Release Bulletin
Software Developer's Kit 15.5
for Sun Solaris

Document ID: DC00372-01-1550-01

Last revised: November 19, 2009

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

Enclosed is Sybase Software Developer's Kit (SDK) version 15.5, which is available on:

•   Sun Solaris SPARC 32-bit and 64-bit

•   Sun Solaris 10 x86-64 32-bit and 64-bit

For the most current list of supported operating systems, see the Sybase platform certifications page at http://certification.sybase.com/ucr/search.do. For a list of platforms, compilers, and third-party products on which SDK is built and tested, see *New Features Open Server and SDK for Windows, Linux, UNIX, and Mac OS X*.

2.1 Product components

For a list of SDK components and the platforms on which these components are supported, see *Open Server and SDK New Features for Microsoft Windows, Linux, UNIX, and Mac OS X*.

2.2 Availability with 64-bit libraries

SDK version 15.5 is available in 64-bit versions, with these caveats:

• Embedded SQL™/COBOL 64-bit is not available on Sun Solaris x86-64 64-bit.

• Use the -DSYB_LP64 flag when compiling applications that use the 64-bit libraries.

2.3 Utilities

There are two versions of the bcp, isql, defncopy, cobpre, and cpre utilities; nonthreaded and native-threaded. The native-threaded version names have "*_r*" suffixes.

2.4 Patches

Sun Solaris 8 SPARC 32-bit and 64-bit, and Sun Solaris 10 x86-64 32-bit and 64-bit require patch 108993-18 or later.

2.5 POSIX threads and pthreads libraries

As of version 15.5, the thread-safe version of Open Client™ libraries are written using POSIX threads. All multithreaded libraries use the naming pattern *_r.a* for static libraries or *_r.so* for shared libraries. For multithreaded applications, use libraries with the "*_r*" suffix, such as *libcs_r.a*. For non-multithreaded applications, use libraries without the "*_r*" suffix, such as *libcs.a*.

See the *Open Client and Open Server Programmers Supplement for UNIX* for information about Open Client libraries.

Note DB-Library™ does not support any type of thread interface.

2.6 IPv6 support

Sybase SDK version 15.5 on Sun Solaris platforms support IPv6.

This is a sample *interfaces* file entry:

```
BARNARD_OS
   master tcp ether barnards.sybase.com 18200
   query tcp ether barnards.sybase.com 18200
   master tcp ether barnards.v6.sybase.com 18200
   query tcp ether barnards.v6.sybase.com 18200
   master tcp ether
     fd77:55d:59d9:165:203:baff:fe68:aa12 18200
   query tcp ether
     fd77:55d:59d9:165:203:baff:fe68:aa12 18200
```

Note All master and query lines in the *interfaces* file must begin with a tab.

2.7 Sample files

You can find sample source code files in the SDK installation directory *$SYBASE/$SYBASE_OCS/sample*.

3. Special installation and configuration instructions

See the *Software Developer's Kit and Open Server Installation Guide* for your platform for instructions on how to install the software. For guidelines for installing SDK with other Sybase products on the same server, see "Guidelines for installing SDK with other Sybase products" on page 9.

Warning! If you install both SDK and Open Server™ in the same directory, Sybase recommends that you use the same version and ESD levels. Because SDK and Open Server share files, using different version and ESD levels can cause product failures.

For instructions on configuring your environment, see the *Open Client and Open Server Configuration Guide* for your platform.

For information about compiling and executing Open Client and Open Server applications, including the sample programs, see the *Open Client and Open Server Programmers Supplement* for your platform.

3.1 Installing EBFs

To ensure that your installation is the most current, Sybase strongly recommends that, after you install SDK version 15.5, you download and install the corresponding latest available EBF. You can download product updates from Sybase Downloads at http://downloads.sybase.com.

To verify that you are using the correct version of SDK, enter the following command to check the version string of the SDK library:

```
isql -v
```

A sample SDK version string might be *Client-Library/15.5/P-EBF17930*. In this version string, 17930 identifies the Client-Library file and the other SDK files.

3.2 Required applications

The SDK installer requires *gzip*. Ensure that the path to *gzip* is set in the $PATH environment variable.

3.3 Installing SDK 15.5 on top of SDK 15.0

SDK version 15.5 is a shelf replacement for version 15.0. When you install SDK 15.5 into an existing SDK 15.0 directory, version 15.5 files overwrite the 15.0 files. Sybase recommends that you back up your SDK 15.0 directory before you install SDK 15.5.

3.4 Running InstallAnywhere and InstallShield Multiplatform installers

Some of the files generated by InstallAnywhere and InstallShield Multiplatform share the same file names. This becomes an issue when you use both InstallAnywhere and InstallShield technologies to install or uninstall products in the same installation directory, because files that are used by both installers are overwritten or removed without warning. Sybase recommends that you do not use InstallShield and InstallAnywhere to install to or uninstall from the same installation directory.

3.5 Modifying *interfaces* file entries with *dscp* or *dsedit*

Use dscp or dsedit to modify directory service entries. See the *Open Client and Open Server Configuration Guide for UNIX* for details on how to use these utilities.

4. Changed functionality in this version

Changed functionality for Sybase SDK 15.5 is described in the *Open Server and SDK New Features for Microsoft Windows, Linux, UNIX, and Mac OS X*.

5. Known problems

This section describes all of the known issues that exist in this version.

5.1 SDK call leaks memory on Sun Solaris platforms

[CR #417041]   freeaddrinfo leaks memory when SDK on Sun Solaris 8 (SPARC) 32-bit and 64-bit calls freeaddrinfo for each getaddrinfo call.

Workaround: Download and install the #111328-04: SunOS 5.8_x86: libsocket patch.

5.2 Installer issues

This section describes the known problems you might encounter when installing SDK.

5.2.1 Installer fails to launch when path to *setup.bin* contains ".."

[CR #595582]   The installer fails to launch if you specify a path to setup.bin that contains "..".

Workaround: Ensure that the path to setup.bin does not contain "..".

5.2.2 Uninstallation process stops responding

[CR #595573]   The uninstallation program stops responding when you select Delete from the Delete User Files screen and then click Previous from the Uninstall Complete screen. Delete User Files and Uninstall Complete are the last two screens shown in the uninstallation program.

Workaround: Do not return to the Delete User Files screen after you have selected Delete.

5.2.3 Installer cannot use tar to extract from the SDK suite archive

[CR #593410]   You see this error when the installer uses the GNU tar tool to extract files from the SDK suite archive:

```
The included VM could not be unarchived (TAR). Please
try to download the installer again and make sure that
you download using 'binary' mode.  Please do not attempt
to install this currently downloaded copy.
```

Workaround: Define */usr/bin/tar* in $PATH.

5.2.4 Installation fails on Sun Solaris SPARC

[CR #593148]   When the file descriptor limit is set to "unlimited", the installer fails with this message:

```
awk: insufficient memory for string storage  Context is:
>>>               <<<
```

Workaround: Set the "hard" file descriptor limit to a number.

5.2.5 Feature names are not validated when installing in silent mode

[CR #583979]   The installer does not validate feature names specified in the response file when you install in silent mode.

Workaround: Ensure that the specified feature names are correct.

5.2.6 "./setup.bin: !: not found" message appears

[CR #579988]   You see this error message when you install SDK:

```
Preparing to install...
./setup.bin: !: not found
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...
```

Workaround: Ignore the message and continue. A case has been opened with Flexera to address this issue.

6. Product compatibility and interoperability

This section contains information about products that are compatible with SDK 15.5. For a list of platforms, compilers, and third-party products SDK is built and tested on, see the *New Features Open Server and SDK for Windows, Linux, UNIX, and Mac OS X.*

6.1 Interoperability matrix

Table 1 shows the interoperability matrix of SDK, Open Server, Adaptive Server® Enterprise, and Replication Server® that are installed on the same machine. For specific platform information, refer to the respective product certification reports.

Although two or more products can be interoperable, remember that new features introduced in a newer version of a product may not be supported with older versions of the same or other products.

Table 1: Interoperability matrix

SDK 15.5	Open Server			Adaptive Server			Replication Server				
	15.5	15.0	12.5.1	15.5	15.0.x	12.5.x	15.5	15.2	15.1	15.0.1	12.6
Apple Mac OS X Intel	n/a	n/a	n/a	n/a	n/a	x	n/a	n/a	n/a	n/a	x
HP HP-UX PA-RISC 32-bit	x	x	x	n/a	n/a	x	n/a	n/a	x	x	x
HP HP-UX PA-RISC 64-bit	x	x	x	x	x	x	n/a	n/a	n/a	n/a	n/a
HP HP-UX Itanium 32-bit	x	x	x	n/a	n/a	n/a	n/a	n/a	n/a	x	x
HP HP-UX Itanium 64-bit	x	x	x	x	x	x	x	x	x	n/a	n/a
IBM AIX POWER 32-bit	x	x	x	n/a	n/a	x	n/a	x	x	x	x
IBM AIX POWER 64-bit	x	x	x	x	x	x	x	n/a	n/a	n/a	n/a
Linux x86 32-bit	x	x	x	x	x	x	x	x	x	x	x
Linux x86-64 64-bit	x	x	x	x	x	x	x	n/a	n/a	n/a	n/a
Linux POWER 32-bit	x	x	x	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

SDK 15.5	Open Server			Adaptive Server			Replication Server				
	15.5	15.0	12.5.1	15.5	15.0.x	12.5.x	15.5	15.2	15.1	15.0.1	12.6
Linux POWER 64-bit	x	x	x	x	x	x	x	x	x	n/a	n/a
Sun Solaris SPARC 32-bit	x	x	x	x	x	x	n/a	x	x	x	x
Sun Solaris SPARC 64-bit	x	x	x	x	x	x	x	n/a	n/a	n/a	n/a
Sun Solaris x86-64 32-bit	x	x	x	n/a	n/a	x	n/a	x	x	n/a	x
Sun Solaris x86-64 64-bit	x	x	x	x	x	x	x	n/a	n/a	n/a	n/a
Microsoft Windows x86 32-bit	x	x	x	x	x	x	x	x	x	x	x
Microsoft Windows x86-64 64-bit	x	x	x	x	x	n/a	x	n/a	n/a	n/a	n/a

LEGEND: x = interoperable; n/a = product not available or does not work with SDK on that platform.

> **Note** The SDK interoperability information shown in Table 1 is relevant only if the interoperable products are installed in different *$SYBASE* directories.

6.1.1 Guidelines for installing SDK with other Sybase products

Follow these guidelines if you are installing SDK on the same machine with other Sybase products:

- In general, Sybase recommends that you place the new installation of SDK in separate directories from other Sybase products, such as Replication Server, OpenSwitch™, Enterprise Connect™ Data Access, and Sybase IQ, unless Sybase Tech Support has specifically recommended installation in the same directory to address an issue.

- Installing SDK 15.5 on the same machine as Adaptive Server 15.0.*x* could cause Adaptive Server to fail to start. To configure this configuration, either upgrade Adaptive Server to 15.5, or follow the directions in the *Software Developers Kit and Open Server Installation Guide for Microsoft Windows*.

- Sybase recommends that you do not mix versions of SDK and Open Server in the same directory. For example, do not install SDK 15.5 in a directory containing Open Server 12.5.1—in this case, upgrade both SDK and Open Server to 15.5.

6.2 SDK and Open Server compatibility

For SDK and Open Server compatibility, the header files included in an application must be the same version level as the library with which the application is linked.

6.3 DB-Library compatibility with Client-Library

DB-Library compatibility issues include:

- Support for new features in Open Client or Adaptive Server have been made primarily to the Client-Library API. This includes support for LDAP, SSL, high availability failover, bulk-copies into DOL tables, and so on. For this reason, Sybase strongly recommends that you create all new applications using the Client-Library API. You may also need to migrate, to Client-Library, older applications written in DB-Library that can be run against Adaptive Servers that offer newer technology.

- Support for new features are not added to the DB-Library.

- Although DB-Library and Client-Library calls can exist in the same application, Sybase does not test or certify combining the two different APIs. If you must use the two APIs together, make sure the libraries are not only at the same major release level but also at the same ESD level.

For help on converting a DB-Library application to a Client-Library application, see the *Open Client Client-Library Migration Guide*.

7. Programming issues

This section describes programming issues relevant to Open Client and Embedded SQL.

7.1 General issues

This section describes programming issues for all Open Client products.

7.1.1 Upgrading to a new version

For statically and dynamically linked Open Client applications (dblib, ctlib, and esql), Sybase recommends the following:

• Rebuild all statically linked Open Client applications (dblib, ctlib, and esql)using the new version of software. Recompile and relink the applications using the new header files and libraries.

• For dynamically linked Open Client applications, recompile and relink with the SDK libraries that now include "syb" in the library names.

Note If you have made any changes to the application files, you must recompile.

Ensure that the runtime libraries are for the same major release as the version used to build the application.

7.1.2 Compiling sample programs

When linking an application with the static Open Client libraries, add this parameter to your link line:

```
-lnsl -lsocket
```

7.1.3 Linking static libraries

[CR #575063]   When statically linking the Open Client and Open Server libraries, you must link your application to *librt*, the Realtime Extensions library. Static linking requires that you add -lrt to your *makefile*.

7.1.4 Link to *usr/lib/lwp*

For Solaris 8, Open Client requires that the *libthread.so* you use is the one located in */usr/lib/lwp*. Link your application using one of the following methods:

• Use:

```
-R/usr/lib/lwp
```

• Set the LD_LIBRARY_PATH variable to include */usr/lib/lwp*.

7.1.5 Programming with thread-safe libraries

To use the Sybase thread-safe libraries, you must compile and link your code with thread safety options. You must use the -mt -D_REENTRANT option on the cc command.

7.1.6 Shared version of Bulk-Library

Currently, there are no plans to ship a shared version of Bulk-Library (libsybblk) on UNIX platforms.

7.2 Client-Library issues

This section describes programming issues of Client-Library.

7.2.1 ct_poll

Do not call ct_poll from within any Client-Library callback function or from within any other function that can execute at the system-interrupt level. Calling ct_poll at the system-interrupt level corrupts Open Client and Open Server internal resources and causes recursion in the application.

7.2.2 Asynchronous operations

To properly exit Client-Library, wait until all asynchronous operations are complete, then call ct_exit. If an asynchronous operation is in progress when ct_exit is called, the routine returns CS_FAIL and does not exit Client-Library properly, even when CS_FORCE_EXIT is used.

Client-Library fully supports asynchronous operations on UNIX platforms. See "Asynchronous Programming" in the *Open Client Client-Library/C Reference Manual*.

7.2.3 Registered procedure notifications

The CS_ASYNC_NOTIFS connection property controls how a Client-Library application receives registered procedure notifications from an Open Server application.

Currently, the Open Server application sends a notification to the client as one or more Tabular Data Stream™ (TDS) packets. However, the client application does not learn of the notification until Client-Library reads the notification packets from the connection and invokes the application's notification callback.

To trigger the application's notification callback on a connection that is otherwise idle, set CS_ASYNC_NOTIFS to CS_TRUE for ct_poll. In other words, unless the application is actively sending commands and reading results on the connection, it does not receive notifications when CS_ASYNC_NOTIFS is CS_FALSE (the default).

7.3 Embedded SQL issues

This section describes programming issues specific to:

• Embedded SQL/C version 15.0 and later.

• Embedded SQL/COBOL version 15.0 and later.

For a list of platforms on which Embedded SQL/C and Embedded SQL/COBOL are available, see *New Features Open Server and SDK for Windows, Linux, UNIX, and Mac OS X.*

7.3.1 Sharing Embedded SQL/C objects among multiple threads

By default, Embedded SQL/C connections, cursors, and dynamic statements cannot be shared by multiple threads. The namespace for each of these object types is limited to the currently executing thread; one thread cannot refer to objects that were created by another thread. Objects can be shared by setting the macro CONNECTIONS_ARE_SHARED_ACROSS_THREADS to 1 by using the -D compiler option when compiling the *sybesql.c* module.

Warning! If Embedded SQL/C objects are shared by multiple threads, the application programmer must add thread serialization code to ensure that objects associated with a single connection are not used simultaneously by multiple threads.

Normally, dynamic descriptors can be shared by multiple threads. To give each thread its own namespace for dynamic descriptors, when compiling the *sybesql.c* module, use the -D compiler option to set the macro DESCRIPTOR_SCOPE_IS_THREAD to 1.

7.3.2 Precompiler *-p* option

Applications that rely on inserting empty strings instead of NULL strings when the host string variable is empty does not work if the -p option is turned on. The persistent bind implementation prevents Embedded SQL from circumventing Client-Library protocol (which inserts NULL strings).

7.3.3 Error or warning prevents with *select into* statements

You can retrieve multiple rows with a single select into statement by using arrays as output host variables. If no errors or warnings occur, all selected rows are returned up to the limit of the length of the arrays. However, if a truncation, conversion warning, or error occurs, rows are returned only up to and including the row where the error or warning occurred. To ensure receiving all rows, use a cursor and continue fetching until there are no more rows.

7.3.4 Embedded SQL/C sample programs

When you enter an incorrect password, sample programs *example1.pc* and *example2.pc* generate incorrect error numbers. You can ignore these numbers.

7.3.5 Embedded SQL/COBOL sample programs

The shared library path for compiling the sample programs must include *$COBDIR/lib* and *$SYBASE/$SYBASE_OCS/lib*. The path must also include *$COBDIR/bin* and *$SYBASE/bin*.

8. 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.

9. 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/.

9.1 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 Partner Certification Report.

3   In the Partner Certification Report filter select a product, platform, and timeframe and then click Go.

4   Click a Partner 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.

9.2 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.

10. 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.

SDK documentation has 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.

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.

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.