



CompleteSchool Requirements (SIS Configuration)

When there is only one user, CompleteSchool can run entirely on a single computer running Microsoft Windows. However, as the number of users increases, the number and complexity of configuration choices increases. For our purposes here, we will assume that there are many users.

CompleteSchool can be decomposed into five main parts:

1. The SQL Server. This is the database server where most data manipulations take place, and most business rules are enforced. There is normally only one of these.
2. The Client Workstations (web-based or not). Client workstations provide the Graphic User Interface to CompleteSchool. This is what people using CompleteSchool see. There are normally many of these.
3. The Application Server (or Reports Server). The Application Server generates reports and performs other resource intensive tasks. There is normally one of these, but large School Districts may desire more than one.
4. The Web Server. The Web server gives access to the user interface of CompleteSchool by providing software (e.g. data entry screens) and documents (e.g. reports). There is normally at least one of these.
5. The TCP/IP Network connecting these parts.

SQL Server Requirements

The SQL Server is a computer running Microsoft SQL Server 2005 under the Microsoft Windows 2003/2000/XP operating system.

Minimum Suggested SQL Server Hardware:

3GHz for every 100 concurrent users (based on current Intel Xeon processors). If you have more than 150 concurrent users you will probably need a system with multiple processor cores.
8GB ECC memory for every 10,000 active (currently enrolled) students. Slightly more memory will be needed if the District has a higher percentage of High Schools, but slightly less memory will be needed as the number of students increases because of shared data between schools.

400GB RAID-5 disk storage for every 10,000 active (currently enrolled) students. Slightly more storage will be needed if the District has a higher percentage of High Schools.

SQL Server Software:

Microsoft Windows and Microsoft SQL Server 2005 are needed. Each of these has different versions that support different numbers of processors and memory capacities. Make sure to purchase the versions that support your hardware requirements.

For the operating system, we recommend Microsoft Windows Server 2003. Districts with more than 20,000 students will normally want Microsoft Windows Server 2003 Enterprise Edition.

SQL Server 2005 can be licensed on a per processor, per user, or per connection basis. We normally recommend the per processor licensing because it's easiest to manage, there are no surprises, and it's normally the most cost effective.

Client Workstation Requirements for Administration and Clerical Access

The client for student administration and clerical access requires a workstation that supports an Adobe Acrobat (PDF) file reader and Sun JAVA. The client software can be accessed using a web browser on Windows and MacOS X, or as standalone software on Windows.

Minimum Suggested Windows/MacOS Client Hardware/Software
1GHz Processor 256MB Memory 200MB Free Disk Space Ethernet Windows 2000/XP/2003/Vista, MacOS 10.5

Client Workstation Requirements for Teacher, Student, and Parent Access

Teacher, Parent, and Student access is only available using a web browser with no plug-ins. Both Windows and MacOS are supported.

Minimum Suggested Windows/MacOS Client Hardware/Software
1GHz 256MB Memory 20MB Free Disk Space Ethernet Windows 98/2000/XP/2003/Vista, MacOS 9/X

Application Server Requirements

Application Servers are used to control caching, run reports, and perform other tasks that may be inefficient to run on the SQL Server or Clients.

Suggested Application Server (up to 100 users)
Dual Intel 3.0GHz Xeon Processors 2GB ECC memory 80GB 10K rpm disk storage Gigabit Ethernet Microsoft Server 2003 Standard Edition

Web Server Requirements

The Web Server is a computer running the Microsoft Windows Server 2003 operating system.

Minimum Suggested Web Server Hardware:

3GHz for every 300 concurrent users (based on current Intel Xeon processors).

3.5GB ECC memory for every 30,000 active (currently enrolled) students. Slightly more memory will be needed if the District has a higher percentage of High Schools, but slightly less memory will be needed as the number of students increases because of shared data between schools.

75GB RAID disk storage.

TCP/IP Network Requirements

It's important to have a TCP/IP network that can properly support all of the applications demanded of it. For servers, It's easiest to connect all CompleteSchool servers with Gigabit Ethernet in the same room. Client workstations should be connected to the servers by a T1 line (1.56Mbps) or better.

A T1 line is normally insufficient for secondary schools because of high volumes of internet traffic as well as higher volumes of CompleteSchool data traffic. A 24Mbps (or faster) line may be needed. If a fast data line is impractical, we suggest using a hardware bandwidth management device (like Packeteer) when sharing a connection with heavy internet web traffic.

Backup Device Requirements

A reliable backup mechanism is needed. For example, Digital Linear Tape (DLT) and USB backup disks are both reliable forms of backup. Disk-to-disk backup with periodic tape backup is a good combination for automating backups.

Microsoft Academic Software Pricing for January 2008:

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Microsoft Windows Server 2003:

Windows Server 2003 requires a server license and Client Access Licenses (CALs) for Users or Devices connecting to the server.

Product	Price
0 CAL Windows 2003 R2 Standard Edition	\$135
Windows Server 2003 CAL	\$9
Windows Server 2003 Terminal Server CAL (User or Device)	\$38

Microsoft SQL Server 2005:

SQL Server 2005 requires either a per processor license, or a server license with Client Access Licenses for all of the Users of the server. We suggest per processor licenses in almost all cases.

Product	Price
SQL Server 2005 Workgroup 1 Processor (for Districts with less than 5000 students)	\$2000
SQL Server 2005 Standard 1 Processor (for Districts with up to 50,000 students)	\$3000
SQL Server 2005 Enterprise 1 Processor (for Districts with more than 20,000 students)	\$13,000
SQL Server 2005 Developer Edition (for a test server)	\$57