

## System Requirements

**Note:** Disk compression must not be used.

**Note:** Additional requirements for the optional Video Management and Video Storage Management software are given in the *Digital Video Design Guide*. Even if the system is not currently used for digital video, it may be advisable to adopt the higher specifications to allow for easy upgrading to a digital video system in the future.

### Professional Edition Server or Standalone Machine

The maximum number of clients is 9 (including Web clients). The maximum number of readers is 512.

Item	Requirement
Operating System	Windows XP Professional (with Service Pack 2), Windows Server 2003 Standard Edition (with Service Pack 1) or Windows Server 2003 R2 Standard Edition.
Processor	Pentium <sup>®</sup> 4 with Hyper-Threading, 2GHz minimum. <b>Note:</b> Please refer to the <i>Digital Video Design Guide</i> if the PC is to display live or recorded video using the Video Management software.
RAM	512MB minimum. Increase to 1GB if the number of card readers exceeds 256. <b>Note:</b> Please refer to the <i>Digital Video Design Guide</i> if the PC is to display live or recorded video using the Video Management software.
Disk Capacity	80GB minimum. Additional network storage is required if the optional "Video Storage Management Module" is used to store video recordings from ENVS or IP cameras (see the <i>Digital Video Design Guide</i> ).
USB Ports	2 or more for SMS sentinels.
Monitor	1024 x 768 or larger.
Graphics Card	Please refer to the <i>Digital Video Design Guide</i> if the PC is to display live or recorded video using the Video Management software.
Peripherals	See page 1-13.
Backup Tape Drive	SCSI DAT (required if backup/archive to a SCSI tape device is used). The tape capacity must be sufficient for the size of hard disk. Use an Adaptec 2940 Bus Mastering PCI SCSI card.
Backup Software	NovaBACKUP v7.2 Professional Edition.
Database	Microsoft SQL Server 2000 Desktop Edition (MSDE), with Service Pack 4. MSDE and the Service Pack are installed automatically by the SMS installation wizard. SQL Server 2005 Express Edition is <b>not</b> supported.
Browser	Internet Explorer 6 or 7.
DirectX	DirectX9 if Video Capturing (see Appendix C) is used.
Email System	If the MAPI Email Alarms feature is used, Microsoft Outlook 2000 or 2003 (with SP1) is required on the SMS server and on the client where email alarms are to be configured.
File System	NTFS
Drives	CDROM
Network Speed	100/1000Mbps/s

## About MSDE Performance

SQL Server 2000 Desktop Edition (MSDE) does not limit the number of connections made to it. Instead, it applies a "workload governor", which limits performance of the database engine. If enhanced performance is required, you must use SMS Enterprise Edition software, which uses SQL Server 2000/2005 Standard Edition, and is supported on Windows Server 2003 and Windows Server 2003 R2 operating systems. Currently, the SMS Professional Edition system does not support use of any editions of the SQL Server 2005 database engine.

The database engine included in MSDE (and SQL Server 2000 Personal Edition) is tuned to support the workloads typical of a single user or a small workgroup. Although MSDE limits performance, it does not affect the range of features available from the SMS software.

The workload governor reduces performance whenever MSDE processes more than five concurrent "Transact SQL batches" (background SQL tasks). The amount each batch is slowed down depends on how many batches over the five-batch limit are executing concurrently, and the amount of data retrieved by the individual batches. As more batches are executed concurrently, and as more data is retrieved by each batch, the more the governor slows down the individual batches.

To report how often the workload governor is activated since MSDE was started, enter in a **Command Prompt** window (**Start, Programs, Accessories**):

```
osql -E -Q "dbcc concurrencyviolation"
```

The "-E" and "-Q" switches are case sensitive.

## Automatic Updates

Please be aware that in general, automatic updates to the operating system or other software result in no loss in performance or operation of the SMS software. However, to ensure complete compatibility, please ensure that only those versions of the software documented in this chapter are used.

**Client Machine (Professional, Enterprise or Global)**

Item	Requirement
Operating System	Windows XP Professional (with Service Pack 2), Windows Server 2003 Standard Edition (with Service Pack 1) or Windows Server 2003 R2 Standard Edition.
Processor	Pentium <sup>®</sup> 4 with Hyper-Threading, 2GHz minimum. <b>Note:</b> Please refer to the <i>Digital Video Design Guide</i> if the PC is to display live or recorded video using the Video Management software.
RAM	512MB minimum. <b>Note:</b> Please refer to the <i>Digital Video Design Guide</i> if the PC is to display live or recorded video using the Video Management software.
Disk Capacity	20GB minimum.
Monitor	1024 x 768 or larger.
Graphics Card	Please refer to the <i>Digital Video Design Guide</i> if the PC is to display live or recorded video using the Video Management software.
Peripherals	See page 1-13.
Browser	Internet Explorer 6 or 7.
DirectX	DirectX9 if Video Capturing (see Appendix C) is used.
Email System	If the MAPI Email Alarms feature is used, Microsoft Outlook 2000 or 2003 (with SP1) is required on the SMS server and on the client where email alarms are to be configured.
File System	NTFS
USB Ports	One USB port is required for a sentinel (Enterprise and Global systems only).
Drives	CDROM

**Enterprise or Global Edition Server Scheme 1 - Up to 512 readers and 32 clients**

The server must be a dedicated machine for running the SMS database. The SMS client software must not be installed on the same machine.

<b>Item</b>	<b>Requirement</b>
Operating System	Windows Server 2003 Standard Edition (with Service Pack 1) or Windows Server 2003 R2 Standard Edition.
Processor	Pentium® 4 with Hyper-Threading, 2.8GHz minimum.
RAM	1GB minimum.
Disk Capacity	80GB minimum. Additional network storage is required if the optional "Video Storage Management Module" is used to store video recordings from ENVIS or IP cameras (see the <i>Digital Video Design Guide</i> ).
USB Ports	2 or more for SMS sentinels.
Backup Tape Drive	SCSI DAT (required if backup/archive to a SCSI tape device is used). The tape capacity must be sufficient for the size of hard disk. Use an Adaptec 2940 Bus Mastering PCI SCSI card.
Backup Software	NovaBACKUP v7.2 Server Edition.
Database	SQL Server 2000 Standard Edition (with Service Pack 4), or SQL Server 2005 Standard Edition (with Service Pack 1).
Browser	Internet Explorer 6 or 7.
Email System	If the MAPI Email Alarms feature is used, Microsoft Outlook 2000 or 2003 (with SP1) is required on the SMS server and on the client where email alarms are to be configured.
File System	NTFS
Drives	DVD ROM
Network Speed	100/1000Mbps/s.

**Enterprise or Global Edition Server Scheme 2 - Up to 1048 readers and 64 clients**

The server must be a dedicated machine for running the SMS database. The SMS client software must not be installed on the same machine.

<b>Item</b>	<b>Requirement</b>
Operating System	Windows Server 2003 Standard Edition (with Service Pack 1) or Windows Server 2003 R2 Standard Edition.
Processor	Pentium <sup>®</sup> 4 with Hyper-Threading, 3.2GHz minimum.
RAM	2GB minimum.
Disk Capacity	120GB minimum. Additional network storage is required if the optional "Video Storage Management Module" is used to store video recordings from ENVS or IP cameras (see the <i>Digital Video Design Guide</i> ).
USB Ports	2 or more for SMS sentinels.
Backup Tape Drive	SCSI DAT (required if backup/archive to a SCSI tape device is used). The tape capacity must be sufficient for the size of hard disk. Use an Adaptec 2940 Bus Mastering PCI SCSI card.
Backup Software	NovaBACKUP v7.2 Server Edition.
Database	SQL Server 2000 Standard Edition (with Service Pack 4), or SQL Server 2005 Standard Edition (with Service Pack 1).
Browser	Internet Explorer 6 or 7.
Email System	If the MAPI Email Alarms feature is used, Microsoft Outlook 2000 or 2003 (with SP1) is required on the SMS server and on the client where email alarms are to be configured.
File System	NTFS
Drives	DVD ROM
Network Speed	100/1000Mbps/s.

**Enterprise or Global Edition Server Scheme 3 - Unrestricted readers and clients**

The server must be a dedicated machine for running the SMS database. The SMS client software must not be installed on the same machine.

<b>Item</b>	<b>Requirement</b>
Operating System	Windows Server 2003 Standard Edition (with Service Pack 1) or Windows Server 2003 R2 Standard Edition.
Processor	Dual XEON <sup>®</sup> processors, 3.0GHz minimum.
RAM	2GB minimum.
Disk Capacity	160GB minimum. Additional network storage is required if the optional "Video Storage Management Module" is used to store video recordings from ENVS or IP cameras (see the <i>Digital Video Design Guide</i> ).
USB Ports	2 or more for SMS sentinels.
Backup Tape Drive	SCSI DAT (required if backup/archive to a SCSI tape device is used). The tape capacity must be sufficient for the size of hard disk. Use an Adaptec 2940 Bus Mastering PCI SCSI card.
Backup Software	NovaBACKUP v7.2 Server Edition.
Database	SQL Server 2000 Standard Edition (with Service Pack 4), or SQL Server 2005 Standard Edition (with Service Pack 1).
Browser	Internet Explorer 6 or 7.
Email System	If the MAPI Email Alarms feature is used, Microsoft Outlook 2000 or 2003 (with SP1) is required on the SMS server and on the client where email alarms are to be configured.
File System	NTFS
Drives	DVD ROM
Network Speed	100/1000Mbps/s.

## Requirements for Peripherals and Other Equipment

### COM Ports

A card providing two additional ports (COM3 and COM4) may be required, depending on the number and type of chains and other peripherals connected to the client. If such a card is used, COM3 and COM4 must use unique interrupts and must be high-speed asynchronous ports that use the 16550AN UART. Alternatively, an Equinox board can be used, as described below.

### COM Port Expander

Equinox 8-port or 16-port SuperSerial Multiport boards may be used:

- 8-port: SST-8P PCI card, with FO8-DB cable.
- 16-port: SST-16P PCI card and DB-25 connector.

### Printer

Any Windows-compatible printer can be used, although a laser printer is recommended. Access over network is allowable.

### Badge Printer

For single-sided badge printing and encoding, use a Magicard Tango, Datacard Select Class, Fargo C15 or Fargo 4250. For double-sided badge printing and encoding, use a Fargo Pro. A Fargo HDP600 allows double-sided badge printing and magstripe or MIFARE encoding.

Refer to Appendix C for details of badge printer setup.

### Magstripe Encoder Unit

Required only if encoding magstripe cards. Use a Model 712E HC encoder.

### Signature Pad

Transaction Team 1500. Use only for RS-232 connection.  
Mobinetix PenWare1500. Use only for RS-232 connection.

### Card Scanner

Scanshell 800 scanner, from Card Scanning Solutions  
idScan software.

### Video Capture

A video capture card is required if card holder pictures and signatures are to be captured for printing on a badge. It is recommended that you choose a card-compatible with DirectX 9, and with a minimum of 32MB of memory. Refer to Appendix D for details of card installation.

A compatible Web camera may be used. It is not possible to use ENVS, IP or DVR cameras installed for the Video Management software to capture card holder pictures and signatures.