

SQL Anywhere® Studio

Industry-leading data management and enterprise data synchronization solution for anytime, anywhere access to corporate information

SQL Anywhere Studio is a comprehensive package that provides data management and enterprise data synchronization to enable the rapid development and deployment of database-powered applications for mobile, embedded and small to medium sized business (SMB) environments. SQL Anywhere Studio extends the reach of corporate data, information and applications to anywhere business transactions occur.

“Always Available” Solutions Ensure Access to Enterprise Information

Regardless of connection or application type, SQL Anywhere Studio ensures always available access to data and corporate applications – empowering workers to be productive with the information they need, when they need it. Offline operation, the cornerstone of always available access, is enabled through data synchronization and fully transactional local data management. Workers can access information and perform transactions offline, reducing communications costs while increasing application performance and battery life. Data synchronization technologies enable the exchange of new information in a timely manner, and minimize the amount of data that needs to be sent over a wireless or dial-up connection.

The Power of the Enterprise in a Small Footprint DBMS

SQL Anywhere Studio features Adaptive Server® Anywhere, the industry-leading mobile and embedded database management system (DBMS). This powerful database server is optimized for use on SMB servers, laptops and handheld devices, and supports both single user and multi-user implementations. SQL Anywhere Studio also includes UltraLite™, a database designed to minimize memory and system requirements of data-driven application targeting small devices, such as handhelds.

Extending the Enterprise Anywhere with Advanced Synchronization

SQL Anywhere Studio includes a comprehensive set of technologies for scalable, bidirectional synchronization of corporate information between enterprise and remote systems. SQL Anywhere Studio's synchronization technologies are optimized for both occasionally connected and near real-time environments, including server-initiated synchronization to deliver timely alerts to remote devices. These technologies support the secure communication of information for remote and mobile users over a wide variety of synchronous, asynchronous, wireless, dial-up and Internet protocols.

iAnywhere
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Full Featured, Small Footprint, SQL Database

Adaptive Server® Anywhere provides unmatched reliability and power, with rich enterprise functionality including full transaction processing, referential integrity, SQL and Java stored procedures, triggers, row-level locking, automatic event scheduling and automatic recovery.

SQL Anywhere® Studio

“SQL Anywhere Studio integrates well with our existing systems. It's flexible, reliable, backward and forward compatible, and handles large numbers of data exchanges each day. Our field workers aren't aware that there is a database on their device. It lets them focus on their jobs rather than having to worry about the technology.”

Greg Begg
AMR Program Manager
Sargent Electric

“Shelflink recently used the .NET data provider for SQL Anywhere Studio when developing a mobile sales force effectiveness solution for The Pepsi Bottling Group. Now that this technology is integrated into the latest version of SQL Anywhere Studio, it's even easier to develop flexible mobile applications using the .NET Compact Framework that can access corporate data from a variety of back-end systems.”

Nate Quigley
President
Shelflink

“VCI selected SQL Anywhere Studio to power our sales, traffic and billing solution for television broadcasters because it is both powerful and flexible enough to meet the needs of our varied client base, from a handful of simultaneous users to many hundreds. The enhancements in version 9 raise the performance bar even higher, making SQL Anywhere Studio the ideal solution for our customers who require enterprise caliber performance in an easy to use database server.”

W. Lowell Putnam
President and CEO
Video Communications, Inc. (VCI)

Easy to Use, Easy to Administer

Adaptive Server Anywhere is self-administering and self-tuning, requiring minimal DBA involvement. SQL Anywhere Studio also includes enhanced graphical development tools — including a query editor, integrated stored procedure debugger, profiler, and synchronization monitoring tool — to provide developers with faster, easier access to information. In addition, sophisticated event handling and scheduling capabilities enable DBAs to set up an Adaptive Server Anywhere server to execute a set of actions at predefined times or when certain events occur, such as the disk reaching 90% capacity.

Performance and Scalability

Adaptive Server Anywhere is designed to offer strong out-of-the-box performance. A high performance, self-tuning query optimizer determines the most effective way to access information, improving performance and eliminating the need for expert tuning. Symmetric multiprocessor (SMP) support and innovative new query processing algorithms speed performance for larger, complex queries and greater numbers of connected users, further optimizing SQL Anywhere Studio for use in enterprise environments. The Index Consultant provides administrators and developers with an easy-to-use way of optimizing performance by guiding them through the selection of appropriate indexes.

True End-to-End Security

SQL Anywhere Studio includes 128-bit strong encryption options, resulting in true end-to-end security that meets the needs of customers in privacy-conscious industries such as healthcare and financial services. Communications encryption protects the confidentiality and integrity of packets as they pass between the client device and the server, or data synchronization communication between the remote device and enterprise system. Strong local data encryption and user authentication requirements protect information even if the device is lost.

Multi-Platform Support

SQL Anywhere Studio supports a wide range of operating systems, including Windows (32 or 64 bit), Mac OS X, Netware, a range of UNIX variants and Linux (32 or 64 bit) and popular handheld platforms such as Microsoft Windows CE and the

Palm Computing Platform to provide the highest flexibility in deployment. Adaptive Server Anywhere database files are binary compatible, enabling developers to simply copy the database to multiple operating systems.

Open API and Tools Support

Adaptive Server Anywhere supports many standards for easy, high-performance data access including ADO.NET, SOAP, XML, OLE DB, ODBC, JDBC™, Sybase OpenClient™ and Embedded SQL for high-performance data access. Using the UltraLite™ technology, developers can use Visual Basic, Java, .NET languages or JScript for data access on handheld devices and intelligent appliances. With support for all leading development tools and environments, including Java, Sybase PowerBuilder®, Microsoft Visual Basic, Visual C++ and Visual Studio .NET, AppForge MobileVB, Symantec Visual Cafe, Borland Delphi and Metrowerks CodeWarrior, SQL Anywhere Studio lets you leverage your existing investments in development skills and tools.

Comprehensive Support for Web Services

SQL Anywhere Studio simplifies and speeds the development of database-powered Web services applications. XML import and export capabilities, SQLX functionality including XML-based queries, an HTTP server and SOAP support provide developers with the functionality they need to create Web services applications while leveraging their existing application development tool expertise. By exposing enterprise data as Web services, SQL Anywhere Studio simplifies integration with existing systems and deployment of applications across diverse IT environments.

Optimized for Handheld Devices and Intelligent Appliances

SQL Anywhere Studio's UltraLite database provides an ideal solution for memory-constrained environments such as handheld devices. UltraLite provides enterprise power with referential integrity and transaction processing. It also provides integration with popular development tools such as Microsoft Visual Basic, Visual Studio .NET and Borland JBuilder. UltraLite Dynamic SQL eases development for SQL programmers looking to create dynamic data-driven applications. Plus, UltraLite allows deployment of Java applications on any platform that supports Java JDK 1.1.8 and later or a JEODE Personal Java 1.2 compatible VM on Windows CE.

Extend Your Enterprise with Information Anywhere

iAnywhere Solutions empowers businesses with always available access to enterprise information. More than ten thousand customers worldwide, including 78 of the Fortune 100, rely on iAnywhere Solutions industry leading database for mobile, embedded and small to medium sized business environments as well as the company's mobile middleware and m-Business solutions. Our comprehensive technology offerings provide a one-stop source for enterprise solutions, eliminating the need for customers to integrate offerings from a variety of vendors, maximizing efficiency, minimizing frustration and ultimately accelerating time to market.

Enterprise Data Synchronization

SQL Anywhere Studio includes advanced technologies for the scalable, bidirectional synchronization of information between enterprise and remote systems. SQL Anywhere Studio offers synchronization, optimized for both occasionally connected and near real-time environments.

Heterogeneous Synchronization

SQL Anywhere Studio's MobiLink synchronization technology provides for the secure, bidirectional exchange of information between remote Adaptive Server Anywhere or UltraLite databases and a variety of enterprise data sources including Adaptive Server Anywhere, Sybase Adaptive Server Enterprise, Oracle, Microsoft SQL Server and IBM DB2. Remote systems connect via standard Internet protocols to the MobiLink synchronization server, which communicates to the backend database. Optional strong 128-bit encryption technology can be used to ensure data is fully protected during transmission.

File-Based Exchange, Including Email

SQL Anywhere Studio's SQL Remote™ technology is based on a store and forward architecture that allows occasionally connected users to synchronize data using a file or message transfer mechanism such as FTP or email. Only data changes are sent, minimizing communication costs. SQL Remote preserves transactional integrity, making it ideal for many business applications. Further, this powerful method minimizes performance impact on the server.

Specialized Protocols, Including Wireless

SQL Anywhere Studio's synchronization technology supports wireless synchronization over both LAN and public domain networks for timely access to enterprise information. For handhelds, MobiLink synchronization supports specialized protocols, including Palm Computing HotSync and Microsoft ActiveSync. MobiLink also offers the ability to push important data to a remote device through SMS or UDP messaging.

Key Features

Reliable and Easy to Use

SQL Anywhere Studio's synchronization is designed to be easy to use for both database administrators and end users, enabling easy deployment and management of a large number of users. Administration duties are significantly simplified with all administration functions being carried out at the consolidated database. Reliability is ensured through guaranteed message delivery. In the event that a network connection is lost or a message becomes corrupted during transmission, the data is transactionally intact, and synchronization will pick up where it left off when reinitiated.

iAnywhere Solutions Developer Community

www.iAnywhere.com/developer

Join fellow developers at the iAnywhere Solutions Developer Community Web site, your one-stop source for technical information to assist in the development and deployment of solutions for mobile, wireless, embedded and small to medium sized business environments.

The community Web site provides a central point of access for technical resources, including maintenance releases, engineering bug fixes (EBFs), betas, evals, code samples and more. In addition, it provides a forum in which thousands of industry experts worldwide interact and share ideas through newsgroups, Webcasts and events.

Support for Subsetting of Data

SQL Anywhere Studio's synchronization includes the ability to create complex rules to subset data, partitioning both horizontally and vertically, to ensure that remote systems are only getting the customized data relevant to their job function. This allows companies to put data where it is most needed, while not overloading a remote user's database with rarely used information. This also reduces the communication time, thus decreasing communication costs.

Priority Synchronization

MobiLink's priority synchronization enables independent control over the synchronization of different data subsets. This also enables developers to maximize available communications bandwidth, which is particularly important for wireless or low bandwidth environments.

Server-initiated Synchronization and File-based Downloads

The addition of server-initiated synchronization and file-based downloads provides administrators with enhanced central control over the synchronization process. Server-initiated synchronization can be used to deliver important alerts and information to a single remote user or large group. File-based downloads enable the creation of a file of database changes, which can be transferred to remote Adaptive Server Anywhere databases, simplifying the broadcast of database changes to large groups of users.

Advanced Conflict Detection and Resolution

If the same data set is updated at more than one site, a conflict can arise. SQL Anywhere Studio includes proven, easy to set up conflict detection and programmable resolution to ensure that data is kept consistent throughout the company. Because the master copy of data is stored in the consolidated database, all conflict resolution is carried out at the consolidated site, thus ensuring consistent enforcement of business rules for all updates.

Adaptive Server Anywhere

System Requirements and Supported Platforms

- Windows 95/98/Me, NT, 2000, XP, 2003*
- Mac OS X*
- 64-bit Itanium platforms (Windows Server 2003, Linux)*
- Windows CE (Pocket PC/Handheld PC)
- Novell NetWare
- Solaris/SPARC
- Linux
- Deployment options for HP-UX, IBM AIX, Compaq Tru-64
- Requires a minimum of 8 MB RAM and 4 KB per client connection (8 KB for UNIX)

Client/Server Communications Protocols

- TCP/IP
- Novell NetWare SPX
- Shared memory
- Named Pipes

SQL Compliance

- Entry-level ANSI SQL 92 + extensions
- With minor exceptions is compliant with SQL-99 core specifications
- Transact-SQL® (TSQL)
- FIPS 127-2 conformance

Database Features

- Full transaction processing
- SQL and Java triggers and stored procedures
- External stored procedures (callable external DLLs)
- Built-in referential and entity integrity, including cascading updates and deletes
- Dynamic, multiple database support
- Row-level locking
- XML import and export and SQLX functionality*
- Integrated HTTP server*
- Strong encryption for database files and network communications
- Event scheduling and handling
- High-performance, self-tuning, cost-based query optimizer
- Advanced query execution algorithms
- Dynamic cache sizing
- Binary Large Object (BLOB) support
- Windows Performance Monitor integration
- Online table and index defragmentation
- Online backup
- Advanced cache management system*

Development Features

- Graphical schema design and reverse-engineering tools
- Graphical database management and browsing tools
- Graphical query plan viewer, query editor, integrated stored procedure debugger, profiler, and synchronization monitoring tool*
- Native data access through ADO.NET*, HTTP*, SOAP*, XML*, PHP, DBPerl, OLE DB, ODBC 3.5/level 2, JDBC, Embedded SQL and Sybase OpenClient
- Broad programming tool support including Sybase PowerBuilder, Microsoft Visual C++, Microsoft Visual Basic, Microsoft Visual Studio .NET, Borland Delphi, and many more
- Accessibility support for people with disabilities in conformance with the US Federal Government Rehabilitation Act Section 508
- Index Consultant*
- Advanced OLAP functionality including rollup and recursive union*

Database Statistics

- Databases per server: 255
- Database size: limited only by memory, disk space and platform restrictions
- Characters per database object name: 128

Table Statistics

- Indexes per table: up to 2048
- Table size: limited only by file size
- Tables per database: up to 4 billion
- Columns per table: 999
- Field size: 2 GB
- Rows per table: limited only by file size
- Row size: limited by file size

Stored Procedure and Trigger Statistics

- Max length of stored procedure: 2 GB
- Stored procedures per database: up to 4 billion
- Triggers per database: up to 4 billion
- Nesting: limited only by disk space

UltraLite

Supported Platforms for Deployment

- Windows CE (Pocket PC/Handheld PC)
- Palm Computing Platform
- Java

Database Features

- Customized ultra-small database with fingerprint as small as 150K
- Runs on handheld devices and smart phones
- Strong database encryption
- Memory expansion cards on Palm OS Version 4 devices
- SQL functionality including transaction processing, referential integrity, multi-table joins
- High-performance updates and retrievals through use of indexes
- Binary Large Object (BLOB) Support
- Broad programming tools support including AppForge MobileVB, Metrowerks CodeWarrior, Microsoft Visual C++, and Visual Studio .NET*, Borland JBuilder
- Dynamic SQL*

Database Statistics

- Database size: limited by available storage (max 2 GB)
- Row size: 4K, with additional space for BLOB data
- Rows per table: limited by database size
- Table size: limited by database size
- Tables per database: 1000
- Rows per table: 65534
- Columns per table: 65535
- Indexes per table: 65535
- Tables referenced per transaction: no limit

Synchronization

MobiLink Features

- Reliable, bidirectional synchronization between remote and enterprise systems including Adaptive Server Anywhere, Sybase Adaptive Server Enterprise, Oracle, Microsoft SQL Server, IBM DB2
- Remote support for both Adaptive Server Anywhere and UltraLite databases
- Multiple synchronization and network server-based protocols including TCP/IP, HTTP, Palm HotSync, Microsoft ActiveSync
- Optional strong 128-bit encryption for synchronization communication, including SSL/TLS using RSA encryption compatible with HTTP server
- Advanced conflict detection and programmable resolution
- Support for wireless synchronization
- Scalable to support thousands of remote databases
- Support for horizontal and vertical subsetting of data
- Priority-based synchronization of multiple subsets of data
- Server-initiated synchronization*
- Download changes as a broadcast file for bandwidth efficiency*
- Develop synchronization logic using SQL, Java or Microsoft Visual Studio .NET*
- Flexible user authentication logic
- Automatic generation of synchronization scripts

SQL Remote Features

- Reliable, bidirectional message-based synchronization
- Multiple synchronization and network protocols including FTP, file-based, email (VIM, MAPI, SMTP)
- Advanced conflict detection and programmable resolution
- Support for wireless synchronization
- Scalable to support thousands of remote databases
- Support for horizontal and vertical subsetting of data
- Support for Adaptive Server Anywhere or Adaptive Server Enterprise databases

* Denotes new feature or significant enhancement with version 9.

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