlier version of Adaptive Server, verify that the information within the system catalogs is correct by running the dbcc checkcatalog on all databases after you have run the upgrade process, but before any database activity occurs.

Run dbcc checkcatalog(<database name>). If any errors are reported, fix them by running dbcc checkcatalog(<database name>, "fixall").

Dump the database after the fixes have been made.

### 3.3 Installing Adaptive Server version 12.5.4 with earlier versions

You can install Adaptive Server version 12.5.4 over an existing 12.5 or later version without having to perform an upgrade. Shutdown your servers, install the release on top of the existing release area. Do not configure any servers, then restart your servers.

For more information about post installation tasks, access the information at the MySybase Web site at <http://my.sybase.com/detail?id=1013610>.

### 3.4 General configuration steps for Kerberos

For information about installing Kerberos security software, see the white paper on the Sybase Web site at <http://www.sybase.com/detail?id=1029260>. This helps you get started with using Kerberos with Adaptive Server, OpenClient, OpenServer and jConnect applications.

### 3.5 Changing the default language

To change the language for messages, run sp\_modifylogin to specify the preferred language. After installing version 12.5.4, the System Administrator must reinstall the appropriate locales using langinstall.

### 3.6 Known installation issues

This section describes known problems or issues that you may encounter during the installation process.

#### 3.6.1 Adaptive Server installation stops responding

Before installing Adaptive Server version 12.5.4 on Linux, run:

df

The Linux installation requires `df` to determine the available space on a file system. If this command does not return to the command prompt, the Adaptive Server installation fails.

Restart your system, or work with your system administrator to resolve the issue with `df` before proceeding with the installation of Adaptive Server.

## 3.7 Post installation tasks

These tasks are updates from the post-installation tasks in the Installation Guides.

### 3.7.1 Running the *installmaster* script

Using `isql`, run the new `installmaster` script included with this release using the following syntax. Save the output of this step to an operating system file.

```
isql -Usa -P<sa password> -S<server name> -n  
-i$$SYBASE/$SYBASE_ASE/scripts/installmaster -o<output file>
```

Save the output of this step to an operating system file.

### 3.7.2 Rerunning the *installcommit* script

Rerun the `installcommit` script if you use two-phase commit or distributed transactions, you need to rerun the `installcommit` SQL script to restore the following stored procedures:

- `sp_start_xact`
- `sp_abort_xact`
- `sp_remove_xact`
- `sp_stat_xact`
- `sp_scan_xact`
- `sp_probe_xac`

Run the new `installcommit` script included with this release, using `isql`, if you have modified any of these Sybase system stored procedures (above) without changing the names. In executing `installcommit` it overwrites your modifications. In this case, you must reload the modified stored procedures after you run the `installcommit` script.

```
isql -Usa -P<sa password> -S<servername> -n
-i$SYBASE/$SYBASE_ASE/scripts/installcommit -o<output file>
```

Save the output of this step to an operating system file.

### 3.7.3 Rerunning the *installsecurity* script

If the Adaptive Server Auditing functionality was enabled in your installation of Adaptive Server Enterprise, you need to rerun the *installsecurity* script.

If you have modified any of the Sybase system stored procedures installed by this script without changing the names, executing *installsecurity* will overwrite your modifications. You must reapply the modifications after you run the *installsecurity* script.

Using *isql*, run the new *installsecurity* script included with this release.

```
isql -Usa -P<sa password> -S<servername> -n
-i$SYBASE/$SYBASE_ASE/scripts/installsecurity -o<output file>
```

Save the output to an operating system file.

### 3.7.4 Running the *instmsgs.ebf* script

from this release. Running the *instmsgs.ebf* script brings your Adaptive Server Enterprise messages up to the level of this release.

Using *isql*, run:

```
isql -Usa -P<sa password> -S<server name> -n
-i$SYBASE/$SYBASE_ASE/scripts/instmsgs.ebf -o<output file>
```

Save the output of this step to an operating system file.

### 3.7.5 Running the *installjsdb* script

Stop Job Scheduler.

From an *isql* session, enter:

```
use sybmgmtdb
go
sp_js_wakeup "stop_js", 1
go
```

Run the *installjsdb* script included with this release:

```
isql -Usa -P<sa password> -S<server name> -n -
-i$SYBASE/$SYBASE_ASE/scripts/installjsdb -o<output file>
```

Save the output of this step to an operating system file.

The `installjsdb` script looks for the `sybmgmtdb` database. The script updates Job Scheduler tables and stored procedures.

Start Job Scheduler, then, using `isql`, enter:

```
use sybmgmtdb
go
sp_js_wakeup "start_js", 1
go
```

## 4. Special upgrade instructions

This section provides information for upgrading to Adaptive Server version 12.5.4 that is not included or should be corrected in the installation guide.

### 4.1 Upgrading Job Scheduler

If you are upgrading from Adaptive Server versions earlier than 12.5.3 ESD#2, you must run the `installjsdb` script from the new version anytime you upgrade Job Scheduler.

#### ❖ Upgrading Job Scheduler

- 1 Disable Job Scheduler before you upgrade Adaptive Server:

```
sp_configure "enable job scheduler", 0
```

- 2 Upgrade Adaptive Server. See the installation guide for details.

- 3 Run the `installjsdb` script:

```
isql -Usa -Psa_password -Sservername -i
$SYBASE_ASE/scripts/installjsdb
```

---

**Note** The directory with the location of the `isql` executable (`$SYBASE_OCS/bin`) must be in your path.

---

The `installjsdb` script looks for the `sybmgmtdb` database. The script updates Job Scheduler tables and stored procedures.

- 4 Enable Job Scheduler:

```
sp_configure "enable job scheduler", 1
```

- 5 To start Job Scheduler, either restart the server, or enter:

```
use sybmgmtdb
go
```

```
sp_js_wakeup "start_js",1
go
```

### 4.1.1 Upgrading Job Scheduler templates (optional)

Sybase recommends that you upgrade the Job Scheduler templates. You must have `$$SYBASE/$SYBASE_OCS/bin` directory in your `$path` so the `isql` executable is accessible.

- 1 Move to the Job Scheduler template stored procedure directory. For example:

```
cd $$SYBASE/JS-12_5/Templates/sprocs
```

- 2 Run `installTemplateProcs`:

```
installTemplateProcs <servername> <username> <password>
```

- 3 Move to the Job Scheduler template XML directory. For example:

```
cd $$SYBASE/JS-12_5/Templates/xml
```

- 4 Run `installTemplateXML`.

```
installTemplateXML <servername> <machinename>
<serverport> <username> <password> [<language_code>]
```

- 5 Use `en` for the `language_code` or you may omit the parameter completely as `en` is the default.

## 4.2 Downgrading Job Scheduler

If you are downgrading to Adaptive Server versions 12.5.3 ESD#2 or earlier, you must run `installjsdb` script from the lower version anytime you downgrade Job Scheduler.

### ❖ Downgrading Job Scheduler

- 1 Disable Job Scheduler before you downgrade Adaptive Server:

```
sp_configure "enable job scheduler", 0
```

- 2 Downgrade Adaptive Server. See the installation guide for details.

- 3 Run the `installjsdb` script:

```
isql -Usa -Psa_password -Sservername -i
```

```
$SYBASE_ASE/scripts/installjsdb
```

---

**Note** The directory with the location of the isql executable (*\$SYBASE\_OCS/bin*) must be in your path.

---

- 4 Enable Job Scheduler:

```
sp_configure "enable job scheduler", 1
```

- 5 To start Job Scheduler, either restart the server, or enter:

```
use sybmgmtdb
go
sp_js_wakeup "start_js",1
go
```

### 4.3 Upgrade support for Adaptive Server version 12.5.4

Sybase supports upgrades from Adaptive Server versions 11.9.x, 12.0.x, 12.5, and 12.5.x to Adaptive Server version 12.5.4.

## 5. Product and platform interoperability matrix

The following tables show the interoperability of Adaptive Server version 12.5.4 against other Sybase products across different platforms and versions, as well as client products. For specific platform or operating system level information, perform a search at the Sybase Certification Web page at <http://certification.sybase.com/ucr/search.do> for the appropriate platform certification.

---

**Note 1** Even though two or more products might be interoperable, features introduced in a newer version of a product are not likely to be supported with older versions of the same or other products.

**Note 2** Interoperability between big-endian and little-endian platforms has also been verified. Windows, Linux-32, and Sun Solaris x86 platforms are little-endian. IBM AIX, Sun Solaris, Linux on Power, and HP-UX are big-endian platforms.

---

Table 1 shows the interoperability of Adaptive Server version 12.5.x with other Sybase products.

**Table 1: Adaptive Server 12.5.4 interoperability with other products**

Platforms		OC/OS 12.5.1	OC/OS 15.0	jConnect 5.5	jConnect 6.0.x	ASE ODBC by Sybase 12.5x	ASE ODBC by Sybase 15.0x	ASE OLEDB by Sybase 12.5x	ASE OLEDB by Sybase 15.0x	ADO.NET 1.1x	OEM ODBC Driver Kit 5.00.0096	OEM OLEDB Driver Kit 2.70.0063	Replication Server 12.6	Replication Server 15.0.x
AIX	32-bit	X	X	X	X	X	X	X	X	X	X	X	X	X
	64-bit	X	X	X	X	X	X	X	X	X	X	X	X	X
HP-UX	32-bit	X	X	X	X	X	X	X	X	X	X	X	X	X
	64-bit	X	X	X	X	X	X	X	X	X	X	X	X	X
	IA 64-bit	X	X	X	X	X	X	X	X	X	X	X	X	X
Linux	x86 32-bit	X	X	X	X	X	X	X	X	X	X	X	X	X
	Pseries 64-bit	X	X	X	X	X	X	X	X	X	X	X	X	X
	x64 64-bit	X	X	X	X	X	X	X	X	X	X	X	X	X
	IA 64-bit	X	X	X	X	X	X	X	X	X	X	X	X	X
Mac OS X	32-bit	X	X	X	X	X	X	X	X	X	X	X	X	X
SGI	32-bit	X	X	X	X	X	X	X	X	X	X	X	X	X
	64-bit	X	X	X	X	X	X	X	X	X	X	X	X	X
Solaris	32-bit	X	X	X	X	X	X	X	X	X	X	X	X	X
	64-bit	X	X	X	X	X	X	X	X	X	X	X	X	X
	x86 32-bit	X	X	X	X	X	X	X	X	X	X	X	X	X
TruUnix (Alpha)	64-bit	X	X	X	X	X	X	X	X	X	X	X	X	X
Windows	x86 32-bit	X	X	X	X	X	X	X	X	X	X	X	X	X

Table 2 shows the supported platforms of client products listed in Table 1.

**Table 2: Supported client platforms**

<b>Client name</b>	<b>Version</b>	<b>Supported platform</b>	
Open Client/Open Server	12.5.1	<ul style="list-style-type: none"> <li>• AIX 32-bit</li> <li>• AIX 64-bit</li> <li>• HP-UX 32-bit</li> <li>• HP-UX 64-bit</li> <li>• HP-UX IA 32-bit</li> <li>• HP-UX IA 64-bit</li> <li>• Linux x86 32-bit</li> <li>• Linux Pseries 32-bit</li> <li>• Linux Pseries 64-bit</li> <li>• Linux x64 64-bit</li> <li>• Linux IA 64-bit</li> </ul>	<ul style="list-style-type: none"> <li>• Mac OSX 32-bit</li> <li>• SGI 32-bit</li> <li>• SGI 64-bit</li> <li>• Solaris 32-bit</li> <li>• Solaris 64-bit</li> <li>• Solaris x86 32-bit</li> <li>• Solaris Opteron 64bit</li> <li>• TruUnix (Alpha) 64-bit</li> <li>• Windows x86 32-bit</li> </ul>
	15.0	<ul style="list-style-type: none"> <li>• AIX 32-bit</li> <li>• AIX 64-bit</li> <li>• HP-UX 32-bit</li> <li>• HP-UX 64-bit</li> <li>• HP-UX IA 32-bit</li> <li>• HP-UX IA 64-bit</li> <li>• Linux x86 32-bit</li> <li>• Linux x64 64-bit</li> <li>• Linux Pseries 32-bit</li> <li>• Linux Pseries 64-bit</li> </ul>	<ul style="list-style-type: none"> <li>• Solaris 32-bit</li> <li>• Solaris 64-bit</li> <li>• Solaris Opteron 32-bit</li> <li>• Solaris Opteron 64-bit</li> <li>• Windows x86 32-bit</li> <li>• Windows x64 64-bit</li> </ul>
jConnect	5.5	<ul style="list-style-type: none"> <li>• All</li> </ul>	
	6.0x	<ul style="list-style-type: none"> <li>• All</li> </ul>	
ASE ODBC by Sybase	12.5.x	<ul style="list-style-type: none"> <li>• Linux x86 32-bit</li> <li>• Linux x64 32-bit</li> <li>• Mac OSX 32-bit</li> </ul>	<ul style="list-style-type: none"> <li>• Windows x86 32-bit</li> <li>• Windows x64 32-bit</li> </ul>
	15.0.x	<ul style="list-style-type: none"> <li>• Linux x86 32-bit</li> <li>• Linux x64 32-bit</li> </ul>	<ul style="list-style-type: none"> <li>• Windows x86 32-bit</li> <li>• Windows x64 32-bit</li> <li>• Windows x64 64-bit</li> </ul>
ASE OLEDB by Sybase	12.5.x	<ul style="list-style-type: none"> <li>• Windows x86 32-bit</li> </ul>	<ul style="list-style-type: none"> <li>• Windows x64 32-bit</li> </ul>
	15.x	<ul style="list-style-type: none"> <li>• Windows x86 32-bit</li> </ul>	<ul style="list-style-type: none"> <li>• Windows x64 32-bit</li> </ul>
ADO.NET	1.1.x	<ul style="list-style-type: none"> <li>• Windows x86 32-bit</li> </ul>	<ul style="list-style-type: none"> <li>• Windows x64 32-bit</li> </ul>
OEM ODBC Driver Kit	5.00.0096	<ul style="list-style-type: none"> <li>• Windows x86 32-bit</li> </ul>	
OEM OLEDB Driver Kit	2.70.0063	<ul style="list-style-type: none"> <li>• Windows x86 32-bit</li> </ul>	



Client name	Version	Supported platform
Replication Server	12.6	<ul style="list-style-type: none"> <li>• AIX 32-bit</li> <li>• HPUX 32-bit</li> <li>• HPUX IA 32-bit</li> <li>• Linux x86 32-bit</li> <li>• Linux x64 32-bit</li> <li>• Mac OSX 32-bit</li> <li>• SGI 32-bit</li> <li>• Solaris 32-bit</li> <li>• TruUnix (Alpha) 64-bit</li> <li>• Windows x86 32-bit</li> </ul>
	15.0.x	<ul style="list-style-type: none"> <li>• AIX 32-bit</li> <li>• HPUX 32-bit</li> <li>• HPUX IA 32-bit</li> <li>• Linux x86 32-bit</li> <li>• Linux x64 32-bit</li> <li>• Solaris 32-bit</li> <li>• Windows x86 32-bit</li> </ul>

For the latest interoperability report on these products, see the MySybase Web site at <http://my.sybase.com/detail?id=1026087>.

## 6. Known problems

This section describes known problems and workarounds for Adaptive Server.

---

**Note** The System Problem Report (SPR) and Closed Problem Report (CPR) are no longer shipped with the Adaptive Server Enterprise releases. Known issues, once reported in the SPR, are now included in the Release Bulletin for the current version of Adaptive Server Enterprise. For more information on closed issues for Adaptive Server version 12.5.4 go to Support and Services, Solved cases at <http://www.sybase.com/detail?id=1035398>.

---

### 6.1 Highlighted encrypted columns issues

This section describes known problems and workarounds for encrypted columns.

#### 6.1.1 Residual cleartext data on disk

**[CR #392841]** Encryption of data through alter table copies a table to new data pages. The old (clear text) values remain in the unused pages until those pages are reused by the server. A similar situation exists with the transaction log. Log records of updates and deletes on tables prior to encrypting the data (through alter table) also persist until those log pages are reused.

*Workaround:* To destroy residual data pages, build a new device. Use `bcp` to copy all the data out from the old device and back in to the new device. The `-C` option on `bcp` leaves the data in ciphertext format during the transfer. Destroy the old device. If plain text values remain in the transaction log, normal database activity replaces these pages.

## 6.2 SSL and Replication Agent

**[CR #391581]** An error occurs when you attempt to establish an SSL connection between Replication Agent version 12.5.3.a and Replication Server version 12.6 ESD #5.

*Workaround:* When you configure Adaptive Server for SSL, Replication Server creates a primary connection, but the Replication Agent Thread fails on the initial connection attempt. However, when you restart the Replication Agent thread, a successful SSL connection is established.

## 6.3 *alter table* and triggers with *if update()* clauses

**[CR #199655, 343165]** If a trigger contains an `if update()` clause, data modifications that should fire the trigger that are performed after executing `alter table add`, `alter table drop`, `alter table lock`, or `alter table modify` may cause errors in column references. Triggers on the altered table that use an `if update()` clause in the body of the trigger to reference a column may not fire, or may fire incorrectly.

*Workaround:* After the `alter table` operation has completed, drop and re-create all triggers on the altered table. Doing so causes the `if update()` clause in the triggers to correctly reference the new columns by their new column offsets, so the trigger code executes correctly.

## 6.4 Truncation error using *select* with *power()* function and numeric argument

**[CR #236723]** Using the `select` command with the function `power()`, and a numeric argument, results in a truncation error.

*Workaround:* Convert the numeric argument to a float.

## 6.5 Some messages returned incorrectly on UTF-8 servers

**[CR #271646]** When the Adaptive Server default character set is UTF-8, the Adaptive Server Enterprise Replicator procedures `sp_addreplicateart` and `sp_addreplicateconn` return some error messages incorrectly.

This problem does not affect the function of these procedures.

---

**Note** Even though the error messages are not returned correctly, the errors are logged correctly in the Adaptive Server Enterprise Replicator log files.

---

*Workaround:* There is no workaround for this issue.

## 6.6 Cross-platform of parsed XML images

**[CR #332012]** You cannot use `bcp` or replicate parsed XML image data between a big-endian platform and a little-endian platform, for example between a Solaris platform (big-endian) and a Linux or Windows platform (little-endian).

The term “parsed XML image data” refers to data of image datatype that is generated by the `xmlparse` built-in function.

*Workaround:* When you transfer XML data between platforms, transfer the character form of the XML documents rather than the parsed XML form. If you have not stored the character form of the XML documents, you can regenerate it from the parsed form. For example, if column `xmlindexed` of the `xmldocuments` table is an image column containing parsed XML image data, the following two commands append a new text column to the table and populate it with a character form of the documents contained in the `xmlindexed` column:

```
alter table xmldocuments add xmltext text
update xmldocuments set xmltext = xmlextract('/', xmlindexed)
```

Then you can use `bcp` or replicate the `xmltext` column from one platform to the other.

## 6.7 Limited number of arguments can be passed to Java user-defined functions

**[CR #338924]** On Itanium platforms, Adaptive Server can pass only six or fewer floating point or double arguments to a native Java function. Adaptive Server ignores the seventh and all succeeding arguments.

*Workaround:* Pass no more than six floating point or double arguments to a native Java function.

## 6.8 *srvbuild* errors

**[CR #339913]** On Linux Itanium platforms, the *srvbuild* utility may fail with this error:

```
"X Error of failed request: BadLength (poly request too large or internal Xlib length error)".
```

*Workaround:* Use the *srvbuildres* utility from the command line and create a resource file defining the server configuration requirements.

## 6.9 Memory allocation failure

**[CR #350856]** If there is insufficient memory in the heap class, Adaptive Server stops responding.

*Workaround:* Double the heap class size.

## 6.10 Using mapped base in the *run\_server* file

**[CR #345216]** Using *mapped\_base* in the *run\_server* file may cause problems.

*Workaround:* If you have the following line in the *run\_server* file, remove it:

```
sudo /bin/echo 268435456 > /proc/$$/mapped_base
```

## 6.11 Migration of stored procedures

**[CR #328131]** *sybmigrate* does not migrate stored procedures that have a space character in their name, or belong to a procedure group.

*Workaround:* There is no workaround for this issue.

## 6.12 *cis connect timeout* and *enable SNMP* are not implemented

**[CR #323177]** Configuration parameters *cis connect timeout* and *enable SNMP* are not currently implemented.

*Workaround:* Do not use these configuration parameters.

## 6.13 XP Server returns incorrect results

**[CR #280073]** On all systems, using an extended stored procedure (ESP) with parameters may result in wrong data being sent to XP Server. Because of this, XP Server may return incorrect results.

This happens when there is no parameter declaration list in the ESP, but one or more parameters are supplied at execution time. Before CR #280073, all parameters supplied at execution time were sent to the XP Server, causing incorrect results. CR #280073 ignores all parameters supplied at execution time when the parameter declaration list is empty.

This does not cause any behavior change when the parameter declaration list in the ESP matches the parameters supplied at execution time.

If you are using ESPs without a parameter declaration list, and you supply parameters at execution time, drop and re-create the ESP in Adaptive Server. Make sure the parameter declaration list in the ESP matches the parameter list supplied at execution time

You can use trace flag 523 to revert to pre-CR #280073 behavior. This is a server-wide trace flag to be set when you restart Adaptive Server.

## 6.14 Network license daemon support

Adaptive Server version 12.5.2 and later has upgraded SySAM daemons and libraries (FlexLM) to version 8. The SySAM daemons (Imgrd and SYBASE) are backward compatible; the libraries are not. As a result, Adaptive Server 12.5.2 cannot check out licenses from earlier versions of the SySAM license daemons.

*Workaround:* Sites using the Network License Model should make sure that the central SySAM license daemons are upgraded before loading the libraries.

## 6.15 Configuring connectivity for clients accessing wide data

**[CR #271822]** If you are using wide data (that is, data other than text and image that is greater than 255 bytes), and you are using the bulk library APIs, make sure you configure the connectivity capability for wide data. Failure to do so may result in memory corruption.

## 6.16 Upgrading check constraints

**[CR #272941]** When you upgrade to Adaptive Server 12.5.0.1 or later, verify constraints that were created with the following criteria. They may not have been upgraded correctly.

- The check constraint was created as a named check constraint.
- Quoted identifiers were set to on while the constraint was created.
- Quote identifiers were used around the entire constraint name.
- The constraint name was a keyword, or not a legal identifier.

You see parser syntax errors after you have upgraded to Adaptive Server 12.5.0.1 and later, and when you first add data to the constrained column, or when you run `dbcc upgrade_object`.

To determine whether this problem occurs on your upgraded databases, run this command to check for syntax errors on your constraints and rules:

```
dbcc upgrade_object (dbname, rule)
```

*Workaround:* There are two workarounds to this problem:

- Issue `alter table drop constraint_name` to drop a constraint that was not upgraded successfully. Then issue `alter table add constraint_name`, and re-create the constraint.
- As System Administrator, manually update `syscomments.text` to add quoted identifiers to the constraints that did not successfully upgrade.

## 6.17 Handling multibyte character sets during migration

**[CR #353079]** If you configure multibyte character sets after migrating data from system catalogs `sysattributes` and `sysxtypes`, the text columns in these catalogs are inconsistent with the multibyte character sets.

*Workaround:* Manually run `dbcc fix_text` on `sysattributes` and `sysxtypes`, to make the text columns consistent with the multibyte character sets.

## 6.18 Increasing the stack size

**[CR # 431392]** Stack memory requirements for Linux Itanium 64 increased after a fix for the FBO compiler. Verify the amount of stack memory used since the server started by running `dbcc stackused`.

*Workaround:* Increase the stack memory by using `sp_configure stacksize`. Sybase recommends setting the stacksize to 150000.

## 6.19 LDAP User Authentication

**[CR #430808]** When using LDAP User Authentication on certain versions of Linux AS 3.0, and where simultaneous LDAPUA connections are occurring on an engine, a segment violation may occur with the message “infected with 11” in the Adaptive Server Enterprise error log. The error may cause the Adaptive Server to shut down.

*Workaround:* Reduce the value of LDAPUA attribute `max_ldapua_native_threads` to 1 per engine:

```
sp_ldapadmin 'set_max_ldapua_native_threads', '1'
```

This reduction in the LDAPUA attribute avoids concurrent connections to the LDAP server during authentication.

## 6.20 LDAP User Authentication attribute

**[CR #430808]** The minimum value for `set_max_ldapua_native_threads` is 1. This is valid for Linux. The following platforms are unable to set the attribute to less than fifteen:

- Sun Solaris
- IBM AIX
- HPUX
- Windows
- Tru64

*Workaround:* Do not set the attribute to less than 15.

## 6.21 Installing Linux on IBM pseries

**[CR #334942]** If you have an inaccessible NFS mounted device, InstallShield may hang while displaying “Performing install checks. Please wait . . .”. If this happens, the console from which the installer was executed will display a message similar to the following “NFS3 server <some server> not responding still trying”.

Verify by executing `df -P` from a command prompt, and this command should also hang.

*Workaround:* Stop the installation, unmount the inaccessible device and retry the installation.

## 6.22 Delimiter *go*

**[CR #432057]** Any occurrence of `[gG][oO]` in the text of a job command is seen as the batch delimiter *go*.

*Workaround:* There is no workaround as you cannot use identifiers containing the substring *go* or any other combination of upper and lower case “g” or “o”.

For example: the command *use oligo* is split into “*use oli*” “*go*” when used in a scheduled job.

## 6.23 Truncating strings

**[CR #367369]** Adaptive Server Enterprise 12.5.x truncates strings longer than 255 characters. Versions prior to Adaptive Server Enterprise 12.5.x do not.

The truncation message 9558 is produced. This is *not* an error message, and the message number 9558 is NOT printed. This truncation can lead to data loss.

*Workaround:* None.

## 6.24 *sp\_help* with encryption key

**[CR #393740]** *sp\_help* prints incorrect information, such as blank name, owner, or object type when the name of an encryption key is specified.

*Workaround:* None.

## 6.25 mount and unmount

**[CR #369550]** Linux32 for the x86 architecture can be unmounted then mounted by Linux64 for x86 architecture, such as AMD Opteron or Intel EM64T, but they cannot be mounted by LinuxIA64 as that is Itanium architecture.

*Workaround:* You must use cross platform dump and load for this type of migration



## 6.26 Remote backup server and compressed dumps

[CR # 431904] Using a remote Backup Server to dump a database using `WITH COMPRESSION=<compression level>` does not produce a compressed dump. Such dumps can only be loaded using a Remote Backup Server; since mixing dumps made on a Local Backup Server and loading them via the Remote Backup Server or vice versa does not work.

This problem is only applicable to the compression option `WITH COMPRESSION=<compression level>`.

## 6.27 Running Adaptive Server on Linux kernel 2.6 and above can degrade IO performance

[CR # 395125 and 433456] Running Adaptive Server on Linux kernel 2.6 and above can degrade IO performance. This is because `librtkaio` support has been withdrawn on these Linux kernel versions and by default POSIX Asynchronous IO is used unlike Kernel Asynchronous IO as on previous versions of Linux kernel.

## 6.28 Kernel asynchronous I/O

[CR #407746] Due to a Red Hat 3.0 update 3 anomaly, Adaptive Server running on RHEL 3.0 64-bit distribution occasionally stops responding when kernel asynchronous I/O is enabled.

This problem has been reported to Red Hat and addressed in kernel 2.4.21-27.6.EL.

For more information, please access the Red Hat Web site at [https://bugzilla.redhat.com/bugzilla/show\\_bug.cgi?id=138905](https://bugzilla.redhat.com/bugzilla/show_bug.cgi?id=138905)

## 6.29 PC-Client and Sybase Drivers

[CR #433446] Some Windows environments can cause the Sybase DataAccess drivers (ODBC, OLEDB, ADO) not to install even under the “Full Installation” option.

This can be corrected by doing a “Custom Installation” of the drivers.

### 6.30 Async I/O support on SuSE platforms

**[CR #403972]** Prior to Adaptive Server Enterprise 12.5.3 ESD#2 release, Adaptive Server was able to automatically switch to using Posix Async i/o on Linux versions not supporting Posix interface to KAIO. SuSE discontinued support for librtkaio starting from SLES 9 Service Pack 1.

Due to the CR 376419 fix in Adaptive Server Enterprise 12.5.3 ESD#2, the server incorrectly reports that Adaptive Server is using KAIO while it is using Posix AIO on SLES 9 SP1. This can lead to unexpected behavior in Adaptive Server Enterprise.

*Workaround:* Adaptive Server Enterprise should be booted with traceflag 1630 on SLES 9 SP1 to explicitly enable Posix async i/o.

## 7. Product compatibilities

This section lists the Sybase components that are compatible with Adaptive Server Enterprise version 12.5 and later. For information about operating system requirements, see individual component documentation.

---

**Note** Component Integration Services and SSL are not supported on Adaptive Server version 12.5.4.

---

The following components have been tested for compatibility with Adaptive Server 12.5 and later:

- Sybase Character Sets 3.0
- Sybase Central viewer 4.x
- ECDA option for ODBC 12.6
- ECDA option for Informix 12.6
- MainframeConnect DirectConnect for OS/390 12.6
- ECDA option for Oracle 12.6
- ECDA option for Microsoft SQL Server 12.6
- ECDA option for DB2 Universal Database 12.6
- ECDA option for AS/400 12.6

- OpenSwitch 12.5

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**Note** OpenSwitch 12.5 does not support SSL.

---

- jConnect for JDBC 5.5
- jConnect for JDBC 6.05
- Open Server™ 12.5.1
- SDK 12.5.1
- Open ServerConnect™ (CICS, IMS/MVS) 4.0
- Open ClientConnect™ (CICS, IMS/MVS) 4.0
- ODBC Driver for Adaptive Server 12.5.4
- OLE DB Provider for Adaptive Server 12.5
- InfoMaker™ 7.0.3
- Replication Server 12.5, 12.6
- Physical Architect™ 8.0
- XA-Library™ for CICS/ENCINA 11.1.1
- XA-Server™ for Tuxedo 11.1.1

---

**Note** Backup Server 12.5 is compatible with Backup Server 11.5.1 and later. Either server can be local or remote. Backup Server 12.5 is compatible with versions of Backup Server earlier than 11.9.2.1 *only* if the Backup Server 12.5 is the remote server.

---

## 7.1 Known compatibility issues

This section contains known compatibility issues and their workarounds.

### 7.1.1 Compatibility between Adaptive Server and Replication Server

**[CR #433315]** If you are using the encrypted columns feature in Adaptive Server version 12.5.4 you must use Replication Server 12.6 (ESD#5 or later).

There is an incompatibility between Adaptive Server 12.5.4 and RepServer 15.0 when replicating an alter table statement that modifies an encrypted column to change the key. The type of the encrypted column in the replicate database will be changed to varbinary.

To correct this problem:

- 1 Log in as the table owner to the replicate database; DDL replication must be enabled.
- 2 Use alter table to modify the type of the encrypted column to its type at the primary site.

For example:

- You have a table *EMP* which contains an encrypted column SSN char(10) encrypted by K1.
- You alter *EMP* at the primary site to change SSN key to K2.

The type of column SSN.EMP at the primary site is now varbinary(17) or varbinary(33), depending on whether K2 has been specified to use an initialization vector.

- You then issue the alter table EMP modify SSN char(10) at the replicate site to correct that information.

### 7.1.2 jConnect 6.05 and sqldbgr

Due to missing components in jConnect6.05, sqldbgr does not run correctly if you select “Typical” installation. If you plan on using sqldbgr, select the “Full” installation option to install jConnect 6.05.

### 7.1.3 Installing Replication Server with other Sybase software

Because there are incompatibilities among some Sybase components, Sybase strongly recommends that you install Replication Server, including Replication Server Manager (RSM) Server, in its own product directory, separate from other Sybase products.

### 7.1.4 Using Job Scheduler templates

Sybase recommends that you upgrade the Job Scheduler templates provided with Adaptive Server 12.5.4. The templates contain an important change that handles the 12.5.4 version number. To upgrade, install the XML from the `$Sybase/JS-12_5/Templates/xml` directory and the template stored procedures from the `$Sybase/JS-12_5/Templates/sprocs` directory. For more information on installing the templates, see the *Job Scheduler User's Guide*.

This upgrade should not interfere with any existing jobs. Existing jobs use the updated template stored procedures, and run as they have in the past.

---

**Note** If you have existing jobs created from templates delivered with a pre-12.5.2 Adaptive Server, see the 12.5.2 release bulletin for your platform and follow the upgrade steps there for the Job Scheduler templates. Then you can upgrade Job Scheduler templates using the above information.

---

## 8. Documentation updates and clarifications

This section describes changes and additions to the Adaptive Server documentation set.

### 8.1 Installation Guide for Adaptive Server Enterprise version 12.5.4

The following note should replace the Warning in Chapter 2 of the Installation Guide for Adaptive Server Enterprise version 12.5.4 on Windows platforms.

---

**Note** Before running Adaptive Server version 12.5.4 on Windows 2000 you must update the Windows C run time libraries. You can do this in one of the following ways:

- Install Windows 2000 Support Tools.
  - Download a patch `vcredist.exe` referred to in Microsoft Knowledge Base article # 259403. Find the patch the Microsoft Web site at <http://support.microsoft.com/default.aspx?scid=http://support.microsoft.com:80/support/kb/articles/Q259/4/03.ASP&NoWebContent=1>.
  - Install Microsoft Visual C++ 6.0.
-

## 8.2 Web Services User's Guide

Include the following in “Troubleshooting Issues” of Chapter 7, “Troubleshooting” in the *Web Services User's Guide*.

### Issue

The `sp_webservices` add command may return the following error when generating proxy tables:

```
Warning: Row size (3347 bytes) could exceed row size limit, which is 1962
bytes.
Msg 208, Level 16, State 1:
Server 'JMALVARADO', Line 1:
tempdb..ws_4338e6e122cd4ef0a not found. Specify owner.objectname or uses to
check whether the object exists (sp_help may produce lots of output).
No proxy tables were created for the WSDL URL:
[http://www.xignite.com/xquotes.asmx?WSDL]
(return status = 0)
```

This error occurs because the remote server representing the Web Services Consumer has been added using `sp_addserver` with a class other than “sds.” Use `sp_helpserver` in isql:

```
1> sp_helpserver ws
2> go
```

In this example, `ws` is the name of the Web Services Consumer. This is the default. The remote server class is returned in the indicated column of the result:

```
name network_name class ...
---- -
ws ws null ...
```

### User action

Change the class of the remote server to “sds” by using `sp_dropserver` and `sp_addserver` in isql:

```
1> sp_dropserver ws_name
2> go
...
1> sp_addserver ws_name, sds, ws_name
2> go
```

In this example, `ws_name` is the name chosen for the Web Services Consumer.

## 8.3 Utility Guide

The following are updates for the *Utility Guide*.

### 8.3.1 Omission from *sybmigrate*

The following information was omitted from the Chapter 8, Commands, for “sybmigrate” in the *Utility Guide*:

sybmigrate requires allow resource limits to be set to 0.

---

**Note** If metadata already exists on the target Adaptive Server, you cannot migrate server data.

---

SYBASE\_JRE – defines the location of the Java runtime environment. This is generally set to the default value `$$SYBASE/shared-1_0/jre-1_3` in the Adaptive Server release area. This environment variable overrides JAVA\_HOME.

SYBASE\_JRE defaults to `$$SYBASE/shared-1_0/jre-1_3`.

### 8.3.2 Utilities moved

The following three utilities have been moved from `$$SYBASE/$SYBASE_ASE/bin` to `$$SYBASE/$SYBASE_OCS/bin`:

- certauth
- certpk12
- certreq

## 8.4 Reference Manual: Building Blocks

The following are updates for the *Reference Manual: Building Blocks*.

### 8.4.1 @@identity

The value of `@@identity` changes each time an insert or select into attempts to insert a row into a table. `@@identity` does not revert to its previous value if the insert or select into statement fails or if the transaction that contains it is rolled back.

Adding data using bcp does not change the `@@identity` value.

*Workaround:* None.

### 8.4.2 *syslogins* table

The status control bits in the *syslogins* Table 12-13 in the Reference Manual, the bit 0x01 information in *syslogins.status* has been removed.

## 8.5 Reference Manual: Commands

The following are updates for the *Reference Manual: Commands*.

### 8.5.1 New parameter for *dbcc upgrade object*

The following description of the *dbcc check* command should be included in *Reference Manual: Commands*.

Syntax	<code>dbcc upgrade_object( {dbid   dbname}, { compiled_object_name   "view"   "procedure"   "default"   "rule"   "default"   "trigger" }, [ "force"   "check" ] )</code>
Keywords and options	<code>check</code> – checks syntax for the specified <i>compiled_object_name</i> in <i>syscomments</i> in the specified database. Does not raise errors on occurrences of <code>select</code> .
Comments	<ul style="list-style-type: none"> <li>• <code>check</code> is used to detect <i>syscomments</i> text corruption caused by Adaptive Server defects that occurred before the upgrade. This <i>syscomments</i> text corruption is serious because it causes upgrade to fail.</li> <li>• If any error is reported by <i>dbcc upgrade_object</i> with <code>check</code> option, drop and re-create the <i>compiled_object</i>.</li> </ul>

### 8.5.2 *set* command option *explicit\_transaction\_require* not supported

The *set* command option *explicit\_transaction\_require* is not currently supported, and should not appear in the *Adaptive Server Reference Guide* version 12.5.4.

### 8.5.3 *dump* and *load* database

Before you run *dump database* for a cross-platform dump and load, use the following procedures to move the database to a transactional quiescent status:

- 1 Verify the database runs cleanly by executing *dbcc checkdb* and *dbcc checkalloc*.
- 2 To prevent concurrent updates from open transactions by other processes during *dump database*, use *sp\_dboption* to place the database in a single-user mode.



- 3 Flush statistics to systabstats using `sp_flushstats`.
- 4 Wait for 10 to 30 seconds, depending on the database size and activity.
- 5 Run checkpoint against the database to flush updated pages.
- 6 Run dump database:
  - a Place the database in a single user mode by `sp_dboption`.
  - b Run `sp_flashstats` in the database.
  - c Run checkpoint in the database.
  - d Run dump database.

## 8.6 Reference Manual: Procedures

There are numerous changes and corrections to `sp_monitorconfig`. Replace the reference pages in *Reference Manual: Procedures* for `sp_monitorconfig` with this text.

Description	Displays cache usage statistics regarding metadata descriptors for indexes, objects, and databases. <code>sp_monitorconfig</code> also reports statistics on auxiliary scan descriptors used for referential integrity queries, and usage statistics for transaction descriptors and DTX participants.
Syntax	<code>sp_monitorconfig "configname" [ , "result_tbl_name" ] [, "full"]</code>
Parameters	<ul style="list-style-type: none"> <li>• <code>configname</code> – is either all, or part of the configuration parameter name with the monitoring information that is being queried. Valid configuration parameters are listed in the “Usage” section. Specifying all displays descriptor help information for all indexes, objects, databases, and auxiliary scan descriptors in the server.</li> <li>• <code>“result_tbl_name”</code> – is the name of the table you create, in which to save the stored procedure results. This is an optional parameter.</li> <li>• <code>“full”</code> – returns a set of values for the configname that you specify. The values are:           <ul style="list-style-type: none"> <li>• <code>config_val</code> – reports the configured value.</li> <li>• <code>system_val</code> – reports the systems default value when there's no value configured.</li> <li>• <code>total_val</code> – reports the actual value used.</li> </ul> </li> </ul>
Examples	<p><b>Example 1</b> Shows all items that are open:</p> <pre>sp_monitorconfig "open"</pre>

Configuration option is not unique.

option_name	config_value	run_value
currread change w/ open cursors	1	1
number of open databases	12	12
number of open indexes	500	500
number of open objects	500	500
open index hash spinlock ratio	100	100
open index spinlock ratio	100	100
open object spinlock ratio	100	100

**Example 2** Shows the status for all configurations:

```
sp_monitorconfig "all"
```

```
-----
Usage information at date and time: Oct 25 2002 10:36AM.
```

Name	num_free	num_active	pct_act	Max_Used	Reused
additional network memory	0	0	0.00	0	NA
audit queue size	100	0	0.00	0	NA
heap memory per user	4096	0	0.00	0	No
max cis remote connection	0	0	0.00	0	NA
max memory	12404	21388	63.29	21388	NA
max number network listen	3	2	40.00	2	NA
max online engines	4	1	20.00	1	NA
memory per worker process	1024	0	0.00	0	NA
number of alarms	31	9	22.50	9	NA
number of aux scan descri	200	0	0.00	0	NA
number of devices	9	1	10.00	1	NA
number of dtx participant	500	0	0.00	0	NA
number of java sockets	0	0	0.00	0	NA
number of large i/o buffers	6	0	0.00	0	NA
number of locks	4673	327	6.54	408	NA
number of mailboxes	30	0	0.00	0	NA
number of messages	64	0	0.00	0	NA
number of open databases	6	6	50.00	6	No
number of open indexes	492	8	1.60	8	No
number of open objects	482	18	3.60	18	No
number of open partitions	447	53	10.60	0	NA
number of remote connections	20	0	0.00	0	NA
number of remote logins	20	0	0.00	0	NA
number of remote sites	10	0	0.00	0	NA
number of sort buffers	500	0	0.00	9	NA
number of user connection	23	2	8.00	2	NA
number of user processes	0	0	0.00	0	NA
partition groups	1024	0	0.00	0	NA

```

permission cache entries      15          0    0.00          0    NA
procedure cache size         2567        704   21.52        810    No
size of global fixed heap    150          0    0.00          0    NA
size of process object heap 1500          0    0.00          0    NA
size of shared class heap   1536          0    0.00          0    NA
size of unilib cache         0            0    0.00          0    NA
txn to pss ratio             16          0    0.00          0    NA
(return status = 0)

```

**Example 3** Shows 283 active object metadata descriptors, with 217 free. The maximum used at a peak period since Adaptive Server was last started is 300:

```

sp_monitorconfig "open objects"

Usage information at date and time: Apr 22 2002  2:49PM.
Name          num_free  num_active  pct_act  Max_Used  Reused
-----
number of open  217      283         56.60   300       No

```

You can then reset the size to 330, for example, to accommodate the 300 maximum used metadata descriptors, plus space for 10 percent more:

```
sp_configure "number of open objects", 330
```

**Example 4** Shows the maximum number of index metadata descriptors, which is 44:

```

sp_monitorconfig "open indexes"

Usage information at date and time: Apr 22 2002  2:49PM.
Name          num_free  num_active  pct_act  Max_Used  Reused
-----
number of open  556      44          7.33    44        No

```

You can reset the size to 100, the minimum acceptable value:

```
sp_configure "number of open indexes", 100
```

**Example 5** Shows the number of active scan descriptors as 30, though Adaptive Server is configured to use 200. Use the number of aux scan descriptors configuration parameter to reset the value to at least 32. A safe setting is 36, to accommodate the 32 scan descriptors, plus space for 10 percent more:

```

sp_monitorconfig "aux scan descriptors"

Usage information at date and time: Apr 22 2002  2:49PM.
Name          num_free  num_active  pct_act  Max_Used  Reused
-----

```

```

-----
number of aux s 170          30          15.00          32          No

```

**Example 6** Adaptive Server is configured for five open databases, all of which have been used in the current session.

```
sp_monitorconfig "number of open databases"
```

```
Usage information at date and time: Apr 22 2002  2:49PM.
```

```

Name          num_free  num_active  pct_act  Max_Used  Reused
-----
number of open  0          5          100.00  5         Yes

```

However, as indicated by the Reused column, an additional database must be opened. If all 5 databases are in use, an error may result, unless the descriptor for a database that is not in use can be reused. To prevent an error, reset number of open databases to a higher value.

**Example 7** Only 10.2 percent of the transaction descriptors are currently being used. However, the maximum number of transaction descriptors used at a peak period since Adaptive Server was last started is 523:

```
sp_monitorconfig "txn to pss ratio"
```

```
Usage information at date and time: Apr 22 2002  2:49PM.
```

```

Name          num_free  num_active  pct_act  Max_Used  Reused
-----
number of open  784       80         10.20   523       NA

```

**Example 8** Using the optional parameter *result\_tbl\_name* to create a user table, saves the `sp_monitorconfig` result to this table:

```

create table sample_table(
    Name varchar(35), Num_free int,
    Num_active int, Pct_act char(6),
    Max_Used int, Reuse_cnt int,
    Date varchar(30))

```

The name of the table created becomes the second parameter of `sp_monitorconfig`:

```
sp_monitorconfig "number of alarms", sample_table
```

```

-----
(return status = 0)
select * from sample_table
-----
Name          Num_free  Num_active  Pct_act  Max_Used  Reuse_cnt  Date

```

```

-----
number of alarms      29      11          27.50      11      -1 Dec 4 2002 10:20AM
(1 row affected)

```

```
sp_monitorconfig "number of devices", sample_table
```

```

-----
(return status = 0)

```

```
select * from sample_table
```

```

-----
Name                Num_free  Num_active  Pct_act  MaxUsed  Reuse_cnt  Date
-----
number of alarms    29         11         27.50    11       -1 Dec 4 2002 10:20AM
number of devices   9          1          10.00    1        -1 Dec 4 2002 10:20AM
(2 rows affected)

```

The result set saved to the table accumulates until you delete or truncate the table.

---

**Note** If `sample_table` is in another database, you must provide its fully qualified name in quotes.

---

**Example 9** Displays the `configure_value`, `system_value`, and `run_value` columns of all the configurations:

```
sp_monitorconfig "all", null, "full"
go
```

Usage information at date and time: Mar 23 2004 5:15PM.

```

Name                Configure Value System Value Run Value  Num_free
      Num_active  Pct_act Max_Used   Num_Reuse
-----
additional network memory          0      496156      496156      334844
      161312  32.51      161312          0
audit queue size                    100          0          100          100
      0  0.00          0          0
disk i/o structures                  256          0          256          256
      0  0.00          55          0
heap memory per user                 4096          563          4096          4096
      0  0.00          0          0
max cis remote connection            0          100          100          100
      0  0.00          0          0
max memory                          33792          0          33792          3452

```

	30340	89.78	30340	0		
max number network listen	5		5	0	5	4
	1	20.00	1	0		
max online engines	1		1	0	1	0
	1	100.00	1	0		
memory per worker process	1024		1024	68	1024	1024
	0	0.00	0	0		
number of alarms	40		40	0	40	30
	10	25.00	10	0		
number of aux scan descri	200		200	25	200	200
	0	0.00	0	0		
number of devices	10		10	0	10	9
	1	10.00	1	0		
number of dtx participant	500		500	0	500	500
	0	0.00	0	0		
number of java sockets	0		0	50	50	50
	0	0.00	0	0		
number of large i/o buffe	6		6	0	6	6
	0	0.00	1	0		
number of locks	5000		5000	334	5000	4905
	95	1.90	446	0		
number of mailboxes	30		30	1	30	29
	1	3.33	1	0		
number of messages	64		64	1	64	64
	0	0.00	0	0		
number of open databases	12		12	0	12	6
	6	50.00	6	0		
number of open indexes	500		500	0	500	481
	19	3.80	45	0		
number of open objects	500		500	0	500	135
	365	73.00	367	0		
number of open partitions	500		500	0	500	447
	53	10.60	56	0		
number of remote connecti	20		20	0	20	20
	0	0.00	0	0		
number of remote logins	20		20	0	20	20
	0	0.00	0	0		
number of remote sites	10		10	0	10	10
	0	0.00	0	0		
number of sort buffers	500		500	0	500	500
	0	0.00	9	0		
number of user connection	25		25	0	25	24
	1	4.00	3	0		
number of worker processe	0		0	0	0	0
	0	0.00	0	0		
partition groups	1024		1024	0	1024	1024

	0	0.00	0	0		
permission cache entries	15		0	0	15	15
	0	0.00	0	77		
procedure cache size	3271		0	0	4727	0
	4727	100.00	8225	277		
size of global fixed heap	150		0	0	150	150
	0	0.00	0	0		
size of process object he	1500		0	0	1500	1500
	0	0.00	0	0		
size of shared class heap	1536		0	0	1536	1536
	0	0.00	0	0		
size of unilib cache	0		119386	119386	119386	118922
	464	0.39	464	0		
txn to pss ratio	16		0	0	16	400
	0	0.00	0	0		

(return status = 0)

### Usage

- If the max cis remote connections configuration parameter has a config\_value, the system\_val reports a value of zero (0).
- If you reconfigure a resource using a value that is smaller than the original value it was given, the resource does not shrink, and the Num\_active configuration parameter can report a number that is larger than Total\_val. The resource shrinks and the numbers report correctly when Adaptive Server restarts.
- sp\_monitorconfig displays cache usage statistics regarding metadata descriptors for indexes, objects, and databases, such as the number of metadata descriptors currently in use by the server.
- sp\_monitorconfig also reports the number of auxiliary scan descriptors in use. A scan descriptor manages a single scan of a table when queries are run on the table.
- sp\_monitorconfig monitors the following resources:
  - additional network memory
  - audit queue size
  - heap memory per user
  - max cis remote connection
  - max memory
  - max number network listeners
  - memory per worker process
  - max online engines
  - number of alarms
  - number of aux scan descriptors

number of devices  
number of dtx participants  
number of java sockets  
number of large i/o buffers  
number of locks  
number of mailboxes  
number of messages  
number of open databases  
number of open indexes  
number of open objects  
number of open partitions  
number of remote connections  
number of remote logins  
number of remote sites  
number of sort buffers  
number of user connections  
number of worker processes  
partition groups  
permission cache entries  
procedure cache size  
size of global fixed heap  
size of process object heap  
size of shared class heap  
size of unilib cache  
txn to pss ratio

- The columns in the sp\_monitorconfig output provide the following information:
  - num\_free – specifies the number of available metadata or auxiliary scan descriptors not currently used.
  - num\_active – specifies the number of metadata or auxiliary scan descriptors installed in cache (that is, active).
  - pct\_active – specifies the percentage of cached or active metadata or auxiliary scan descriptors.
  - Max\_Used – specifies the maximum number of metadata or auxiliary scan descriptors that have been in use since the server was started.



- Reused – specifies whether a metadata descriptor was reused in order to accommodate an increase in indexes, objects, or databases in the server. The returned value is Yes, No, or NA (for configuration parameters that do not support the reuse mechanism, such as the number of aux scan descriptors).
- Use the value in the Max\_Used column as a basis for determining an appropriate number of descriptors; add 10 percent for the final setting. For example, if the maximum number of index metadata descriptors used is 142, you might set the number of open indexes configuration parameter to 157.
- If the Reused column states Yes, reset the configuration parameter to a higher value. When descriptors need to be reused, there can be performance problems, particularly with open databases. An open database contains a substantial amount of metadata information, which means that to fill up an open database, Adaptive Server must access the metadata on the disk many times; the server can also have a spinlock contention problem. To check for spinlock contention, use the system procedure sy\_sysmon. For more information, see the *Performance and Tuning Guide*. To find the current number of indexes, objects, or databases, use sp\_countmetadata.
- To get an accurate reading, run sp\_monitorconfig during a normal Adaptive Server peak time period. You can run sp\_monitorconfig several times during the peak period to ensure that you are actually finding the maximum number of descriptors used.
- *result\_tbl\_name* creates a table using the following syntax. All the result information is saved in this table, which returns no standard output.

```
create table table_name(  
    Name varchar(35), Num_free int,  
    Num_active int, Pct_act char(6),  
    Max_Used int, Reuse_cnt int,  
    Date varchar(30))
```
- Some configuration parameters, such as *number of sort buffers* and *txn to pss ratio*, are dependent on the number of configured user connections, while other configuration parameters, such as *max number of network listeners*, are per engine.
- The output of sp\_monitorconfig uses the number of user connections and online engines to calculate the values for the columns num\_free, num\_active, pct\_act, and max\_used.

- The updates on the internal monitor counters are done without using synchronization methods because of performance reasons. For this reason, a multi-engine Adaptive Server under heavy load might report numbers in the `sp_monitorconfig` output that are not completely accurate.
- You might see the number of active locks as greater than 0 on an idle system. These “active” locks are reserved and used internally.

Permissions

Only a System Administrator can execute `sp_monitorconfig`.

See also

**System procedures** `sp_configure`, `sp_countmetadata`, `sp_helpconfig`, `sp_helpconstraint`, `sp_sysmon`

## 8.7 System Administration Guide

### 8.7.1 Auditing

In the *System Administration Guide*, Chapter 12, “Auditing,” Table 12-6, Values in event and extrainfo columns, is incomplete.

Table 12-6 should include the following for the create index entry under:

“Other Information: Index name”

### 8.7.2 Disk partitions

When setting the devices for a disk partition, use either a character or block device for each device, not both.

### 8.7.3 `sp_audit "cmdtext"`

If you specify `pass` for an option and later specify `fail` for the same option, or vice versa, the result is equivalent to specifying `on`. Adaptive Server generates audit records regardless of whether events `pass` or `fail` permission checks.

The options for `sp_audit` are `NULL`, `on`, or `off` apply to all auditing options.

`pass` and `fail` apply to all options except `cmdtext`, `errors`, and `adhoc`. For these options, only `on` or `off` applies. The initial, default value of all options is `off`. If you select the `cmdtext` option to either `pass` or `fail`, Adaptive Server replaces the value with `on`

## 8.8 Performance and Tuning Guide

The following are updates for the *Performance and Tuning Guide*.

### 8.8.1 OAM-scans on DOL tables

OAM pages are used when performing a table scan on a data only locked (DOL) table. These OAM pages refer to allocation-units, which must then be scanned to find the extents on the pages for the table being scanned; when this scan is started, a list of pages is generated with the information in the allocation-page. Any newly allocated pages produced by another process in this allocation unit are not seen by the scanning process as they were not allocated when the scan began. This is due to the way DOL tables are implemented. To include the newly allocated pages:

- Use isolation level 3 type of scans (select with holdlock) or,
- add an index, which can be used to prevent a table scan, to the DOL-table, or,
- Convert the DOL table to an APL-table.

### 8.8.2 Optimizer and Abstract Plans

**Correction:** In Chapter 11, “Multiple Temporary Databases,” the “Unchanged yet notable procedures” section noted the following for the `sp_changedowner` stored procedure:

You cannot map system databases, including `tempdb`, to a default location. However, you can map user-created temporary databases.

This information is incorrect.

## 8.9 XA Interface Integration Guide for CICS, Encina, and TUXEDO

In Chapter 4, “Application Programming Guidelines” in the *XA Interface Integration Guide for CICS, Encina, and TUXEDO*, the introductory paragraph for the section, “Tightly coupled transactions,” has been revised. The new text is shown below in italics:

The XA environment treats each thread or process that works on a transaction as a transaction branch. Each transaction branch is assigned a different `xid` and works independently of the other branches. However, all branches are committed or rolled back as a unit. *This applies to MTS/COM+ environments only, and only if you are using Client-Library™-based drivers that are older than version 3.6.*

## 8.10 *Transact-SQL User's Guide*

### 8.10.1 Sorting query results

In “Sorting Query results” in Chapter 3, the word “aggregates” has been dropped from this sentence:

“Adaptive Server does not allow subqueries, variables, and constant expressions in the order by list.” A successful example in the following section, order by and group by, uses the aggregate function avg(price) in an order by clause:

```
order by avg(price)
```

## 8.11 *New Features Adaptive Server Enterprise 12.5.3a*

The following are updates for *New Features Adaptive Server® Enterprise 12.5.3a*.

---

**Note** The Adaptive Server Enterprise version 12.5.3a was released for the following platforms only: Sun Solaris 32-bit, Sun Solaris 64-bit, HP-UX 32-bit, HP-UX 64-bit, IBM AIX 64-bit, Windows, and Linux.

---

### 8.11.1 Auditing options

Following are updates to Table 2 in section 1.9.1 of *New Features Adaptive Server® Enterprise 12.5.3a*.

**Table 3: Auditing options, requirements, and examples**

Options	<i>login_name</i>	<i>object_name</i>	Database to be in to set the option	Command being audited
encryption_key (database-specific)	all	Database to be audited	Any	alter encryption key create encryption key drop encryption key sp_encryption
<b>Example</b> Audits all the above commands in the pubs2 database:				
<pre>sp_audit "encryption_key", "all", "pubs2", "on"</pre>				

## 9. 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.

## 10. Other sources of information

Use the Sybase Getting Started CD, the Sybase Technical Library CD, and the Technical Library 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 Technical Library CD. It is included with your software. To read or print documents on the Getting Started CD, you need Adobe Acrobat Reader (downloadable at no charge from the Adobe Web site, using a link provided on the CD).
- The Technical Library CD contains product manuals and is included with your software. The DynaText reader (included on the Technical Library CD) allows you to access technical information about your product in an easy-to-use format.

Refer to the *Technical Library Installation Guide* in your documentation package for instructions on installing and starting the Technical Library.

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

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

### 10.1 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 timeframe 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.

## 10.2 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.

