



Release Bulletin

SAP Sybase IQ 16.0 SP2

Linux

DOCUMENT ID: DC10082-01-1602-01

LAST REVISED: November 2013

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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 |
|--|--|
| FP_NBIT_IQ15_COMPATIBILITY | <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> |
| CREATE_HG_WITH_EXACT_DISTINCTS | <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 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 sp_iqrebuildindex to convert non-tiered HG indexes to tiered HG and vice-versa.</p> |
| CREATE_HG_AND_FORCE_PHYSICAL_DELETE | <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> 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> |
| 615420 | <ul style="list-style-type: none"> Using Remote Server Classes for ASE – Component Integration Services (CIS) connectivity from SAP Sybase IQ to SAP Adaptive Server Enterprise (ASE) is available using server class <code>aseodbc</code>. The <code>aseodbc</code> server class uses the ASE ODBC driver. The ASE ODBC driver requires a separate installation of SDK 15.5 ESD #8 or higher which can be downloaded from the SAP Sybase EBF download site. |

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 |

| Vendor | Product | Platform Support | Virtualization Type |
|-----------|---|--|---------------------|
| | Solaris Containers/Zones with Solaris Resource Manager | | OS Partition |
| INTEL/AMD | VMWare ESX 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 |
| | VMWare ESX Server 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 ² , KVM, DomainU: Windows | Windows 2008 R2, Windows 7 | Virtual Machine |
| | Xen, KVM, DomainU: Linux | 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 Xen excludes 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"> <li data-bbox="454 482 1188 607">• 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. <li data-bbox="454 743 1188 802">• Workaround – Shut down all SAP Sybase applications, restart the SAP Sybase IQ server, and retry the upgrade. |
| 702052 | <ul style="list-style-type: none"> <li data-bbox="454 847 1188 1038">• 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. <li data-bbox="454 1062 1188 1183">• 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. |

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> |
| 688694 | <ul style="list-style-type: none"> • Error message for SySAM when you install SAP Sybase IQ 15.4 on Replication Agent™ 15.2 – Installing SAP Sybase IQ 15.4 after Replication Agent 15.2, creates errors in \$SYBASE/log/sy-sam_server.log and \$SYBASE/log/sy-sam_util.log. <p>These errors occur because the license files in the \$SYBASE/SYSAM-2_0/bin directory installed by Replication Agent do not have write permission.</p> <ul style="list-style-type: none"> • Workaround – Before you install SAP Sybase IQ, change the license file permissions in the \$SYBASE/SYSAM-2_0/bin directory. |

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"> • Advanced Security License Required for FIPS support – After a 30-day grace period, SAP Sybase IQ prompts new users for the Advanced Security license if they attempt to use FIPS encryption functionality. Install SAP Sybase IQ 16.0 SP3 to enable FIPS support and stop the license prompts. |
| 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 dbspace files on network drives or Network File System (NFS) file systems. To avoid conflicts, Sybase recommends that dbspace management be performed by a single database administrator on a single connection. |
| 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 |
|--------|--|
| 749703 | <ul style="list-style-type: none"> • Installer displays the available disk space as 'Error' – If the available disk space is greater than the installer can display, the pre-installation summary displays the available disk space as 'Error'. • Workaround – There is no workaround for this display issue, which does not affect installation. SAP Sybase is aware of the problem and will address the issue in a future release. |
| 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-redist-2005 on the installable image. 3. Do this: <ul style="list-style-type: none"> • On 32-bit machines, run <code>vcredist_x86.exe</code> • On 64-bit machines, run <code>vcredist_x86.exe</code> and <code>vcredist_x64.exe</code> <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> |

| CR# | Description |
|--------|--|
| 690606 | <ul style="list-style-type: none"> • RH 6.x default setting for max user processes may be too low for starting SAP Sybase IQ servers – Red Hat 6.x introduced a change that affects the number of threads that the SAP Sybase IQ engine can start. By default, Red Hat 5.x set the limit dynamically based on the machine configuration. (For example, an 8-core system would set the limit at 256693.) In Red Hat 6.x, this limit is hard-coded to 1024 regardless of system size. This change particularly affects systems with high CPU per core counts and systems where the same user account starts multiple IQ servers. • Workaround 1 – <ol style="list-style-type: none"> 1. Calculate the number of threads needed. For each server started by any single user, use the following formula to calculate the number of threads IQ allocates: <pre>numThreads = 60*4 + 50*(numCPUs - 4) + numConnections + 3</pre> <p>For an 8-core system with 100 users, the <i>numThreads</i> is 543 threads per server. For a 64-core system with 100 users, the <i>numThreads</i> is 3343 threads per server. The formula also works for systems with fewer CPUs, for example, on 2-core systems.</p> 2. To set hard and soft limits, add the following lines to <code>/etc/security/limits.conf</code>: <pre>sybase soft nproc 7712 -- The soft limit allows for 2 servers on the 64-core system plus 1024 default. sybase hard nproc 16384 -- Powers of 16 work well for kernel and engine settings. (1024 * 16) is rounded up for extra space.</pre> <p>You can increase the soft limit, but the hard limit is the threshold for the value unless raised by a privileged user limit. To set limits for all users instead of the sybase user, replace sybase with *, for example:</p> <pre>* soft nproc 7712 * hard nproc 16384</pre> 3. Set the process number limit in the shell script of the user who starts servers, for example: <p>For the tsh or C (csh) shell:</p> <pre>limit maxproc 7712</pre> |

| CR# | Description |
|--------|--|
| | <p>For the bash or Korn (ksh) shell:</p> <pre>ulimit -u 7712</pre> <ol style="list-style-type: none"> 4. Reboot your machine. <ul style="list-style-type: none"> • Workaround 2 – <ol style="list-style-type: none"> 1. Return to Red Hat 5.x behavior by commenting out the following line in the file <code>/etc/security/limits.d/90-nproc.conf</code>: <pre>#* soft nproc 1024</pre> 2. Reboot your machine. |
| 684311 | <ul style="list-style-type: none"> • Install on RH 6.0 fails with java stack trace – Red Hat Enterprise Linux 6 requires 32-bit compatibility libraries to support Java-based applications in SAP Sybase IQ, including the SAP Sybase IQ installer. • Workaround – These libraries are required to install SAP Sybase IQ on Red Hat Enterprise Linux 6: <ul style="list-style-type: none"> • <code>libXext-devel.i686</code> • <code>libXtst-devel.i686</code> <p>If you start the SAP Sybase IQ installer in GUI mode without installing these libraries, the installer generates an exception and fails.</p> |
| 665300 | <ul style="list-style-type: none"> • Installer stops responding on some UNIX-like platforms – On some UNIX-like operating systems, a network resource may cause the installer to stop responding and return the error "syntax error near unexpected token 'fi'." The <code>df</code> command also stops responding in this situation. • Workaround – <ol style="list-style-type: none"> 1. Identify the network file system (NFS) mounts that may have problems: <pre>strace -e statfs, statfs64 df</pre> 2. Use the <code>umount</code> command to unmount an identified NFS mount: <pre>umount -l <path></pre> 3. Repeat the above steps until there are no more NFS mounts that have stopped responding. <p>Note: The <code>umount</code> command requires root permission. If <code>umount</code> unmounts the NFS, you may have to restart your machine.</p> |

| CR# | Description |
|--|---|
| 664968, 669802 | <ul style="list-style-type: none"> • Installer returns "Permission denied" error on Red Hat – The installer may return this error on Red Hat, when the installation DVD has been automatically mounted: <pre data-bbox="516 326 1180 378">./setup.bin: /bin/sh: bad interpreter: Permission denied</pre> • Workaround – Remount the installation media and run the installation again: <ol style="list-style-type: none"> 1. Unmount the installation media. 2. Manually mount the DVD drive: Use one of the following commands to remount the drive: <ul style="list-style-type: none"> • <code>mount -t iso9660 /dev/hda /mnt/cdrom</code> • <code>mount -o exec /dev/cdrom /media</code> 3. Start the installation using the new mounted directory /mnt/cdrom. |
| 655963 | <ul style="list-style-type: none"> • Installer returns error "No filesystem could mount root" on Red Hat – The installer may return this error on Red Hat when installing on IBM P6 and P7 machines: <pre data-bbox="516 843 1180 895">rhel6 install error: No filesystem could mount root, tried: iso9660</pre> • Workaround – Follow the steps on http://www.ibm.com/developer-works/forums/thread.jspa?threadID=357314 and re-install. |
| 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. |

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 |
|--------|---|
| 662422 | <ul style="list-style-type: none"> <li data-bbox="475 453 1185 569">• 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. 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. This performance degradation may not occur, when the remote server is an ASE server. To prevent the return of BIGDATETIME values, apply this work-around. <li data-bbox="475 857 1185 944">• 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: [SAP Sybase IQ] CS_CAP_RESPONSE = CS_DATA_NOBIGDATETIME <p data-bbox="513 1038 1185 1116">See also <i>Open Server 15.0, Open Client 15.0, and SDK 15.0 > Open Client Client-Library/C Reference Manual > Client-Library Topics > Using the runtime configuration file.</i></p> |

Table 4. Server startup issues

| CR# | Description |
|--------|---|
| 750700 | <ul style="list-style-type: none"> • FIPS security requires new library linking – To use FIPS security with a SAP Sybase IQ 16.0 SP2 server, you must do the following before starting the server. • Workaround – <ol style="list-style-type: none"> 1. Change to the lib64 directory: <code>cd \$SYBASE/IQ-16_0/lib64</code> 2. Issue these commands: <code>ln -s libssl.so libssl.so.1.0.0</code> <code>ln -s libcrypto.so libcrypto.so.1.0.0</code> |
| 682890 | <ul style="list-style-type: none"> • Red Hat 6.0 limits number of threads/processes – Starting SAP Sybase IQ may return a Resource temporarily unavailable message if the user process spawns too many processes. • Workaround – <ol style="list-style-type: none"> 1. Change the login profile of the user starting SAP Sybase IQ. For example, in the bash shell, enter the following command in the .bashrc file: <code>ulimit -u 32000</code> 2. If the problem persists, try a stronger approach. As root, edit the file /etc/security/limits.conf and add this line: <code>sybase -</code> |
| 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 InvocationTargetException error unless you install the required 32-bit compatibility libraries: <ul style="list-style-type: none"> • libXext-devel.i686 • libXtst-devel.i686 |

| CR# | Description |
|--------|--|
| 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 sasql_stmt_bind_param for INT and BIGINT data types. <p>This example shows the values properly initialized before the call to sasql_stmt_bind_param:</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> |
| 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 sp_iqstatus returns an error similar to: <pre> 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"> Run these commands: <p>For Chinese locales:</p> <pre> % cd \$IQDIR16/res % rm dblgzh_iq11_eucgb.res % rm dblgzh_iq11_cp936.res </pre> <p>For Japanese locales:</p> <pre> % cd \$IQDIR16/res % rm dblgja_iq11_eucjis.res % rm dblgja_iq11_sjis.res </pre> Restart SAP Sybase IQ. <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 |
|--------|---|
| 571627 | <ul style="list-style-type: none"> SELinux Policy Requirement for SAP Sybase IQ 15.x on Linux PowerPC x64 – You must install selinux-policy-2.4.6-25.e15 or later to use the java -version command with SELinux enabled. If the policy version is incorrect, the system displays this message: <pre>Errorloading: /libjvm.so: cannot restore segment prot after reloc: Permission denied</pre> This is the preferred method to meet this policy requirement, but alternatively, you can disable SELinux. |

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 |
|--------|---|
| 668398 | <ul style="list-style-type: none"> XKEYSYMDB environment variable required for dsedit – Before using dsedit, you must set the environment variable XKEYSYMDB to <path to X11>/XKeysymDB. For example, for csch: <pre>setenv XKEYSYMDB /usr/share/X11/XKeysymDB</pre> |
| 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. |
| 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. Under “Results Processing” and “For statements that return multiple result sets,” select “Show all result sets.” |

| CR# | Description |
|-----|---|
| 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 SAP 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. |

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. |

| CR# | Description |
|--------|--|
| 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. In a terminal, shutdown SCC, enter: <code>scc.sh --stop</code> 2. To return a list of SCC ports, enter: <code>scc.sh --info ports</code> Any port in use when SCC is not running is likely to have a conflict. 3. In the <code>\$(SCC)/bin</code> directory, enter: <code>scc.sh --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. |
| 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. |

| CR# | Description |
|--------|---|
| 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. |
| 723112 | <ul style="list-style-type: none"> • Performing a task that includes database validation causes a server error – The process fails with the message: <pre>SCC Agent <host_name>:9999 does not know Sybase IQ version string. Something is wrong with the IQ Agent plug-in</pre> • Workaround – <ol style="list-style-type: none"> 1. Shut down Sybase Control Center. 2. Log on as root. 3. Execute: <code>ln -s /usr/bin/env /bin/env</code> 4. Restart Sybase Control Center. 5. Log on as the original user. 6. Retry task. |
| 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" style="background-color: #f0f0f0; padding: 5px;"> <set-property property="com.sybase.asa.data-base.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. |

| 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. |

Known Issues

| 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> |

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: Database Documentation Changes

Read about updates to Administration: Database.

These changes affect *Manage Data Storage*.

Table 8. Manage Data Storage

| Topic | Section | Correction |
|--------------------------|---------|--|
| Types of Dbspaces | Table | In the row for Other main dbspaces (also called user dbspaces) , the column Number of Dbspaces should read: One or more. You must be licensed for the IQ_VLDBMGMT option to create more than one user dspace. |
| Other User Main Dbspaces | n/a | The following was omitted: Note: You must be licensed for the IQ_VLDBMGMT option to create more than one user dspace. |

These changes affect *Appendix: SQL Statements and Options Reference*.

Table 9. SQL Statements

| Topic | Section | Correction |
|---------------------------|--------------------------------|--|
| ALTER TABLE Statement | Parameters: ALTER OWNER clause | The truncated final bullet should read: <ul style="list-style-type: none"> Enabled materialized views that depend on the original table exist. |
| CREATE DATABASE Statement | Syntax: ENCRYPTED clause | The ENCRYPTED clause incorrectly includes a reference to [TABLE]. The correct syntax for the clause is: <pre>... [ENCRYPTED {algorithm-key-spec OFF }]</pre> |

Administration: Spatial Data Documentation Changes

Read about updates to Administration: Spatial Data.

Table 10. Tutorial: Experimenting with the Spatial Features

| Topic | Section | Correction |
|---|--|---|
| Lesson 1: Install additional units of measure and spatial reference systems | 1. Using Interactive SQL, start and connect to the sample database (demo.db). The sample database is located in %IQDIR-SAMP16%. | 1. Using Interactive SQL, start and connect to the sample database (iqdemo.db). The sample database is located in "%ALLUSERPROFILE%\SybaseIQ\demo. |

These changes affect *Spatial data*.

Table 11. SAP Sybase IQ support for spatial data

| Topic | Section | Correction |
|---------------------------------|---|---|
| Creating a spatial column (SQL) | Prerequisites: You must be the owner of the table, or have ALTER privilege on the table, or have the ALTER ANY TABLE or ALTER ANY OBJECT system privilege. | Prerequisites: <ul style="list-style-type: none"> • You must be the owner of the table, or have ALTER privilege on the table, or have the ALTER ANY TABLE or ALTER ANY OBJECT system privilege. • Table must be in the catalog store table created with the "IN SYSTEM" clause. |

Migration

Read about updates to Migration (Linux and UNIX).

These changes affect *Upgrading to 16.0 SP2 and SCC 3.3*.

Table 12. Preparing to Install SAP Sybase IQ 16.0 SP2 with SAP Control Center

| Topic | Section | Correction |
|--|---|--|
| Preparing an SAP Control Center Server | 3. Make a copy of these repository files: <ul style="list-style-type: none"> • \$SYBASE/SCC-3_2/services/Repository/scc_repository.db • \$SYBASE/SCC-3_2/services/Repository/scc_repository.log | 3. Make a copy of these repository files: <ul style="list-style-type: none"> • \$SYBASE/SCC-3_2/services/Repository/scc_repository.db • \$SYBASE/SCC-3_2/services/Repository/scc_repository.log • \$SYBASE/SCC-3_2/services/Repository/service-config.xml 4. Make a copy of these files: <ul style="list-style-type: none"> • \$SYBASE/SCC-3_2/services/SccSADatasever/service-config.xml • \$SYBASE/SCC-3_2/services/EmbeddedWebContainer/service-config.xml <hr/> <p>Warning! You are copying multiple instances of the <code>service-config.xml</code> file that are stored in different locations. Though the file name is common, the content of each instance is unique. When making each copy, note its original location, as you will need this information to complete the migration process. Store each copy in a different location to avoid accidental overwrites.</p> |

| Topic | Section | Correction |
|---|-------------|---|
| Installing SAP Sybase IQ 16.0 SP2 on a Shared IQ and SCC Host | Missed step | <p>Perform these additional steps between steps 10 and 11:</p> <ul style="list-style-type: none"> • Copy the <code>service-config.xml</code> file saved from the original <code>SccSADatasever</code> location to the corresponding new <code>\$\$SYBASE/SCC-3_3/services/SccSADatasever/</code> location, overwriting the existing copy. • Copy the <code>service-config.xml</code> file saved from the original <code>EmbeddedWebContainer</code> location to the corresponding new <code>\$\$SYBASE/SCC-3_3/services/EmbeddedWebContainer/</code> location, overwriting the existing copy. |

| Topic | Section | Correction |
|--|-------------|---|
| Installing SAP Sybase IQ 16.0 SP2 on a Standalone SCC Server | Missed step | <p>Perform these additional steps between steps 4 and 5:</p> <ul style="list-style-type: none"> Copy the <code>service-config.xml</code> file saved from the original <code>SccSADataserver</code> location to the corresponding new <code>\$SYBASE/SCC-3_3/services/SccSADataserver/</code> location, overwriting the existing copy. Copy the <code>service-config.xml</code> file saved from the original <code>EmbeddedWebContainer</code> location to the corresponding new <code>\$SYBASE/SCC-3_3/services/EmbeddedWebContainer/</code> location, overwriting the existing copy. |

Programming Documentation Changes

Read about updates to Programming.

Using In-Database Analytics in Applications

| Topic | Section | Correction |
|--------------------|--|---|
| Hadoop Integration | <ul style="list-style-type: none"> Reading a File in a Hadoop Distributed File System as an In-Memory Table Starting an External Hadoop MapReduce Job and Using Results in a Query | <p>These subtopics should include this note:</p> <hr/> <p>Note: This sample code is primarily for illustration purposes and is not intended for production. Although effort was made to ensure reasonable error handling, the examples are not production-grade and will require additional safeguards and testing prior to using in production.</p> <hr/> |

.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 *Physical Limitations*.

Table 13. Physical Limitations

| Topic | Section | Correction |
|----------------------|-------------|--|
| Physical Limitations | Dbfile size | The topic incorrectly states that raw devices have a maximum size of 4 TB. There is no such limit for raw devices. The topic should read: File system device: Maximum size is 4 TB Operating system file: Maximum size supported by the operating system |

These changes affect *System Views*.

Table 14. SYSUSER system view

| Topic | Section | Correction |
|-----------------------------------|-------------|---|
| Alphabetical List of System Views | Column Name | lock_time is incorrectly listed as a column on the SYSUSER system view. |

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 these commands, then re-run the command that produced the error:

```
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 =  
'ON'
```

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 | |
| 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