



Release Bulletin

SAP Sybase IQ 16.0 SP03

Windows

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Read Me First

Although the SAP® Sybase® IQ 16 New Features Summary describes all new SAP Sybase IQ functionality, some features may require additional action on your part to take advantage of the new architecture introduced in the initial 16.0 version.

Load Performance Configuration Issues

Customers upgrading from a previous release, for example, may need to change some initial compatibility options or rebuild wide columns to accommodate different datatypes. The new load engine provides better performance, but requires changes to the default memory allocation to use all available hardware resources efficiently.

This topic highlights migration issues and features which impact load performance. See the appropriate topics in the SAP Sybase IQ core documentation set for details. *Migration (Linux and UNIX)* and *Migration (Windows)* are new administration manuals in 16.0, describing the steps for upgrading your database, steps to install maintenance releases, and information on upgrading to the role-based security model. *Administration: Load Management* is also new in 16.0, describing data import and export procedures.

NBit

Continuous NBit dictionary compression replaces 1, 2, and 3 byte dictionary compression as the default column storage mechanism in 16.0. All datatypes except LOB (character and binary) and BIT datatypes can be NBit columns.

The IQ UNIQUE column constraint determines whether a column loads as Flat FP or NBit FP. An IQ UNIQUE *n* value set to 0 loads the column as Flat FP. An *n* value greater than 0 but less than the FP_NBIT_AUTOSIZE_LIMIT creates a NBit column initially sized to *n*. Columns without an IQ UNIQUE constraint implicitly load as NBit up to the auto-size limit.

Using IQ UNIQUE with an *n* value less than the auto-size limit is not necessary. The load engine automatically sizes all low or medium cardinality columns as NBit. Use IQ UNIQUE in cases where you want to load the column as Flat FP or when you want to load a column as NBit when the number of distinct values exceeds the value of the FP_NBIT_AUTOSIZE_LIMIT option.

Loads and Large Memory

Large memory represents the maximum amount of memory that SAP Sybase IQ can dynamically request from the OS for temporary use. Because some load operations may require more large memory than the 2GB default provides, adjust the startup options that control large and cache memory allocation based on the total amount of available physical memory.

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As a general rule, large memory requirements represent one third of the total available physical memory allocated to SAP Sybase IQ. To ensure adequate memory for the main and temporary IQ stores, set the `-iqlm`, `-iqtc`, and `-iqmc` startup parameters so that each parameter receives one third of all available physical memory allocated to SAP Sybase IQ.

In most cases, you should allocate 80% of total physical memory to SAP Sybase IQ to prevent SAP Sybase IQ processes from being swapped out. Adjust actual memory allocation to accommodate other processes running on the same system. For example, on a machine with 32 cores and 128GB of total available physical memory, you would allocate 100GB (approximately 80% of the 128GB total) to SAP Sybase IQ processes. Following the general rule, you would set the `-iqlm`, `-iqtc`, and `-iqmc` parameters to 33GB each.

See *-iqlm iqsrv16 Server Option* and *-iqmc iqsrv16 Server Option* in the *Utility Guide*.

Index Changes

Changes to FP and HG indexes take advantage of the new column compression mechanism and improve load performance.

Index	Description
New Fast Projection (FP) Indexes	<p>Take advantage of the new continuous NBit dictionary compression, which replaces 1, 2, and 3 byte dictionary compression. FP (1), FP (2), and FP (3) indexes roll over to NBit (8), NBit (16), and NBit (24) respectively.</p> <p>If <code>FP_NBIT_IQ15_COMPATIBILITY='OFF'</code>, IQ UNIQUE constraints applied to the column determine whether the column loads as Flat FP or NBit.</p> <p>See <i>Fast Projection (FP) Index</i> in <i>Administration: Database</i>.</p>
New tiered HG index structure	<p>Decouples load performance from HG index size. In 15.x, load throughput could degrade as the amount of data in an HG index increased. As the index grew, loading the same amount of data could take more time. The new tiered structure decouples load performance from the HG index size to increase throughput.</p> <p>The <code>CREATE_HG_WITH_EXACT_DISTINCTS</code> option determines whether newly created HG indexes are tiered or non-tiered. This option is ON in all new 16.0 databases and all 16.0 databases migrated from 15.x. To take advantage of the new structure, set this option to OFF. See <i>CREATE_HG_WITH_EXACT_DISTINCTS Option</i> in <i>Reference: Statements and Options</i>.</p> <p>Use <code>sp_iqrebuildindex</code> to convert non-tiered HG indexes to tiered HG and vice-versa.</p>

Stored Procedures

New stored procedures return information about column indexes and constraints.

Procedure	Description
sp_iqindexmetadata	<p>Returns details about column indexes, including the index types (Flat FP, NBit, HG, and tiered HG), distinct counts, IQ UNIQUE <i>n</i> value, and NBit dictionary size.</p> <p>See <i>sp_iqindexmetadata Procedure</i> in <i>Reference: Building Blocks, Tables, and Procedures</i>.</p>
sp_iqcolumnmetadata	<p>Returns FP index metadata for one or more user tables or all tables in the database.</p> <p>See <i>sp_iqcolumnmetadata Procedure</i> in <i>Reference: Building Blocks, Tables, and Procedures</i>.</p>
sp_iqindexrebuildwidedata	<p>Identifies wide columns that you must rebuild before they are available for read/write activities. Output includes statements that you can use with sp_iqrebuildindex to rebuild the columns.</p> <p>See <i>sp_iqindexrebuildwidedata Procedure</i> in <i>Reference: Building Blocks, Tables, and Procedures</i>.</p>
sp_iqrebuildindex	<p>Rebuilds FP indexes (Flat FP as NBit, or NBit as Flat FP) and HG indexes (single HG as tiered HG, or tiered HG as single HG). Before you can insert or update new data, you must rebuild all columns greater than 255 bytes wide.</p> <p>The <code>index_clause</code> can reset IQ UNIQUE <i>n</i> to an explicit value from 0 (to recast an NBit column to Flat FP) up to the limits defined in the <code>FP_NBIT_AUTOSIZE_LIMIT</code> and <code>FP_NBIT_LOOKUP_MB</code> options.</p> <p>sp_iqrebuildindex also enables read-write access to columns that contain large object (LOB) data. LOB columns migrated from 15.x databases are read-only until you run sp_iqrebuildindex. The estimated cardinality for NBit columns with an IQ UNIQUE value below or equal to the <code>FP_NBIT_AUTOSIZE_LIMIT</code> is stored as 0 regardless of the <code>FP_NBIT_IQ15_COMPATIBILITY</code> setting. This affects the value returned from sp_iqindexmetadata.</p> <p>See <i>sp_iqrebuildindex Procedure</i> in <i>Reference: Building Blocks, Tables, and Procedures</i>.</p>

Database Options

Some database options are not enabled to take advantage of 16.0 features. Maintaining limited compatibility after a database upgrade provides some flexibility to transition existing applications.

Option	Description
<p>FP_NBIT_IQ15_COMPATIBILITY</p>	<p>Provides tokenized FP support similar to that available in 15.x. This option is ON by default in all 16.0 databases upgraded from 15.x and OFF in all newly created 16.0 databases.</p> <ul style="list-style-type: none"> • If this option is ON, the database engine uses the <code>MINIMIZE_STORAGE</code>, <code>FP_LOOKUP_SIZE</code>, and <code>FP_LOOKUP_SIZE_PPM</code> options to optimize column storage. These options are ignored in 16.0. • If this option is OFF, the database engine ignores 15.x options and columns conform to SAP Sybase IQ NBit storage options. <p>Set this option to OFF to take advantage of NBit column compression.</p>
<p>CREATE_HG_WITH_EXACT_DISTINCTS</p>	<p>Determines whether new HG indexes explicitly created with a CREATE INDEX command, or implicitly creating or altering a table with a PRIMARY KEY or a FOREIGN KEY declaration, are tiered or non-tiered. This option is ON in 16.0 databases upgraded from 15.x and all newly created 16.0 databases. If this option is ON, all new HG indexes are non-tiered. To take advantage of the new tiered HG index structure, set this option to OFF.</p> <p>Use <code>sp_iqrebuildindex</code> to convert non-tiered HG indexes to tiered HG and vice-versa.</p>
<p>CREATE_HG_AND_FORCE_PHYSICAL_DELETE</p>	<p>Governs 16.0 delete behavior for tiered HG indexes. This option determines whether SAP Sybase IQ performs a physical delete immediately or defers the delete to a point later in the load.</p> <p><code>CREATE_HG_AND_FORCE_PHYSICAL_DELETE</code> is ON by default, which instructs SAP Sybase IQ to perform physical deletes.</p>

Option	Description
REVERT_TO_V15_OPTIMIZER	<p>REVERT_TO_V15_OPTIMIZER forces the query optimizer to mimic SAP Sybase IQ 15.x behavior. REVERT_TO_V15_OPTIMIZER='ON' by default in all 16.0 databases upgraded from 15.x. REVERT_TO_V15_OPTIMIZER='OFF' by default in all newly created SAP Sybase IQ 16.0 databases.</p> <p>If you plan to use SAP Sybase IQ hash partitioning features, set the REVERT_TO_V15_OPTIMIZER = 'OFF' in databases upgraded from 15.x to 16.0.</p>

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Product Summary

This release bulletin provides late-breaking information about SAP Sybase IQ. A more recent version may be available on the Web.

For information about compatible platform and operating system configurations and minimum patch levels, see the *Installation and Configuration Guide*.

For information about new features and behavior changes in this version, see the *New Features Summary*.

For information about accessibility, see *Accessibility Features* in this release bulletin.

Product Compatibilities

Information about the compatibility of SAP Sybase IQ with other products.

These SAP Sybase products are certified with this version of SAP Sybase IQ:

- jConnect™ for JDBC™ 7.0
- SAP Sybase IQ InfoPrimer 15.3
- SAP® Control Center (SCC) 3.3

These SAP Sybase products are certified to work as back ends in CIS functionality with this version of SAP Sybase IQ:

- SAP Sybase SQL Anywhere® 16.0
- SAP Adaptive Server® Enterprise 15.7

See *Sybase Product and Component Certifications* for instructions on accessing the latest online certification information.

Network Clients and ODBC Kits

SAP Sybase IQ Network Clients and ODBC kits for development are available on the SAP Sybase download site. A Network Client is available for each platform supported by this version of SAP Sybase IQ. A Linux 32-bit client is also available.

The SAP Sybase download site is <http://www.sybase.com/downloads>.

SAP Sybase IQ 16.0 does not require an upgrade of the 32-bit ODBC kits, if you use SAP Sybase IQ 15.2 32-bit ODBC kits.

Installation and Upgrade

This section provides last-minute information about installation and upgrading that was omitted from or incorrect in your installation guide, or that needs special emphasis.

For detailed information about installing and upgrading SAP Sybase IQ, see the *Installation and Configuration Guide*.

Before you run a new version of SAP Sybase IQ, see *Restrictions* for the most current requirements.

CR#	Description
n/a	<ul style="list-style-type: none"> SAP Sybase IQ 16.0 Requires a License – SAP Sybase IQ 16.0 uses the SAP Sybase Software Asset Management (SySAM) licensing mechanism that lets system administrators enable and monitor their site’s use of SAP Sybase products. SAP Sybase IQ includes separate SySAM licenses for each product edition and separate licenses for any optional features available for that edition. See <i>Licensing Your Software</i> in the <i>Installation and Configuration Guide</i>.
749005	<ul style="list-style-type: none"> Certicom Cryptography Services Replaced – Certicom software, which provides cryptography services for securing storage and transmission of sensitive information, is no longer supported by SAP Sybase products. These services have been replaced by alternate providers, as indicated in the documentation for each SAP Sybase product. See <i>Encryption Support Changes in New Features Summary</i>.
728377	<ul style="list-style-type: none"> Extract and Install Installation Packages on the Same Machine – The SAP Sybase Product Download Center is an online software delivery service that provides easy access to the latest versions of your software. When you download your software, uncompress the downloaded image and run the installer on the same machine where you install SAP Sybase IQ. Do not copy an uncompressed installation archive to a secondary machine and run the install.

CR#	Description
691212	<ul style="list-style-type: none"> Avoid Using Relative Path to Launch Installer – SAP Sybase IQ installation fails if you launch the installer using a relative path. During GUI installation, the installer fails to prompt for the license file information and does not install properly. <p>For example, when launched from the console using a command line:</p> <pre> Installer files directory : /system1/users/jones/in- stallldir \$SYBASE dir : /system1/users/jones/IQ160 cd \$SYBASE ../installdir/setup.bin </pre> <ul style="list-style-type: none"> Workaround – Launch the installer from the directory where it is located, or use an absolute path.
688135	<ul style="list-style-type: none"> Sybase Partners with v3 UDFs Must Specify a License Key When Upgrading to v4 – If you are an SAP Sybase design partner using v3 UDFs, your UDFs will not continue to work after you upgrade your libraries to v4 unless you specify the SAP Sybase-provided license key in the <code>a_v4_extfn_license_info</code> structure. You must implement the <code>extfn_get_license_info</code> method, and the method must return a valid key. See <i>User-Defined Functions</i> for information on upgrading to the v4 API, and adding the <code>extfn_get_license_info</code> method.
628594	<ul style="list-style-type: none"> SySAM Licensing Checkout – If SAP Sybase IQ was licensed using a per-processor license type in previous releases, the license quantity was determined at startup. In this release, SAP Sybase IQ periodically checks the number of processors it can use and attempts to check-out additional licenses for any increase. SAP Sybase IQ shuts down after 30 days if additional licenses are not made available within this period. See the <i>SySAM Users Guide</i> for details regarding license grace.
n/a	<ul style="list-style-type: none"> ALTER DATABASE UPGRADE PROCEDURE ON Required – To install new system tables, you must run ALTER DATABASE UPGRADE PROCEDURE ON on existing databases after installing SAP Sybase IQ 16.0. <p>For syntax, see <i>Reference: Statements and Options</i>.</p>

Problem Solutions from Earlier Versions

SAP Sybase IQ includes solutions to problems that were solved in post-release updates to earlier versions.

SAP Sybase IQ 16.0 contains solutions to problems fixed up to and including these versions:

- SAP Sybase IQ 15.1 ESD #3 (N off #7 - SAP Sybase IQ 15.1 ESD #3.7)
- SAP Sybase IQ 15.2 ESD #1 (N off #8 - SAP Sybase IQ 15.2 ESD #1.8)
- SAP Sybase IQ 15.2 ESD #2 (N off #3 - SAP Sybase IQ 15.2 ESD #2.3)
- SAP Sybase IQ 15.2 ESD #3
- SAP Sybase IQ 15.3
- SAP Sybase IQ 15.4 ESD #3
- SAP Sybase IQ 16.0 ESD #1

Sub-Capacity Licensing

SAP Sybase offers sub-capacity licensing options for SAP Sybase IQ Enterprise Edition. Sub-capacity licensing refers to licensing an SAP Sybase product on a subset of the CPUs available on a physical machine.

Platform Support

Sub-capacity licensing is supported on the following platforms:

Table 1. Sub-Capacity Licensing Vendor Support

Vendor	Product	Platform Support	Virtualization Type
HP	nPar	HP IA 11.31	Physical Partition
	vPar		Virtual Partition
	Integrity Virtual Machines with Resource Manager		Virtual Machine
	Secure Resource Partitions		OS Containers
IBM	LPAR	AIX 6.1, AIX 7	Virtual Partition
	dLPAR		Virtual Partition
SUN	Dynamic System Domains	Solaris 10	Physical Partition
	Solaris Containers/Zones with Solaris Resource Manager		OS Partition
INTEL/AMD	VMWare ESX/ESXi Server ¹ Guest OS: Windows	VMWare ESX Server 3.5, 4.0, and 4.1, ESXi4.1, ESXi5.0, Guest OS: Windows 2008 R2, Windows 7	Virtual Machine

Vendor	Product	Platform Support	Virtualization Type
	VMWare ESX/ESXi Server ¹ Guest OS: Linux, Sun Solaris x64	VMWare ESX Server 3.5, 4.0 and 4.1, ESXi4.1, ESXi5.0, Guest OS: RH 5.5, RH 6.1, SuSE 11, Sun Solaris x64	Virtual Machine
	Xen, KVM, DomainU: Windows ²	Windows 2008 R2, Windows 7	Virtual Machine
	Xen, KVM, DomainU: Linux ²	RH 5.5, RH 6.1, SuSE 11	Virtual Machine
	Hyper-V	Windows 2008 R2, Windows 7, SuSE 11, RHEL 6.1	Virtual Machine
¹ VMWare excludes VMWare Workstation and VMWare Server. ² These hypervisors do not support Sun Solaris x64.			

How to Enable SAP Sybase Sub-Capacity Licensing

You must have a sub-capacity licensing agreement with SAP Sybase before you can enable sub-capacity licensing. If you choose to use SAP Sybase IQ in a sub-capacity environment, see the *SySAM Quick Start Guide* for instructions for generating your license key.

Note:

- Keep your license server up-to-date.
- Although the installation media includes a copy of the most recent SySAM license server, SAP Sybase recommends that you periodically check for license server updates on the *SySAM Standalone License Server Install site*.

Database Upgrades

Important information about database upgrades.

For detailed information about installing and upgrading SAP Sybase IQ, see the *Installation and Configuration Guide*.

CR#	Description
750748	<ul style="list-style-type: none"> • Shut down all products that use \$SYBASE before upgrade – The SYBASE variable identifies the location of the common parent directory shared by SAP Sybase applications like SAP Adaptive Server Enterprise and Sybase Open Client. Failure to shut down all products that use \$SYBASE may generate signal 11 (SIGSEGV) errors when you upgrade SAP Sybase IQ. • Workaround – Shut down all SAP Sybase applications, restart the SAP Sybase IQ server, and retry the upgrade.
702052	<ul style="list-style-type: none"> • Drop all JOIN and all LD indexes. On multiplex, drop all logical servers named AUTO, COORDINATOR, ALL or DEFAULT – If you do not drop these objects and try to run an ALTER DATABASE UPGRADE in SAP Sybase IQ 16.0, the upgrade fails and the server returns a message that indicates that a database upgrade is not possible when these objects are in use. • Recovery Information – To recover from a failed upgrade, shut down the 16.0 server, open the database with SAP Sybase IQ 15.x, and drop all LD and all JOIN indexes as well as any named logical servers before proceeding with the migration.
487858	<ul style="list-style-type: none"> • Upgrade Invalidates Data Source Names – In SAP Sybase IQ 15.x, 32-bit drivers are located in the bin32 directory, instead of win32, and 64-bit drivers are now in the bin64 directory, instead of x64. Therefore, when migrating from 12.x to 15.x, you may need to update registries and applications to locate libraries. For example, win32\dbodbc11.dll is now in bin32. In SAP Sybase IQ 16.0, 64-bit drivers are now in the bin64 directory, instead of x64. Therefore, when migrating from 12.x to 16.0, you may need to update registries and applications to locate libraries. For example, win32\dbodbc12.dll is now in bin32. If upgrading from 15.x to 16.0 the directory names remain the same, but the driver library has changed from dbodbc11.dll (from SAP Sybase IQ 15.0 – 15.3) or dbodbc12.dll (from SAP Sybase IQ 15.4) to dbodbc16.dll.

SAP Sybase IQ and Other SAP Sybase Products

Issues you should know when you install SAP Sybase IQ with other SAP Sybase Products.

CR #	Description
736702	<ul style="list-style-type: none"> • GUI install hangs with .com.zerog.registry.xml file – InstallAnywhere uses a temporary registry file (.com.zerog.registry.xml) to track software installations. InstallAnywhere normally deletes this file, but in some cases, the registry may become corrupt and cause the installer/uninstaller to hang. • Workaround – If this occurs, force quit InstallAnywhere, rename .com.zerog.registry.xml, and rerun the install/uninstall. <p>On Unix-like operating systems, the location of the .com.zerog.registry.xml is determined by who performs the install/uninstall. For root users, this file is located in /var directory; for other users, the \$HOME directory. On Windows, this file is located on the C:\ or D:\ root directory.</p>
688696	<ul style="list-style-type: none"> • Installer hangs when you install SAP Sybase IQ into the same directory as SAP Sybase IQ InfoPrimer (IQIP) – SAP Sybase products share a common parent directory (%Sybase%), but individual products are installed in separate subdirectories. • Workaround – Do not install SAP Sybase IQ and SAP Sybase IQIP into the same directory. Create a subdirectory under %SYBASE% when you install SAP Sybase IQIP. For example, install the IQIP server into %SYBASE%\IQIPS-15_3 (or install the IQIP Development Tool to %SYBASE%\IQIPD-15_3), which is actually the default directory of IQIP on Windows, and then install SAP Sybase to %SYBASE%.

Known Issues

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

Find issues by Change Request (CR) number.

Note: You can search the Sybase Web site for solved cases. Choose **Support > Solved Cases** or go to <http://search.sybase.com/search/simple.do?mode=sc>. You need a MySybase account to view solved cases in the archive.

Restrictions

Consider information about restrictions to avoid unexpected results from your system.

This information applies to servers and databases of this version of SAP Sybase IQ16.0 that have been upgraded from any earlier version of SAP Sybase IQ, unless specified otherwise.

CR#	Restriction
750481	<ul style="list-style-type: none"> License Required for Multiple User Dbspaces or Table Partitions – You must be licensed for the IQ_VLDBMGMT option in order to create more than one table partition or user dbpace. If you are not licensed, SAP Sybase IQ returns a No such feature exists error during dbpace or partition creation.
561366	<ul style="list-style-type: none"> Dbpace Naming in RESTORE DATABASE Command – If the dbpace name contains a file extension such as .iq or .iqtmp, you must enclose the dbpace name in double quotation marks when specifying the name in a RESTORE DATABASE command RENAME clause. For example: <pre>RENAME temp1 TO '/work/temp1_res.iqtmp.iqtmp' DBSPACENAME "temp1_res.iqtmp"</pre> or <pre>RENAME "test_prod2.iq" TO '/test/test_prod2.iq'</pre>
365281	<ul style="list-style-type: none"> Database Name Length Restriction – The dbbackup utility truncates the database name to 70 characters and creates a target file with a truncated name. SAP Sybase IQ uses dbbackup when synchronizing secondary servers. Due to dbbackup restrictions, database names must be less than 70 characters long.

Known Issues

CR#	Restriction
n/a	<ul style="list-style-type: none"> • DbSPACE Management and File Placement – When you allocate file system files for dbspaces (System, IQ main, or IQ temporary), do not place the files on a file system that is shared over a local area network. Doing so can lead to poor I/O performance and other problems, including overloading the local area network. Do not place IQ dSPACE files on network drives or Network File System (NFS) file systems. <p>To avoid conflicts, Sybase recommends that dSPACE management be performed by a single database administrator on a single connection.</p>
n/a	<ul style="list-style-type: none"> • Unexpected Query Results – In a few unusual circumstances, differences in semantics between SQL Anywhere and SAP Sybase IQ may produce unexpected query results. These circumstances are: <ul style="list-style-type: none"> • A query is issued from inside a user-defined function • A SELECT statement has no FROM clause • A FROM clause contains some tables that were created IN SYSTEM and others that were not created IN SYSTEM <p>In these circumstances, subtle differences between the semantics of SQL Anywhere and SAP Sybase IQ may be exposed. These differences include:</p> <ul style="list-style-type: none"> • SAP Sybase IQ treats the CHAR and VARCHAR data types as distinct and different; SQL Anywhere treats CHAR data as if it were VARCHAR. • When the RAND function is passed an argument, the behavior is deterministic in SAP Sybase IQ and nondeterministic in SQL Anywhere.

Known Issues for Installation and Configuration

Descriptions of known issues and workarounds for SAP Sybase IQ installation.

Table 2. Installer issues

CR#	Description
749835	<ul style="list-style-type: none"> • Windows installer requires Microsoft Visual C++ 2005 SP1 Redistributable Package – Launching the installer may return the following exception: <pre>Windows error 14001 occurred while loading the Java VM</pre> • Workaround – If you get this error, install the Microsoft Visual C++ 2005 Service Pack 1 Redistributable Package MFC Security Update before launching the installer again. This service pack is included as part of the installation package. To install: <ol style="list-style-type: none"> 1. Open Windows Explorer. 2. Navigate to \archives\ms-redirect-2005 on the installable image. 3. Do this: <ul style="list-style-type: none"> • On 32-bit machines, run vcredist_x86.exe • On 64-bit machines, run vcredist_x86.exe and vcredist_x64.exe <p>Microsoft Visual C++ 2005 Service Pack 1 Redistributable Package MFC Security Update is also available as a free download from the Microsoft Download Center at: http://www.microsoft.com/en-us/download/details.aspx?id=26347</p>
690399	<ul style="list-style-type: none"> • Running <code>uninstall.exe</code> in silent mode may lead to installation problems – Running <code>uninstall.exe</code> in silent mode is an undocumented uninstallation option: <pre>uninstall.exe -i silent</pre> <p>The uninstaller does not echo any response in this mode. The lack of user-interaction can lead to unanticipated problems.</p> • Workaround – Uninstall from the Control Panel. See the <i>Installation and Configuration Guide</i> for details.

Known Issues

CR#	Description
650505	<ul style="list-style-type: none"> • Problems running the installer from a remote directory – Running the 15.4 installer from a remote directory may not install the MSVC++ setup files properly and the installation will fail. • Workaround – Manually run the MSVC++ setup files and map the remote directory to a drive letter.
641873, 652690, 652696, 652866, 643106	<ul style="list-style-type: none"> • Do not install SAP Sybase IQ16.0 into the same directory as older Sybase products– Installing Sybase SAP Sybase IQ 16.0 into the same directory with older SAP Sybase Products may render some or all of these products unusable. • Workaround – Install SAP Sybase IQ16.0 into a different directory than the one you use for older products. Do not uninstall any of the products installed into the same directory.

Known Issues for SAP Sybase IQ Operations

Descriptions of known issues and workarounds for SAP Sybase IQ operations.

Table 3. Open Client issues

CR#	Description
751760	<ul style="list-style-type: none"> • Open Client SDK 15.7 requires service pack for SSL/TLS/FIPS security – Without a required service pack, 32-bit applications such as isql -X may fail with a CT-LIBRARY message like: <pre>ct_connect(): protocol specific layer: internal Client Library error: There is a tds login error. The installed encryption handler returned a status that was not CS_SUCCEEDED.</pre> • Workaround – You must install the following on your system to use the OpenClient SDK 15.7 SP121 ISQL utility with security (SSL/TLS/FIPS): <p>32-bit Microsoft Visual C++ 2005 Service Pack 1 (June 2011) or later</p> <p>See <i>Microsoft Knowledge Base Article 2538242</i>.</p>

CR#	Description
662422	<ul style="list-style-type: none"> Remote query performance degrades with DATETIME column – SAP Sybase IQ16.0 and the default Open Client/Server included with SAP Sybase IQ16.0 support the TDS BIGDATETIME data type for remote queries. <p>When an SAP Sybase IQ server executes a remote query using Open Client and fetches a DATETIME column on an IQ/SA remote server, the return data type is BIGDATETIME, instead of DATETIME. This may degrade performance.</p> <p>This performance degradation may not occur, when the remote server is an ASE server.</p> <p>To prevent the return of BIGDATETIME values, apply this work-around.</p> Workaround – Add these lines to the Open Client and Open Server configuration file %SYBASE%\%SYBASE_OCS%\config\ocs.cfg to prevent the return of BIGDATETIME values: <pre>[SAP Sybase IQ] CS_CAP_RESPONSE = CS_DATA_NOBIGDATETIME</pre> <p>See also <i>Using the runtime configuration file in the Open Server 15.0, Open Client 15.0, and SDK 15.0 Open Client Client-Library/C Reference Manual</i>.</p>

Table 4. Server startup issues

CR#	Description
663054	<ul style="list-style-type: none"> Database recovery fails if server started with -iqro 1 flag – A 15.2 database that is archived cannot be recovered if you specify the read-only flag -iqro 1 on the startup command in SAP Sybase IQ 16.0.

SAP Sybase IQ Operations Known Issues from Previous Versions

Descriptions of known issues and workarounds for SAP Sybase IQ operations from previous versions.

CR#	Description
686818	<ul style="list-style-type: none"> Red Hat 6 Requires Compatibility Libraries – Installation of SAP Sybase IQ 15.3 on Red Hat 6.0 fails with an <code>InvocationTargetException</code> error unless you install the required 32-bit compatibility libraries: <ul style="list-style-type: none"> libXext-devel.i686 libXtst-devel.i686
627872	<ul style="list-style-type: none"> PHP Bound Parameters on Big Endian Platforms – In SAP Sybase IQ 15.2, PHP: Hypertext Preprocessor (PHP) drivers on big endian platforms require bound parameters to be initialized before the call to <code>sasql_stmt_bind_param</code> for INT and BIGINT data types. <p>This example shows the values properly initialized before the call to <code>sasql_stmt_bind_param</code>:</p> <pre> \$stmt = sasql_prepare(\$conn, "insert into testdefault(c1, c2, c3, c5) values(?,?,?,?)"); #Binding parameters with statement prepared \$c1=22; \$c2=33; \$c3="col3data"; \$c5="col5data"; sasql_stmt_bind_param (\$stmt,"iiss", \$c1, \$c2, \$c3, \$c5); #executing statement sasql_stmt_execute(\$stmt); </pre>
624363	<ul style="list-style-type: none"> dbisql Reports Java Stack Trace Error – On rare occasions, the Interactive SQL utility (<code>dbisql</code>) may encounter a Java stack trace error when you highlight text: <pre> Index Array Out of Bounds </pre> <p>This is due to a problem in the Java Runtime Environment. See Bug ID 6921603 in the Java Bug Database on the Oracle Sun Developer Network (SDN).</p>

CR#	Description
622928	<ul style="list-style-type: none"> • sp_iqstatus Returns Error on Chinese and Japanese Locale Installations – On SAP Sybase IQ servers that are set up for Chinese and Japanese locales, running <code>sp_iqstatus</code> returns an error similar to: <pre style="background-color: #f0f0f0; padding: 5px; margin: 5px 0;"> Could not execute statement. Syntax error near '2010' on line 1 SQLCODE=-131, ODBC 3 State="42000" Line 1, column 1 </pre> • Workaround: – <ol style="list-style-type: none"> 1. Stop the server. 2. For Chinese locales, remove <code>dblgzh_iq11.dll</code> from <code>%IQ- DIR16%\bin64</code>. For Japanese locales, remove <code>dblgja_iq11.dll</code> from <code>%IQ- DIR16%\bin64</code>. 3. Restart the server. <p>After this procedure, certain strings in the <code>.iqmsg</code> files and the output of sp_iqmpxinfo, sp_iqstatistics, and sp_iqstatus are in English, instead of Chinese or Japanese.</p>

CR#	Description
622007	<ul style="list-style-type: none"> ASE Connections to SAP Sybase IQ with BIGDATETIME – When a version 15.5 GA SAP Adaptive Server Enterprise server uses Component Integration Services (CIS) to connect to an SAP Sybase IQ server version that has BIGDATETIME and BIGTIME capability, any chronological data type sent to the SAP Adaptive Server Enterprise server using CIS results in the error: <pre>Msg 7225, Level 16, State 4: Line 1: Unknown datatype token 188 'BIGDATETIME NULL' encountered. Exited passthru mode from server 'QA_IQ16_ASECIS'.</pre> <p>SAP Sybase IQ sends the data as BIGDATETIME and relies on SAP Adaptive Server Enterprise to convert appropriately. The BIGDATETIME data type was implemented in CIS in SAP Adaptive Server Enterprise version 15.5 ESD #1, so this error occurs with SAP Adaptive Server Enterprise 15.5 before any ESDs have been applied.</p> Workaround – SET TEMPORARY OPTION RE- TURN_DATE_TIME_AS_STRING='ON' in SAP Sybase IQ for each session. The SAP Sybase IQ server sends all chronological data as strings and SAP Adaptive Server Enterprise completes the conversion. This workaround is for SAP Adaptive Server Enterprise 15.5 GA connecting to SAP Sybase IQ in passthrough mode. <p>You can also use this workaround in the definition of a remote stored procedure, but it is not a solution for proxy tables created on SAP Adaptive Server Enterprise returning chronological data types from SAP Sybase IQ.</p>
571993	<ul style="list-style-type: none"> dbisql Does Not Start on Linux Red Hat 5.3 – The Interactive SQL utility dbisql fails to start on Linux Red Hat 5.3, and issues a message similar to: <pre>Error! could not load the Java Virtual machine DLL: /root/users/user1/050509/shared/JRE- 6_0_7_32BIT/lib/i386/client/libjvm.so</pre> Workaround – Run: <pre>% cd \$IQDIR16/bin32 % dbisql -batch # creates below % dbisql.sh</pre>

CR#	Description
539484	<ul style="list-style-type: none"> <li data-bbox="424 227 1184 374">• FORWARD TO from SAP Sybase IQ to ASE Fails – Execution of a FORWARD TO command from SAP Sybase IQ to Adaptive Server using the ASEODBC driver fails with ASA Error -660 “The identifier that starts with ‘<identifier>’ is too long. Maximum length is 28.” <li data-bbox="424 401 1184 548">• Workaround – To avoid this problem, do one of the following after creating a remote Adaptive Server server using either server class aseodbc or server class asejdbc and before executing a SQL statement that contains a string with double quotes against the remote server using the FORWARD TO statement: <ol style="list-style-type: none"> <li data-bbox="465 569 911 595">1. Change the double quotes to single quotes. <li data-bbox="465 604 1184 656">2. Include the database option SET QUOTED_IDENTIFIER OFF before the SQL statement to be executed: <pre data-bbox="501 670 975 765" style="margin-left: 20px;">FORWARD TO <remote server name> { SET QUOTED_IDENTIFIER OFF <SQL statement> }</pre> <li data-bbox="465 777 1184 829">3. Set the QUOTED_IDENTIFIER database option to OFF using a separate FORWARD TO statement: <pre data-bbox="501 843 975 895" style="margin-left: 20px;">FORWARD TO <remote server name> { SET QUOTED_IDENTIFIER OFF }</pre>

CR#	Description
n/a	<ul style="list-style-type: none"> Creating Very Large Databases – Attempting to create extremely large SAP Sybase IQ databases on certain Windows configurations may fail with an exception occurring in the module hos_bion.cxx at or near line 182. <p>If you require a database that exceeds 100GB, try creating a database of that size to see if your system configuration exhibits the problem. If you create a smaller database and later try to add dbspaces, correcting the problem at that time may be more difficult and time consuming.</p> <p>This problem is intermittent but tends to occur if you have approximately 180GB of open files. Changing the setting of the OS_File_Cache_Buffering database option could trigger the problem. In some cases, you might see an INSUFFICIENT_RESOURCES Windows error message.</p> <p>The best way to avoid this problem is to create on a raw device any databases that may become larger than 180GB.</p> <p>If you create a very large database on a file system, and either the CREATE DATABASE statement fails as described above, or you see the INSUFFICIENT_RESOURCES message, apply Microsoft corrections. The problem is caused by a bug in the Windows kernel. More information is available on the Microsoft support Web site:</p> <ul style="list-style-type: none"> <i>Microsoft Knowledge Base Article - 192409</i> <i>Microsoft Knowledge Base Article - 236964</i> <i>Microsoft Knowledge Base Article - 171458</i>

Known Issues for Interactive SQL

Descriptions of known issues for Interactive SQL.

Use **dbisql**, instead of **dbisqlc**, unless instructed to do otherwise for specific tasks. **dbisqlc** is supported, but does not contain all the features of **dbisql**. **dbisqlc** will be deprecated in a future release.

Table 5. Interactive SQL issues

CR#	Description
n/a	<ul style="list-style-type: none"> Creating output files in quiet mode – If you run dbisql (Interactive SQL) with the -q (quiet mode) option, and the data extraction commands (primarily setting the option TEMP_EXTRACT_NAME1 to an output file) are in a command file, you must first set and make permanent the dbisql option “Show multiple result sets.” If you do not set this option, the output file is not created.

CR#	Description
n/a	<ul style="list-style-type: none"> • Show multiple result sets – To set the option “Show multiple result sets,” click Tools Options in the dbisql window, choose “SAP Sybase IQ,” and select the “Results” tab. Then select “Show all results sets.”
n/a	<ul style="list-style-type: none"> • Query plan on the Plan Viewer tab – The query plan in the dbisql Plan Viewer tab is a SQL Anywhere style query plan. For an SAP Sybase IQ query plan, refer to the IQ .iqmsg file.
n/a	<ul style="list-style-type: none"> • Unable to initialize screen routines – If you set the terminal type on UNIX and Linux systems to “dumb” or “unknown” and then start dbisqlc, SAP Sybase IQ returns an error. For example: <pre>% setenv TERM dumb % dbisqlc error at line 1 Unable to initialize screen routines</pre> • Workaround – To avoid problems, run dbisql (Interactive SQL) instead, or use an xterm window to run dbisqlc on UNIX and Linux systems. For example, to start an xterm window with a scroll bar, enter: <pre>% xterm -sb</pre>

Known Issues for Multiplex Environment

Descriptions of known issues and workarounds for the multiplex environment.

Table 6. Multiplex issues

CR#	Description
748684	<ul style="list-style-type: none"> • start_iq fails to restart secondary server with high availability enabled – A secondary server with the high availability option enabled fails, but start_iq fails to restart it: <pre>start_iq @params.cfg database.db</pre> • Workaround – Specify the full path to restart a high availability server: <pre>start_iq @/system1/IQ16/mydb/params.cfg /system1/IQ16/mydb/database.db</pre>

CR#	Description
611990	<ul style="list-style-type: none"> • Emergency shutdown on secondary servers after CREATE TEXT INDEX – A secondary server goes into emergency shutdown when: <ul style="list-style-type: none"> • It is started with the -sf external_library_full_text flag, which disables loading of external libraries, and • The user issues a CREATE TEXT INDEX statement on the coordinator with a text configuration that uses external libraries. <p>All other servers replay the DDL successfully.</p> • Workaround – Start secondary nodes in the multiplex without the -sf external_library_full_text flag.
447348	<ul style="list-style-type: none"> • Physical file not deleted by DROP DBSPACE – Within a multiplex environment on Windows, if you execute DROP DBSPACE <dbspace_name> on a coordinator, the dbspace file may not be physically removed, if the file is locked by the secondary nodes. No error is reported to the client. The IQ message file (.iqmsg) of the coordinator records this error: <pre data-bbox="454 743 1184 1050">I. 02/25 11:20:58. 0000000060 DropDBSpacePhysical-File I. 02/25 11:20:58. 0000000060 Exception Thrown from hos_bio.cxx:1228, Err# 6, tid 398 origtid 398 I. 02/25 11:20:58. 0000000060 O/S Err#: 26, ErrID: 518 (hos_bioexception); SQLCode: -1006062, SQLState: 'SQBA62', Severity: 14 I. 02/25 11:20:58. 0000000060 [20300]: OS error 26 reported on file C:\users\mpx_tablespaces\mpx\size_dbsp_0tb.</pre> • Workaround – Manually delete the file from the file system after dropping the dbspace.

Known Issues for SAP Control Center

Descriptions of known issues for SAP Control Center.

Table 7. SAP Control Center Issues

CR#	Description
749693	<ul style="list-style-type: none"> • Agent status for multiplex server incorrectly displays as "Unknown" – A multiplex server may display Agent Status "Unknown" in Admin Console > Multiplex Servers, when the agent is running and has been previously authenticated. If you reauthenticate the agent, status soon returns to "Unknown." • Workaround – In Resource Explorer, unregister and reregister the multiplex resource.
748912	<ul style="list-style-type: none"> • TDS port number configuration – TDS, or Tabular Data Stream, is a common application protocol that the SCC server and agent use to exchange information. The TDS port number is set to 9998 and enabled by default during installation. Choosing an alternate TDS port number is not currently an option within the SAP Sybase IQ installer. If the TDS port number is in use by another application, SCC may fail to start or function properly. • Workaround – To identify and resolve TDS port conflicts: <ol style="list-style-type: none"> 1. From the command line, shutdown SCC, enter: <code>scc --stop</code> 2. To return a list of SCC ports, enter: <code>scc --info ports</code> Any port in use when SCC is not running is likely to have a conflict. 3. In the %SCC%\bin directory, enter: <code>scc --port tds=n</code> where <i>n</i> is a number from 1025 to 65535, and not in use as a port number by another application.

CR#	Description
747312	<ul style="list-style-type: none"> • Alert wizard - New member for logical server not shown – After you add a new member to a logical server using a method other than SCC (for example, dbisql), the Alert Wizard for that logical server does not display the new member. • Workaround – Open Logical Server Properties for the logical server to the Membership page, uncheck the member added outside SCC, click Apply, then recheck the member and click Apply/OK. Now that member node displays.
746237	<ul style="list-style-type: none"> • Create Dbspace wizard - Multiplex Node drop-down list is empty – From the Perspective Resources view, if you select an IQ Server representing a multiplex node, and then open the Create Dbspace wizard from the Administration Console, clicking the drop-down arrow next to Multiplex Node displays an empty list. • Workaround – From the Perspective Resources view, select the IQ Multiplex, not an IQ Server representing a multiplex node. Open the Administration Console and start the Create Dbspace wizard. Multiplex nodes display when you click the drop-down arrow next to Multiplex Node.
729451	<ul style="list-style-type: none"> • You cannot grant or revoke permissions on a proxy table – The functionality to grant and revoke object-level permissions on a proxy table at the table level is not currently implemented in SAP Control Center. • Workaround – <ul style="list-style-type: none"> • Grant the object-level permissions at the user, group (15.3 and 15.4) or role (16.0) level. • Use Interactive SQL to grant the object-level permissions at the table level.
724206	<ul style="list-style-type: none"> • User impersonation does not work – The functionality to configure one user to temporarily assume the roles and system privileges of another user (known as impersonation) is not currently implemented in SCC • Workaround – Use Interactive SQL.
721981	<ul style="list-style-type: none"> • When you use a 64-bit version of Internet Explorer 9 to read SCC online help, graphics may fail to load – Each missing graphic is replaced with a red X. The problem is most noticeable on the landing page when you first open the online help. • Workaround – Use an earlier or a 32-bit version of IE, or use another browser.

CR#	Description
721119	<ul style="list-style-type: none"> • Script execution is not logged as expected on UNIX-like operating systems – Alert-triggered script executions are not being recorded in <code>SCC-3_2\log\alert-server.log</code> as they are supposed to be. Information about the execution from the RemoteShell Service Process-Runner is appearing in <code>SCC-3_2\log\agent.log</code>, but this is not the alert script execution code that we expect to see logged in <code>alert-server.log</code>. • Workaround: – None.
716431	<ul style="list-style-type: none"> • Dual control password management does not work – When the Change Password Dual Control option is enabled in a user's login policy, an error message appears if you attempt to change the user's password. This functionality is not implemented in SAP Control Center. • Workaround – Use interactive SQL to change the user's password.
697145	<ul style="list-style-type: none"> • You cannot use incremental backups of the SAP Control Center repository to recover the database – • Workaround: – <ol style="list-style-type: none"> 1. Shut down SCC. 2. Open this file in a text editor: <code>SCC-3_2/services/ScsSA-Dataserver/service-config.xml</code>. 3. Delete this line: <pre data-bbox="508 979 1143 1031"><set-property property="com.sybase.asa.database.options" value="-m" /></pre> 4. Save the changes and start SCC. <p>You can restore the repository database using incremental backups taken after this change.</p>
696767	<ul style="list-style-type: none"> • Cannot set timeout and row count options in SCC Properties – Administration Console options in the SCC Properties dialog (Application > Administration > General Settings > Administration Console) let you set timeout and row count thresholds for data retrieval. These settings have no effect in SAP Control Center for SAP Sybase IQ. • Workaround – None.

Known Issues

CR#	Description
686963	<ul style="list-style-type: none"> • If you use Server Properties to change the server configuration, and you also make changes at Request Logging or Options pages, the server configuration process runs but does not make the additional changes – • Workaround – Make changes in Server Properties from individual pages and click OK for each page.
685207	<ul style="list-style-type: none"> • The Liveness Timeout value for multiplex secondary servers always appears as 0 seconds in the INC Properties dialog – Even if you leave the value at the default (120 seconds) or set it in the Configuration Editor and restart, the INC Properties dialog displays a Liveness Timeout of 0 seconds. The value is correct on the server; only the display is wrong. • Workaround: – In the SCC Administration Console: <ol style="list-style-type: none"> 1. In the left pane, expand IQ Servers > Multiplex Management and select Multiplex Servers. 2. In the right pane, select a server and click the drop-down arrow that appears to the right. 3. Select Properties. 4. In the left pane of the properties dialog, select Server Properties. 5. In the right pane, enter <code>liv</code> in the filtering field above the Name column. This filters out all the properties except Liveness Timeout.

CR#	Description
676665	<ul style="list-style-type: none"> • If you change the database location, restart the server, and later try to change back to the previous location, the server fails to start – The failure occurs because old database files remain in place when you change to a new location. If you change back to an old location, the server finds out-of-date files. To view or change the path to the database location: <ol style="list-style-type: none"> 1. In the Administration Console, select IQ Servers. 2. Select a server in the right pane and click the drop-down arrow that appears next to the server's name. 3. Select Properties. 4. In the left pane of the properties dialog, select Configuration. • Workaround: – Before changing back to the old location, remove the <code>.db</code>, <code>.iqmsg</code>, and <code>.lmp</code> files from the old location. If they exist, also remove <code>params.cfg</code>, <code>start_server.sh</code>, and <code>stop_server.sh</code>. <hr/> <p>Note: Do not remove any other files. Take special care not to remove <code>.iq</code>, <code>.iqtmp</code>, and <code>.log</code> files. Doing so may prevent your server from starting.</p>
676218	<ul style="list-style-type: none"> • When you modify the Dbspace Properties dialog in the Administration Console, changes to dbspace properties that should propagate to the DB Files Properties dialog do not automatically do so – • Workaround: – If your changes to the Dbspace Properties dialog do not appear in the DB Files Properties dialog: <ol style="list-style-type: none"> 1. Close the DB File Properties dialog. 2. Click DB Files in the left pane of the Administration Console. 3. In the Folder menu, select Refresh. 4. Select the dbfile in the right pane, click the drop-down arrow, and select Properties.
676079	<ul style="list-style-type: none"> • In the Configuration File Editor, the Maximum Output File Size uses kilobytes as the default. There is no way to specify MB or GB – • Workaround: – In the <code>params.cfg</code> file in the database directory, set the value with the -zs switch. Use K, M or G after the numerical value. For example: <code>-zs 4000K</code>, <code>-zs 240M</code>, or <code>-zs 30G</code>.

CR#	Description
676076	<ul style="list-style-type: none"> • In the Debug page of the Configuration File Editor, the following logging levels are missing from the Debug Level drop-down: "other," "procedures," "triggers," "plan," "hostvars," "replace," and "blocks" – • Workaround: – To set the debug level to any of the missing levels, set the <code>-zr</code> switch in the <code>params.cfg</code> file in the database directory. You can include more than one level. For example: <code>-zr procedures, triggers, plan.</code>
670173	<ul style="list-style-type: none"> • The Database Options, Group Options, and User Options dialogs do not allow these actions provided in Sybase Central: Create Options, Remove Options, and Mark Options as Permanent – • Workaround: – None.
669571	<ul style="list-style-type: none"> • The Administration Console Execute SQL window returns no status for successful queries that return no results – Interactive SQL users expect a message like <code>Execution time: 0.01 seconds.</code> • Workaround: – None.
667667	<ul style="list-style-type: none"> • Conversion to multiplex disregarded – If an SAP Sybase IQ simplex server that is registered in SAP Control Center is converted to a multiplex server using anything other than this instance of SCC (including another instance of SCC, Sybase Central, or the command line), the current SCC does not detect the conversion and continues to display the server as simplex. • Workaround – Reauthenticate the simplex resource so that SCC displays it as multiplex.
666382	<ul style="list-style-type: none"> • Prolonged authentication – Authentication can take a very long time, especially when the resource is a multiplex. In some cases, the authentication dialog fails to dismiss. • Workaround – You can safely click Cancel to dismiss the Authentication dialog at any time after you click OK.

CR#	Description
587717	<ul style="list-style-type: none"> • Datatypes in monitoring views and the statistics chart appear in fixed locations on the browser screen regardless of where the chart is located. If you move the chart on the screen, the datatips do not move with the chart – (A datatip is a tooltip that displays the data value for a particular spot on a graph or chart when you mouse over that spot.) This occurs in all product module plug-ins. • Workaround: – None. This is an Adobe Flex SDK issue.
576129	<ul style="list-style-type: none"> • Pressing F5 to refresh your browser logs you out of SAP Control Center – Browser refresh does not refresh data inside SAP Control Center, but refreshes the loaded application or pages in the browser—in this case, the Adobe Flash on which SAP Control Center is built. Consequently, pressing F5 logs you out of any servers you are currently logged in to, including SAP Control Center. • Workaround: – Do not use F5 when you are logged in to SAP Control Center.
560601	<ul style="list-style-type: none"> • Cannot log in because the SAP Control Center HTTP redirect fails when you use IPv6 format – If you use an IPv6 HTTP URL for Sybase Control Center, it does not redirect to HTTPS as it should. For example, this URL does not work: <code>http://myscc64.v6:8282/scc</code> • Workaround: – Use a URL with the HTTPS format and port to connect to SCC in IPv6 networks. For example: <code>https://myscc64.v6:8283/scc</code>

Known Issues

Documentation Changes

Updates, corrections, and clarifications to the documentation released with SAP Sybase IQ.

Please check the Free Download Terms document for more recent updates to third-party licensing details. The document is at: http://www.sybase.com/softwarelicenses/third_party_legal.

Administration: Load Management Documentation Changes

Read about updates to Administration: Load Management.

These changes affect *Index Changes* in *Read Me First*.

The following was omitted from *New Fast Projection (FP) Indexes*.

Note: NBit loads and flat loads use different architectures. Therefore, you cannot compare their LOAD performance.

Administration: User Management and Security Documentation Changes

Read about updates to Administration: User Management and Security.

The Chinese and Japanese versions of this document contain errors. The following corrected topics replace the topics of the same names for SAP Sybase IQ 16.0 SP03.

Digital certificates

You need digital certificates to set up transport-layer security. You can obtain certificates from a certificate authority, or you can create them using the Certificate Creation utility (creatcert).

Certificate Creation utility

You can use the Certificate Creation utility (creatcert), to generate X.509 certificate files using RSA.

Certificate Viewer utility

You can use the Certificate Viewer utility, viewcert, to read X.509 certificates using RSA.

Certificates for server authentication

You can follow the same process to create certificate files for server authentication. In each case, you create an identity file and a certificate file.

For server authentication, you create a server identity file and a certificate file to distribute to clients.

Certificate configurations

The certificate can be self-signed or signed by a commercial or enterprise Certificate Authority.

- **Self-signed certificates** – Self-signed server certificates can be used for simple setups.
- **Enterprise root certificates** – An enterprise root certificate can be used to sign server certificates to improve data integrity and extensibility for multi-server deployments.

You can store the private key used to sign server certificates in a secure central location.

For server authentication, you can add database servers without reconfiguring clients.

- **Commercial Certificate Authorities** – You can use a third-party Certificate Authority instead of an enterprise root certificate. Commercial Certificate Authorities have dedicated facilities to store private keys and create high-quality server certificates.

Self-signed root certificates

Self-signed root certificates can be used for simple setups involving a single database server.

Tip: Use enterprise level certificate chains or commercial certificate authorities if you require multiple server identity files. Certificate authorities provide extensibility and a higher level of certificate integrity with dedicated facilities to store root private keys.

- **Certificate** – For server authentication certificates, the self-signed certificate is distributed to clients. It is an electronic document including identity information, the public key of the server, and a self-signed digital signature.
- **Identity file** – For server authentication certificates, the identity file is stored securely with a database server. It is a combination of the self-signed certificate (that is distributed to clients) and the corresponding private key. The private key gives the database server the ability to decrypt messages sent by the client in the initial handshake.

Certificate chains

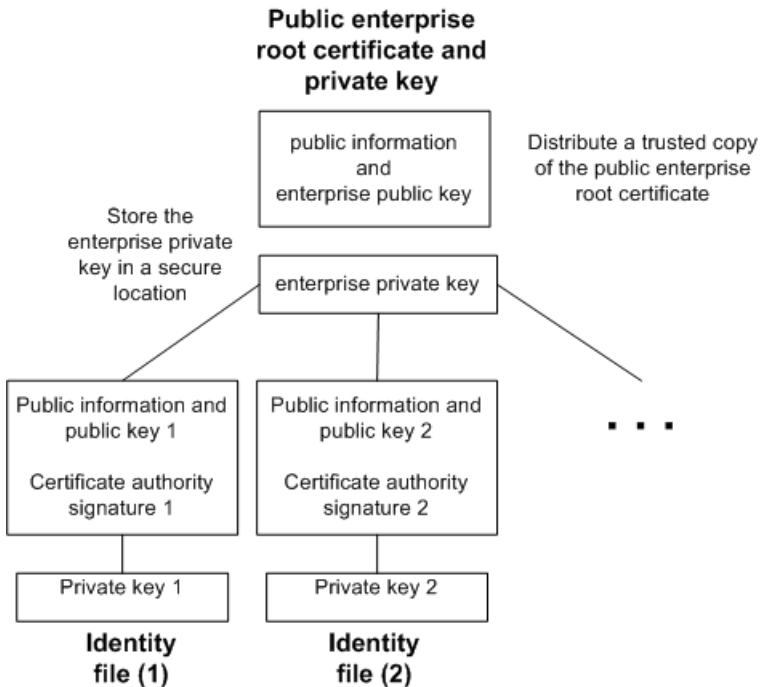
If you require multiple identity files, you can improve security and extensibility by using certificate chains instead of self-signed certificates. Certificate chains require a Certificate Authority or an enterprise root certificate to sign identities.

Benefits of using certificate chains

Certificate chains provide the following advantages:

- **Extensibility** – For server authentication, you can configure clients to trust any certificate signed by an enterprise root certificate or Certificate Authority. If you add a new database server, clients do not require a copy of the new certificate.
- **Security** – The enterprise root certificate's private key is not in the identity file. Storing the root certificate's private key in a high-security location, or using a Certificate Authority with dedicated facilities, protects the integrity of server authentication.

The following diagram provides the basic enterprise root certificate architecture.



Using certificates in a multi-server environment

To create certificates used in a multi-server environment:

- Generate a public enterprise root certificate and enterprise private key.
Store the enterprise private key in a secure location, preferably a dedicated facility.
For server authentication, you distribute the public enterprise root certificate to clients.
- Use the enterprise root certificate to sign identities.
Use the public enterprise root certificate and enterprise private key to sign each identity.
For server authentication, the identity file is used for the server.

You can also use a third-party Certificate Authority to sign your server certificates. Commercial Certificate Authorities have dedicated facilities to store private keys and create high-quality server certificates.

Enterprise root certificates

Enterprise root certificates improve data integrity and extensibility for multi-server deployments.

You can store the private key used to create trusted certificates in a dedicated facility.

For server authentication, you can add servers without reconfiguring clients.

To set up enterprise root certificates, you create the enterprise root certificate and the enterprise private key that you use to sign identities.

Signed identity files

You can use an enterprise root certificate to sign server identity files.

For server authentication, you generate identity files for each server. Since these certificates are signed by an enterprise root certificate, you use the `createcert -s` option.

Globally signed certificates

A commercial Certificate Authority is an organization that is in the business of creating high-quality certificates and using these certificates to sign your certificate requests.

Globally signed certificates have the following advantages:

- For inter-company communication, common trust in an outside, recognized authority may increase confidence in the security of the system. A Certificate Authority must guarantee the accuracy of the identification information in any certificate that it signs.
- Certificate Authorities provide controlled environments and advanced methods to generate certificates.
- The private key for the root certificate must remain private. Your organization may not have a suitable place to store this crucial information, whereas a Certificate Authority can afford to design and maintain dedicated facilities.

Setting up globally signed certificates

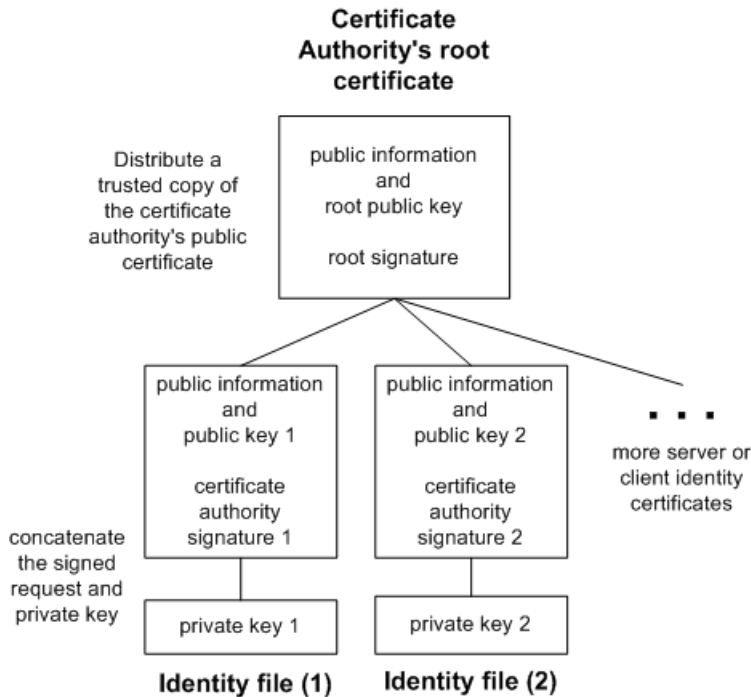
To set up globally signed identity files, you:

- Create a certificate request using the `createcert` utility with the `-r` option.
- Use a Certificate Authority to sign each request. You can combine the signed request with the corresponding private key to create the server identity file.

Note: You might be able to globally sign an enterprise root certificate. This is only applicable if your Certificate Authority generates certificates that can be used to sign other certificates.

Globally signed identity files

You can use globally signed certificates directly as server identity files. The following diagram shows the configuration for multiple identity files:



You reference the server identity file and the password for the private key on the `iqsrv16` command line.

Client trust setup for the certificate authority's certificate

For server authentication, you must ensure that clients contacting your server trust the root certificate in the chain. For globally signed certificates, the root certificate is the Certificate Authority's certificate.

Note: When using a globally signed certificate, each client must verify field values to avoid trusting certificates that the same Certificate Authority has signed for other clients.

FIPS-certified encryption technology

You can use FIPS-certified encryption algorithms to encrypt your database files, or to encrypt communications for database client/server communication, web services, and client/server communication.

Federal Information Processing Standard (FIPS) 140-2 specifies requirements for encryption algorithms. The FIPS 140-2 certification program is a joint effort between the American

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National Institute of Standards and Technology (NIST) and the Canadian Communications Security Establishment (CSE). The Federal agencies of both Canada and the United States accept products that are certified as FIPS 104-2 conforming.

SAP Sybase IQ provides 32-bit and 64-bit FIPS-certified libraries for encryption from OpenSSL. On Windows, you must use the 64-bit libraries on a 64-bit system.

FIPS-certified RSA encryption

For a list of FIPS-certified components, see <http://www.sybase.com/detail?id=1061806>.

Enabling FIPS-certified encryption

Optionally, you can enforce the use of FIPS-certified encryption on the client or server with a FIPS option. When you set the FIPS option to on, all secure communications must be FIPS-certified. If someone tries to use non-FIPS RSA encryption, it is automatically upgraded to FIPS-certified RSA encryption. The FIPS option can be set on the client or server on which you want FIPS-certified encryption to be enforced. SAP Sybase IQ has a `-fips` command line option, and clients have a FIPS option that can be set with the Encryption connection parameter.

Programming Documentation Changes

Read about updates to Programming.

.NET API Reference

Topic	Section	Correction
.NET API Reference	All subtopics under <i>.NET API Reference</i> refer to the product as SQL Anywhere.	The product is SAP Sybase IQ. SQL Anywhere and SAP Sybase IQ use the same .NET API.

C/C++ API Reference

Topic	Section	Correction
SAP Sybase IQ Database API for C/C++	All subtopics under <i>SAP Sybase IQ Database API for C/C++</i> refer to the product as SQL Anywhere.	The product is SAP Sybase IQ. SQL Anywhere and SAP Sybase IQ use the same C/C++ API.

Reference: Building Blocks, Tables, and Procedures Documentation Changes

Read about updates to Reference: Building Blocks, Tables, and Procedures.

These changes affect *File Locations and Installation Settings*.

The following corrected topics replace the *JAVA_HOME Environment Variable* and *\$\$SYBASE_JRE7_64, \$\$SYBASE_JRE7_32 Environment Variables* topics for SAP Sybase IQ 16.0 SP03.

JAVA_HOME Environment Variable

Defines the JRE home which points to directory containing bin/java.

Used if the location of the Java VM is not set in the \$SAP_JRE7_64, \$SAP_JRE7, or \$SAP_JRE7_32 environment variables.

JAVA_HOME is commonly created when installing a VM.

Settings

UNIX:

```
JAVA_HOME = $SYBASE/shared/JRE-7_(minor_version)_32BIT
```

or

```
JAVA_HOME = $SYBASE/shared/JRE-7_(minor_version)_64BIT
```

Windows:

```
JAVA_HOME = %SYBASE%\shared\JRE-7_(minor_version)_32BIT
```

or

```
JAVA_HOME = %SYBASE%\shared\JRE-7_(minor_version)_64BIT
```

Operating System

Required.

JRE Environment Variables

The SAP_JRE7_64, SAP_JRE7, and SAP_JRE7_32 variables specify the location of the Java Runtime Environment used by SAP Control Center.

On startup, SAP Control Center checks SCC_JAVA_HOME for Java version definition. If SCC_JAVA_HOME is undefined, SAP Control Center checks for installed JREs in this order:

- SAP_JRE7_64
- SAP_JRE7

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- SAP_JRE7_32

SAP Control Center then sets SCC_JAVA_HOME to the first value it finds in this list.

Setting

Source the IQ.sh (Bourne/Korn shell) IQ.csh (C shell) files.

Tip: Alternately, you can set the JRE manually:

```
SCC_JAVA_HOME=${SYBASE}/shared/  
SAPJRE-7_(minor_version)_(revision)_64BIT
```

or

```
SCC_JAVA_HOME=${SYBASE}/shared/  
SAPJRE-7_(minor_version)_(revision)_32BIT
```

Utility Guide Documentation Changes

Read about updates to Utility Guide.

The Chinese and Japanese versions of this document contain errors. The following corrected topics replace the topics of the same names for SAP Sybase IQ 16.0 SP03.

@data iqsrv16 database server option

Reads in options from the specified environment variable or configuration file.

Syntax

```
iqsrv16 @data ...
```

Applies to

All operating systems and database servers. It is supported for all database utilities except the Language Selection utility (dblang), the Certificate Creation utility (createcert), the Certificate Viewer utility (viewcert), the Microsoft ActiveSync provider install utility (mlasinst), and the File Hiding utility (dbfhide).

- the Language Selection utility (dblang)
- the Certificate Creation utility (createcert)
- the Certificate Viewer utility (viewcert)
- the Microsoft ActiveSync provider install utility (mlasinst)
- the File Hiding utility (dbfhide)

Remarks

Use this option to read in command-line options from the specified environment variable or configuration file. If both exist with the same name that is specified, the environment variable is used.

Configuration files can contain line breaks, and can contain any set of options.

To protect the information in a configuration file (for example, because it contains passwords), use the File Hiding (dbfhide) utility to obfuscate the contents of configuration files.

The @data parameter can occur at any point in the command, and parameters contained in the file are inserted at that point. Multiple files can be specified, and the file specifier can be used with command line options.

Example

The following configuration file holds a set of options for a server named `myserver` that starts with a cache size of 4 MB and loads the sample database:

```
-c 4096
-n myserver
"c:\mydatabase.db"
```

If this configuration file is saved as `c:\config.txt`, it can be used in a command as follows:

```
iqsrv16 @c:\config.txt
```

The following configuration file contains comments:

```
#This is the server name:
-n MyServer
#These are the protocols:
-x tcpip
#This is the database file
my.db
```

The following statement sets an environment variable that holds options for a database server that starts with a cache size of 4 MB and loads the sample database.

```
SET envvar=-c 4096 "c:\mydatabase.db";
```

The following command starts the database server using an environment variable named `envvar`.

```
iqsrv16 @envvar
```

-ec iqsrv16 database server option

Uses transport-layer security or simple encryption to encrypt all command sequence communication protocol packets (such as DBLib and ODBC) transmitted to and from all clients. TDS packets aren't encrypted.

Syntax

```
iqsrv16 -ec encryption-options ...
```

```
encryption-options :
```

```
{ NONE |
  SIMPLE |
```

```
TLS ( [ FIPS={ Y | N }; ]  
IDENTITY=server-identity-filename;  
IDENTITY_PASSWORD=password ) }, ...
```

Allowed values

- **NONE** – accepts connections that aren't encrypted.
- **SIMPLE** – accepts connections that are encrypted with simple encryption. This type of encryption is supported on all platforms, and on previous versions of the database server and clients. Simple encryption doesn't provide server authentication, RSA encryption, or other features of transport-layer security.
- **TLS** – accepts connections that are encrypted with RSA encryption. The TLS parameter accepts the following arguments:
 - **FIPS** – For FIPS-certified RSA encryption, specify `FIPS=Y`. RSA FIPS-certified encryption uses a separate certified library, but is compatible with version 9.0.2 or later clients specifying RSA.

For a list of FIPS-certified components, see <http://www.sybase.com/detail?id=1061806>.

The algorithm must match the encryption used to create your certificates.

- ***server-identity-filename*** – is the path and file name of the server identity certificate. If you are using FIPS-certified RSA encryption, you must generate your certificates using the RSA algorithm.
- ***password*** – is the password for the server private key. You specify this password when you create the server certificate.

Applies to

NONE and SIMPLE apply to all servers and operating systems.

TLS applies to all servers and operating systems.

For information about supporting FIPS-certified encryption, see <http://www.sybase.com/detail?id=1061806>.

Remarks

You can use this option to secure communication packets between client applications and the database server using transport-layer security.

The `-ec` option instructs the database server to accept only connections that are encrypted using one of the specified types. You must specify at least one of the supported parameters in a comma-separated list. Connections over the TDS protocol, which include Java applications using jConnect, are always accepted and are never encrypted, regardless of the usage of the `-ec` option. Setting the TDS protocol option to NO disallows these unencrypted TDS connections.

By default, communication packets aren't encrypted, which poses a potential security risk. If you are concerned about the security of network packets, use the `-ec` option. Encryption affects performance only marginally.

If the database server accepts simple encryption, but does not accept unencrypted connections, then any non-TDS connection attempts using no encryption automatically use simple encryption.

Starting the database server with `-ec SIMPLE` tells the database server to only accept connections using simple encryption. TLS connections (RSA and RSA FIPS-certified encryption) fail, and connections requesting no encryption use simple encryption.

If you want the database server to accept encrypted connections over TCP/IP, but also want to be able to connect to the database from the local computer over shared memory, you can specify the `-es` option with the `-ec` option when starting the database server.

The `dbrsa16.dll` file contains the RSA code used for encryption and decryption. The file `dbfips16.dll` contains the code for the FIPS-certified RSA algorithm. When you connect to the database server, if the appropriate file cannot be found, or if an error occurs, a message appears in the database server messages window. The server doesn't start if the specified types of encryption cannot be initiated.

The client's and the server's encryption settings must match or the connection fails except in the following cases:

- If `-ec SIMPLE` is specified on the database server, but `-ec NONE` is not, then connections that do not request encryption can connect and automatically use simple encryption.
- If the database server specifies RSA and the client specifies FIPS-certified encryption, or vice versa, the connection succeeds. In these cases, the Encryption connection property returns the value specified by the database server.

Note: All strong encryption technologies are subject to export regulations.

Example

The following example specifies that connections with no encryption and simple encryption are allowed.

```
iqsrv16 -ec NONE,SIMPLE -x tcpip c:\myiqdemo.db
```

The following example starts a database server that uses the RSA server certificate `rsaserver.id`.

```
iqsrv16 -ec TLS (IDENTITY=rsaserver.id;IDENTITY_PASSWORD=test) -x tcpip c:\myiqdemo.db
```

The following example starts a database server that uses the FIPS-approved RSA server certificate `rsaserver.id`.

```
iqsrv16 -ec TLS (FIPS=Y;IDENTITY=rsaserver.id;IDENTITY_PASSWORD=test) -x tcpip c:\myiqdemo.db
```

-fips iqsrv16 database server option

Requires that only FIPS-certified algorithms can be used for strong database and communication encryption.

Syntax

```
iqsrv16 -fips ...
```

Applies to

Windows, Unix, and Linux.

Remarks

Specifying this option forces all database server encryption to use FIPS-certified algorithms. This option applies to strong database encryption, client/server transport-layer security, and web services transport-layer security. You can still use unencrypted connections and databases when the `-fips` option is specified, but you cannot use simple encryption.

Note: All strong encryption technologies are subject to export regulations.

For strong database encryption, the `-fips` option causes new databases to use the FIPS-certified equivalent of AES and AES256 if they are specified in the `ALGORITHM` clause of the `CREATE DATABASE` statement.

When the database server is started with `-fips`, you can run databases encrypted with AES, AES256, AES_FIPS, or AES256_FIPS encryption, but not databases encrypted with simple encryption. Unencrypted databases can also be started on the server when `-fips` is specified.

For transport-layer security, the `-fips` option causes the server to use the FIPS-certified RSA encryption algorithm, even if RSA is specified.

For transport-layer security for web services, the `-fips` option causes the server to use FIPS-certified HTTPS, even if HTTPS is specified.

When you specify `-fips`, the `ENCRYPT` and `HASH` functions use the FIPS-certified RSA encryption algorithm, and password hashing uses the SHA-256 FIPS algorithm rather than the SHA-256 algorithm.

-xs iqsrv16 database server option

Specifies server-side web services communications protocols.

Syntax

```
iqsrv16 -xs [,..] { protocol[,...] }
```

```
protocol : {  
NONE  
| HTTP [ ( option=value;... ) ]  
| HTTPS [ ( option=value;... ) ]
```

Allowed values

You can specify any of the following:

- **option** – A network protocol option
- **HTTP** – Listen for web requests by the client using the HTTP protocol. The default port on which to listen is 80.
- **HTTPS** – Listen for web requests by the client using the HTTPS protocol. The default port on which to listen is 443. You must specify the server's certificate and password to use HTTPS. The password must be an RSA certificate because HTTPS uses RSA encryption.

The HTTP server supports HTTPS connections using SSL version 3.0 and TLS versions 1.0 and 1.1.

You can specify `HTTPS`, or `HTTPS` with `FIPS=Y` for FIPS-certified RSA encryption. FIPS-certified HTTPS uses a separate certified library, but is compatible with HTTPS.

- **NONE** – Do not listen for web requests. This is the default.

Applies to

All operating systems and database servers.

Remarks

Use the `-xs` option to specify which web protocols you want to use to listen for requests.

If you do not specify the `-xs` option, the database server doesn't attempt to listen for web requests.

To specify multiple protocols, you can specify the `-xs` option for each protocol or you can specify multiple protocols with one `-xs` option. The server listens for web requests using all the specified protocols.

Note: To start multiple web servers at the same time, change the port for one of them since they both have the same default port.

You can use the HTTPS or FIPS-certified HTTPS protocols for transport-layer security.

On Unix, quotation marks are required if more than one parameter is supplied:

```
-xs "HTTP (OPTION1=value1; OPTION2=value2; ...)"
```

Note: All strong encryption technologies are subject to export regulations.

Example

Listen for HTTP web requests on port 80:

```
iqsrv16 web.db -xs HTTP (PORT=80)
```

Listen for web requests using HTTPS:

```
iqsrv16 web.db -xs
HTTPS (FIPS=N; PORT=82; IDENTITY=ecserver.id; IDENTITY_PASSWORD=test)
```

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Listen on ports 80 and 8080:

```
iqsrv16 -xs HTTP(port=80),HTTP(PORT=8080)
```

or

```
iqsrv16 -xs HTTP(port=80) -xs HTTP(PORT=8080)
```

Obtaining Help and Additional Information

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

- Product Documentation at <http://sybooks.sybase.com/> – online documentation that you can access using a standard Web browser. You can browse documents online, or download them as PDFs. The Web site also has links to other resources, such as white papers, community forums, and support content.
- Online help in the product, if available.

To read or print PDF documents, you need Adobe Acrobat Reader, which is available as a free download from the *Adobe* Web site.

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

Technical Support

Get support for Sybase products.

If your organization has purchased a support contract for this product, then one or more of your colleagues is designated as an authorized support contact. If you have any questions, or if you need assistance during the installation process, ask a designated person to contact Sybase Technical Support or the Sybase subsidiary in your area.

Information for Technical Support

Technical Support needs information about your environment to resolve your problem.

Before contacting Technical Support, run the **getiqinfo** script to automatically collect as much information as possible. You may also need to collect some information manually .

In this list, * indicates items collected by **getiqinfo**:

- SAP Sybase IQ version (for example, 16.0 GA or SP level)
- Type of hardware, amount of memory, number of CPUs*
- Operating system and version (for example, Microsoft Windows 2008 Service Pack 1)*
- Operating system patch level
- Front-end tool used (for example, Business Objects Crystal Reports)
- Connectivity protocol used (for example, ODBC, JDBC, Tabular Data Stream™ (TDS))
- Open Client version
- Configuration type (single user or multiuser)

Obtaining Help and Additional Information

- (Important) Message log file* – by default, named `dbname.iqmsg` and located in the directory where you started the database server
- Stack trace file for the date and time the problem occurred (if applicable), by default named `stktrc-YYYYMMDD-HHMMSS_#.iq` and located in the directory where you started the database server*
- Command or query that produced the error
- Query plan* (recorded in `.iqmsg` file)

The query plan is collected automatically by **getiqinfo**. If you manually collect information, enter commands like these, then re-run the command that produced the error.

For UNIX or Linux:

```
SET TEMPORARY OPTION Query_Plan = 'ON'  
SET TEMPORARY OPTION Query_Detail = 'ON'  
SET TEMPORARY OPTION Query_Plan_As_Html = 'ON'  
SET TEMPORARY OPTION Query_Plan_As_Html_Directory=  
'/mymachine1/user/myqueryplans'
```

For Windows:

```
SET TEMPORARY OPTION Query_Plan = 'ON'  
SET TEMPORARY OPTION Query_Detail = 'ON'  
SET TEMPORARY OPTION Query_Plan_As_Html = 'ON'  
SET TEMPORARY OPTION Query_Plan_As_Html_Directory=  
'C:\user1\myqueryplans'
```

The plan is in the message log file.

If you have performance problems, set this database option:

```
SET TEMPORARY OPTION Query_Plan_After_Run = 'ON'
```

This enables Technical Support to see which steps in the query processing used the time.

- Server logs
 - For UNIX and Linux: `IQ-16_0/logfiles/<servername>.nnnn.stderr` and `IQ-16_0/logfiles/<servername>.nnnn.srvlog*`
 - On Windows platforms: `%ALLUSERSPROFILE%\SybaseIQ\logfiles\<servername>.nnnn.srvlog*`
For example, on Windows 2003, the server log files are located in `C:\Documents and Settings\All Users\SybaseIQ\logfiles`. On Windows 2008, the server log files are located in `C:\ProgramData\SybaseIQ\logfiles`.
- Startup and connection option settings, from the configuration file (by default, `dbname.cfg`)*
- Database option settings and output from **sa_conn_properties*** (if the server is still running)
- Schema and indexes for the database
- Output from **sp_iqstatus** and **sp_iqcheckdb**
- On multiplex databases, execute **getiqinfo** on each node (coordinator and secondary nodes)

- Screen snapshot of the problem, if possible

A checklist for recording this information for Technical Support is provided in this release bulletin.

See *Collecting Diagnostic Information Using getiqinfo* in *Administration: Database*.

Checklist: Information for Technical Support

You can run the **getiqinfo** script to collect information.

Information Requested	Value
SAP Sybase IQ version (for example 16.0 GA or SP number)	
sp_iqlmconfig output	
Type of hardware	
Amount of memory	
Number of CPUs	
Operating system name and version (for example, Microsoft Windows 2008 Service Pack 1)	
Operating system patch level	
Front-end tool used (for example, Business Objects Crystal Reports)	
Connectivity protocol used (for example, ODBC, JDBC, TDS)	
Open Client version	
Configuration type (single node or multiplex)	
Message log file (dbname.iqmsg)	
Server log files (server.nnnn.srvlog and server.nnnn.stderr)	
Stack trace file (stktrc-YYYYMMDD-HHNNSS_#.iq)	
Command or query that produced the error	
Start up option settings	
Connect option settings	
Database option settings	
Schema and indexes for the database	
sp_iqstatus output	

Information Requested	Value
Query plan: set options (Query_Plan, Query_Detail, Query_Plan_After_Run, Query_Plan_As_Html, Query_Plan_As_Html_Directory, Query_Timing), re-run command or query	
Screen snapshot of the problem, if possible.	

Downloading Sybase EBFs and Maintenance Reports

Get EBFs and maintenance reports from the Sybase Web site or the SAP® Service Marketplace (SMP). The location you use depends on how you purchased the product.

- If you purchased the product directly from Sybase or from an authorized SAP Sybase IQ reseller:
 - a) Point your Web browser to *http://www.sybase.com/support*.
 - b) Select **Support > EBFs/Maintenance**.
 - c) If prompted, enter your MySybase user name and password.
 - d) (Optional) Select a filter, a time frame, or both, and click **Go**.
 - e) Select a product.

Padlock icons indicate that you do not have download authorization for certain EBF/Maintenance releases because you are not registered as an authorized support contact. If you have not registered, but have valid information provided by your Sybase representative or through your support contract, click **My Account** to add the “Technical Support Contact” role to your MySybase profile.
 - f) Click the **Info** icon to display the EBF/Maintenance report, or click the product description to download the software.
- If you ordered your Sybase product under an SAP contract:
 - a) Point your browser to *http://service.sap.com/swdc* and log in if prompted.
 - b) Select **Search for Software Downloads** and enter the name of your product. Click **Search**.

Sybase Product and Component Certifications

Certification reports verify Sybase product performance on a particular platform.

To find the latest information about certifications:

- For partner product certifications, go to *http://www.sybase.com/detail_list?id=9784*
- For platform certifications, go to *http://certification.sybase.com/ucr/search.do*

Creating a MySybase Profile

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

1. Go to <http://www.sybase.com/mysybase>.
2. Click **Register Now**.

SAP Sybase IQ Developer Center

The SAP Sybase IQ Developer Center provides a forum for users to exchange information about SAP Sybase IQ.

You can visit the SAP Sybase IQ Developer Center at <http://scn.sap.com/community/developer-center/analytic-server>.

Obtaining Help and Additional Information