ICONICS – Choosing the Correct Edition of MS SQL Server

APPLICATIONS NOTE

April 2010

Description: This application note aims to assist you in choosing the right edition of Microsoft SQL server for your ICONICS applications.
OS Requirement: XP Win 2000, XP Pro, Server 2003, Vista, Server 2008, Windows 7
General Requirement: Understanding of ICONICS applications in general and SQL server terminology.

Choosing the Correct SQL Server 2000 Edition

Choosing the correct Microsoft SQL Server edition can be a challenge simply because of the variety of choices available.

The table below (from the Microsoft web site) can help you pick the correct size/edition of SQL Server 2000 from Microsoft.

Table 1 - Versions of SQL 2000 Compared

	SQL 2000 Enterprise 64-bit Edition	SQL 2000 Enterprise Edition	SQL 2000 Standard Edition
Overview	Enterprise Edition (64-bit) provides the most scalable data platform to take advantage of the class of Intel Itanium-based servers. Addressing more memory than any other edition of SQL Server, it scales to the performance levels required to support the largest Data warehousing and analysis applications, ecommerce websites and Enterprise business systems. Supporting up to 8 nodes in failover clustering, SQL Server 2000 (64-bit) provides a high level of reliability and availability for your mission-critical applications.	Enterprise Edition includes the complete set of SQL Server data management and analysis features and is uniquely characterized by several features that make it the most scalable and available edition of SQL Server 2000. It scales to the performance levels required to support the largest Web sites, Enterprise Online Transaction Processing (OLTP) systems and Data Warehousing systems. Its support for failover clustering also makes it ideal for any mission critical line-of-business application. Additionally, this edition includes several advanced analysis features that are not included in SQL Server 2000 Standard Edition. There are four main areas in which the additional features of SQL Server 2000 Enterprise Edition are most evident: Scalability Availability/uptime Performance Advanced analysis	Standard edition is an affordable option for small and medium-sized organizations. It includes the core functionality needed for non-mission-critical e-commerce, data warehousing, and line-of-business solutions. For instance, all of the XML features present in Enterprise Edition are also included in Standard Edition. And while a handful of advanced OLAP features are reserved for Enterprise Edition, all data mining features and the core OLAP functionality are included in SQL Server 2000 Analysis Services in Standard Edition. Similarly, components that other database vendors charge for as separate add-on products for their highest-end editions are included in Standard Edition: Data Transformation Services (DTS) Replication (snapshot, transactional, and merge) Full-Text Search English Query Stored procedure development and debugging tools SQL Profiling and performance analysis tools
Operating Systems	Windows Server 2003 Enterprise & Datacenter Editions*	Windows Server™ 2003, Standard, Enterprise & Datacenter Editions* Windows® 2000 Advanced Server Windows® 2000 Datacenter Server	Windows Server™ 2003, Standard, Enterprise & Datacenter Editions* Windows 2000 Server Windows 2000 Advanced Server Windows 2000 Datacenter Server
Scalability	Up to **64 Processors** Up to **512 GB of Memory** Maximum Database Size **1,048,516 terabytes**	Up to **32 Processors** Up to **64 GB of Memory** Maximum Database Size **1,048,516 terabytes**	Up to **4 Processors** Up to **2 GB of Memory** Maximum Database Size **1,048,516 terabytes**

	SQL 2000 Developer Edition	SQL 2000 Personal Edition	SQL 2000 Desktop Engine (MSDE)
Overview	Developer edition is designed to allow developers to build any type of application on top of SQL Server. It includes all the functionality of Enterprise Edition but with a special development and test end-user license agreement (EULA) that prohibits production deployment. It is the ideal choice for Independent Software Vendors (ISVs), consultants, system integrators, solution providers, and corporate developers developing and testing applications because it is cost effective, runs on a variety of platforms, and can be upgraded for production use to SQL Server 2000 Enterprise Edition. It is the only edition of SQL Server 2000 that gives the licensee the right to download and install SQL Server 2000 Windows CE Edition (SQL Server CE). The Developer Edition licensee also has the right to redistribute SQL Server CE-based applications to an unlimited number of devices at no additional cost beyond the purchase price of SQL Server 2000 Developer Edition.	Personal Edition is ideal for mobile users who spend some of their time disconnected from the network but run applications that require SQL Server data storage, and for stand-alone applications that require local SQL Server data storage on a client computer. This edition is functionally equivalent to Standard Edition, with the following exceptions: It includes a concurrent workload governor that limits its scalability; performance degrades when more than five Transact-SQL batches are executed concurrently. It cannot act as a transactional replication publisher (subscriber only).	SQL Server 2000 Desktop Engine (MSDE 2000) is a free, redistributable version of SQL Server. Third-party software developers can include it in applications they build that use SQL Server to store data. MSDE is an ideal solution for: Client applications that require an embedded database. Basic websites that serve up to 25 concurrent users. New developers who are learning how to build data-driven applications. This edition is functionally equivalent to Standard Edition with the following exceptions: Does not include graphical management tools (Enterprise Manager). Has a workload governor that limits the number of concurrent transactions. Does not include any analysis capabilities (such as OLAP, DTS, data mining, and data warehousing features). Has different scalability limits.
Operating Systems	Windows Server™ 2003, Standard, Enterprise & Datacenter Editions* Windows® XP Professional Windows® 2000 Professional Windows 2000 Server Windows 2000 Advanced Server Windows 2000 Datacenter Server	Windows Server™ 2003, Standard, Enterprise & Datacenter Editions* Windows XP Professional Windows 2000 Professional Windows 2000 Server Windows 2000 Advanced Server Windows 2000 Datacenter Server	Windows Server™ 2003, Standard, Enterprise & Datacenter Editions* Windows XP Professional Windows XP Home Windows 2000 Professional Windows 2000 Server Windows 2000 Advanced Server Windows 2000 Datacenter Server
Scalability	Up to **32 Processors** Up to **64 GB of Memory** Maximum Database Size **1,048,516 terabytes**	Up to **2 Processors** Up to **2 GB of Memory** Maximum Database Size **1,048,516 terabytes**	Up to **2 Processors** Up to **2 GB of Memory** Maximum Database Size **2 GB**

* Requires SQL Server 2000 Service Pack 3 or later to be applied.

Reasons for Upgrading to Microsoft SQL Server 2005

The following information about upgrading to MS SQL Server is available at:
http://www.microsoft.com/downloads/details.aspx?FamilyID=3d5e96d9-0074-46c4-bd4f-c3eb2abf4b66&DisplayLang=en
Also, refer to the same document for help and instructions on how to upgrade.

SQL Server 2005 contains improvements and additional features in every area of the product. Often one or a few of these features taken alone can make compelling reasons for upgrading, depending on the needs of current systems for high availability, performance, and added functionality.

Among the principal reasons for upgrading to SQL Server 2005 are:

- Significantly lowering IT costs through increased scalability
- Delivering high availability options including faster failover with database mirroring
- Reducing data management complexity and manageability
- Maintaining stronger, more flexible security
- Greater manageability for larger databases
- Accelerating the development and deployment of line-of-business applications
- Delivering advanced business intelligence solutions that result in a faster return on investment

For more information about the business case for upgrading to SQL Server 2005, see the document "Why Upgrade to SQL Server 2005" on the Microsoft Web site at http://www.microsoft.com/sql/techinfo/whitepapers/why-upgrade.mspx.

Choosing the Correct SQL Server 2005 Edition

SQL Server 2005 provides a variety of solutions for organizations of all sizes from the hobbyist to Fortune 500 companies. SQL Server will deliver a solution for all levels of experience and requirements. To address this broad spectrum of needs SQL Server is available in the following four editions.

Table 2 - Versions of SQL 2005 Compared

Enterprise	Standard	Workgroup	Express
Fully integrated data management and analysis platform for business critical enterprise applications **Advanced database mirroring, complete online and parallel operations, and database snapshot** Advanced analysis tools including full OLAP and data mining **Advanced reporting with customized, high scale, and ad-hoc reporting** Advanced ETL with complex data routing and transformation capabilities Available in native 32- and 64-bit editions*	Complete data management and analysis platform for medium businesses and larger departments **Database mirroring** Basic ETL Standard OLAP server with Analysis Services Standard reporting with Reporting Services Data mining Full replication and SSB publishing Available in native 32- and 64-bit editions*	Most affordable and easiest to use database solution for smaller departments and growing businesses Management Studio Import/Export Limited replication publishing Clustering **Back-up log shipping** **Basic reporting**	Fastest way to learn, build, and deploy simple data-driven applications **Simple Management Tool** **Simple Reporting** Replication and SSB Client

Enterprise	Standard	Workgroup	Express
Unlimited Scale and **Partitioning**	1-4 CPUs Unlimited RAM	1-2 CPUs 3 gigabytes (GB) RAM	1 CPU 1 GB RAM 4 GP database size

NOTE: Bold indicates new for Microsoft SQL Server 2005. Each higher edition includes the same functionality as the edition below it.
*Supports Itanium 2 and x64

Choosing the Correct SQL Server 2005 License

The following information about MS SQL Server licensing is available at:
http://www.microsoft.com/sql/howtobuy/default.asp
Also, refer the same link for pricing information.

SQL Server installations that are part of your day-to-day operations require production licenses. SQL Server is available under three licensing options:

Processor Licensing Model. Under this model, a license is required for each physical or virtual processor accessed by an operating system environment running SQL Server. This license does not require any device or user client access licenses (CALs).
Server plus Device CALs. Under this model, a server license is required for each operating system environment running an instance of SQL Server, as well as a CAL for each client device that accesses a system running SQL Server.
Server plus User CALs. Under this model, a server license is required for each operating system environment running an instance of SQL Server, as well as a CAL for each user that accesses a system running SQL Server.

NOTE: In SQL Server 2005, CALs are offered in two types:
SQL CAL. Any SQL CAL (32 bit, 64 bit, and IA64) can be used with any licensed server running SQL Server regardless of the platform (32 bit, 64 bit, and IA64),
WorkgroupCAL. Workgroup CAL can be used only with a licensed SQL Server Workgroup Edition server.

In SQL Server 2005, Server licenses are offered per platform (32 bit, 64 bit, and IA64).

While customers should choose the appropriate platform that matches their current hardware (in order to obtain the appropriate media), SQL Server licenses are not platform specific. In other words, if a customer currently has a 32 bit Server, and plans to upgrade the hardware to 64 bit in the future, the customer can purchase a 32 bit SKU today, and later switch to 64 bit without the purchase of an additional license.

For more information about pricing and licensing options:
Read the SQL Server 2005 Licensing white paper.
Review the SQL Server 2005 Licensing FAQ.
Review the Understanding Database Pricing white paper.

ICONICS – Choosing the Correct Edition of MS SQL Server

APPLICATIONS NOTE

April 2010

Choosing the Correct SQL Server 2008 Edition

The following information about MS SQL Server licensing is available at http://www.microsoft.com/sqlserver/2008/en/us/editions.aspx SQL Server 2008 is available in many editions to help meet the needs of your organization.

Table 3 - Versions of SQL 2008 Compared

	Core Editions		Specialized Editions			Free Editions	
	Enterprise	***Standard***	***Workgroup***	***Web***	***Developer***	***Express***	***Compact 3.5***
Target Scenarios	Enterprise workloads that need redundancy and built-in Business Intelligence	Shared data scenarios in departments and small to large businesses	Remote offices that need local instances of company data	For web application hosting	Full featured edition for development and testing only	Entry level database, ideal for learning and ISV redistribution	Embedded database for developing desktop and mobile applications
CPU	OS Maximum	4 CPU	2 CPU	4 CPU	OS Maximum	1 CPU	OS Maximum
Memory	OS Maximum	OS Maximum	4 GB	OS Maximum	OS Maximum	1 GB	OS Maximum
DB Size	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	4 GB	4 GB
Licensing	Server/CAL Per Proc	Server/CAL Per Proc	Server/CAL Per Proc	Per Proc	Developer Tools	Free Editions	

Core Editions

SQL Server 2008 Enterprise: SQL Server 2008 Enterprise is a comprehensive data platform that meets the high demands of enterprise online transaction processing and data warehousing applications.

SQL Server 2008 Standard: SQL Server 2008 Standard is a data management and business intelligence platform that provides best-in-class ease of use and manageability for running departmental applications.

Specialized Editions

SQL Server 2008 Workgroup: Run branch locations on this reliable data management and reporting platform that provides secure remote synchronization and management capabilities.

SQL Server 2008 Web: Offer low-cost, large scale highly available web applications or data hosting solutions with a highly available Internet facing web serving environments.

SQL Server 2008 Developer: A low cost edition of SQL Server 2008 Enterprise licensed per developer for development, testing, and demonstration purposes only. Not for production use.

Free Editions

SQL Server 2008 Express: Available as a free download, SQL Server 2008 Express is ideal for learning and building desktop and small server applications and for re-distribution by ISVs

SQL Server Compact 3.5: Available as a free download, SQL Server Compact enables developers to embed SQL Server directly into their applications, enabling occasionally connected and stand-alone applications for mobile devices, desktops, and Web clients across all Microsoft Windows platforms.