



## System Requirements for ViewPoint 5.5

	Client or Standalone Workstation <sup>1)</sup>		Client with Video Sequences, DICOM Multi Frame, 4D View or LOGIQworks FX Plug In <sup>1)</sup>		ViewPoint Server <sup>1) 11) 17)</sup>	
	Minimum	Recommended	Recording	Viewing	Minimum	Recommended <sup>5)</sup>
<b>Operating System</b>	Windows 2000 SP 4 <sup>13, 15)</sup>	Windows XP Professional SP 2 <sup>14)</sup> Windows XP Tablet PC Edition <sup>15)</sup>	Windows 2000 SP4 <sup>13)</sup> or Windows XP Professional SP 2 <sup>14)</sup> (DirectX Version 8.1 or higher)		Windows 2000 SP4 Server/Workstation <sup>13)</sup>	Windows 2003 SP2
<b>CPU</b>	1 GHz	2.4 GHz	2.4 GHz <sup>5)</sup>	1.5 GHz <sup>5)</sup>	1 GHz	1.5 GHz (dual CPU)
<b>RAM</b>	256 MByte	512 MByte	512 MByte (1 GByte for 4D View or LOGIQworks FX)		512 MByte	1 GByte
<b>Graphics Adapter</b>	1024x768, 24 or 32Bit color	Graphics adapter with full support for DirectX 8.1 or higher, 1280x1024, 24 or 32Bit color, DVI interface recommended			1024x768, 24 or 32Bit color	
<b>Available Disk Space</b>	10 GByte <sup>12)</sup>	40 GByte <sup>12)</sup>	40 GByte <sup>12)</sup>		10 GByte (plus space for image data) <sup>12)</sup>	
<b>Miscellaneous</b>	CD/DVD drive, keyboard, mouse <sup>16)</sup>					
<b>Network Interface</b>	100 MBit/s (TCP/IP is mandatory even for single workstations) <sup>7, 9)</sup>				100 MBit/s (TCP/IP) <sup>8)</sup>	1 GBit/s (TCP/IP) <sup>8)</sup>
<b>Serial Interface <sup>10)</sup></b>	Necessary for a foot switch and/or measurement data transfer (USB ports can be converted to serial ports)					
<b>Video Capture <sup>10)</sup></b>	Analog video capture requires one full length, Bus Master PCI slot					
<b>Scanner <sup>10)</sup></b>	Supported models: HP 7400C, HP 7450C and Epson 1640SU, 3170, 3200					
<b>Monitor</b>	17" CRT Monitor, 15" LCD display <sup>2)</sup>	Wide Screen LCD display with 19" or more <sup>2)</sup>			15" LCD display or 17" CRT monitor	
<b>Printer</b>	Laser or Inkjet printer <sup>3)</sup>					
<b>Remote Access</b>	Both stand-alone systems and ViewPoint servers should have remote access for maintenance <sup>4)</sup>					
<b>Backup</b>	Standalone systems require a backup solution like a tape drive (in networks, data is only stored on the server)				Regular backups to tape or a suitable alternative	

### Notes:

- Any computing equipment supplied by the customer has to be configured with current drivers prior to installing ViewPoint software.
  - Some LCD (TFT) displays are unable to display grayscale properly. Some also have a poor response time, which can reduce the quality of video playback. Check specifications carefully before purchasing.
  - A printer with at least two paper trays is required when using pre-printed letterhead.
  - ViewPoint includes Remote Access software (Insite2). It requires, that the ViewPoint server or standalone system is connected to the Internet. However, all server IP Ports of the system can (and should) be blocked by a Firewall.
  - The 4D View Plug-In requires an Intel CPU of type Pentium III or higher. The LOGIQworks FX Plug-In requires a Pentium IV CPU or higher.
  - If a Cloverleaf Communication Server is required, the following configuration is mandatory:
    - The "recommended" server configuration
    - Windows 2003 SP1 (English only) *NOT* configured as Domain controller
    - Remote access (see note 5 for details)
    - If more than 10 clients or Ultrasound scanners are connected to the ViewPoint server, the Cloverleaf Communication Server must be installed on a dedicated system.
  - TCP/IP name resolution must work for all computers and from all computers of the ViewPoint network. (Use the command ping <computer name> to test this).
  - Servers must have a fixed IP address. It is not possible to use DHCP for servers.
  - Clients or satellite servers can also be connected via a slower line:
    - The connection must be reliable. Internet connections via VPN are often not very stable and therefore not adequate.
    - The minimum bandwidth for the ViewPoint application is 1.5 MBit / second (bi-directional).
    - The average ping response time (latency) should not exceed 80ms.
  - Not applicable for all configurations. Please review, which modules were ordered, or consult with a ViewPoint engineer to determine if these requirements need to be met.
  - Recommended server configuration:
    - System partition should be on mirrored drives.
    - Data partitions should be on a RAID 5 system
    - Separate partition (drive letter) for STS with a size of about 20 GByte.
    - Separate partition for the LTS with the rest capacity of the RAID 5 system
    - Uninterruptible power supply (UPS)
    - Rack mounted
  - Storage space should be large enough to accommodate a minimum of three years of data (applies to stand-alone systems and servers only):
    - Without image capture: about 2 GB

With image capture depends on usage.  
1 GByte can store for example:

    - 5,000 images (JPEG compressed)
    - 1 hour analog video sequences
    - 5 minutes DICOM multi frame sequences (JPEG compressed)
    - 40 Voluson or LOGIQ 7/9 4D data sets

Example: Ten images are taken on average per examination, there are 10 examinations per station each day, and there are 10 stations on the network: 10x10x10x5=5000 images stored per week (assuming a 5 day work week). This equates to roughly 50 GB yearly, or 150 GB in three years.  
All data need to be backed up on an external storage media on a regular basis.
  - ViewPoint 5.5 is the last version, which support Windows 2000.
  - ViewPoint does not support Windows XP Home.
  - ViewPoint clients can also be installed on Windows 2003 Terminal Server and accessed via Terminal Server Clients. We recommend, that the Terminal Server is a dedicated system. It should meet the requirements as specified under 'Recommended' server configuration. Please add for every terminal client:
    - 100 MByte additional RAM memory
    - 200 MHz of CPU speed (you might need multiple CPUs to get the desired performance)

The following limitations apply for Terminal Server Clients:

    - ViewPoint does not support Terminal Servers with Load Balancing
    - No 4D-View or LOGIQworks FX Plug-In
    - Limited playback of image sequences (slow)
    - All sessions on a Terminal Server use the same ViewPoint configuration
  - The LOGIQworks FX Plug-In requires MSXML version 4.0 and Microsoft Internet Explorer Version 6.0.
  - The ViewPoint server can be installed on a virtual system based on VMWare Server.
- It is the customer's responsibility to protect all ViewPoint stations and the ViewPoint server against malicious software. We recommend the usage of Anti Virus Software and a firewall. In order to ensure continued immunity against malicious software, these components and the Windows Operating System need to be updated on a regular bases.**
- If you have any questions, please contact the ViewPoint Service.**
- All hardware used for the ViewPoint system must comply with your local regulatory.**