

**Topic**

This technical note describes the system requirements for the Imaging Computing Server (ICS) nodes.

**Discussion**

This is our recommended specification at the time of writing (April 2010). We consider this configuration to offer the best value for money in terms of performance. We assume the machines will be dedicated to use for the ICS and not shared by any other application. This specification is biased towards processor speed as required by the ICS, not redundancy for data security or storage capacity. A node is defined as one instance of the ICS node service (typically a single computer), a node may therefore have multiple processors.

<i>Processor</i>	2 (two) x Quad-Core Intel Xeon E5420 2.5GHz (e.g. Dell PowerEdge 1950 III)
<i>Operating System</i>	Windows XP Professional x64 Edition Windows 7 Professional x64 Edition
<i>RAM</i>	8 GB
<i>Hard disk</i>	80 GB SATA drive
<i>Network</i>	Gigabit switched

**Processor**

Processor speed is the most important feature of the ICS nodes.

**Operating System**

The ability to address more than 3 GB memory is a major advantage to the ICS which is why Windows XP Professional x64 Edition or Windows 7 Professional x64 Edition is recommended.

In order to make best use of the additional address space available with a 64-bit operating system it is recommended that page file size be set to 20GB. There must be sufficient hard disk space free to permit this.

It is not necessary to purchase the server version of Windows.

Virtualization of the installation of the operating system is not recommended. Virtualization is not suitable for performance critical applications such as the ICS. Additionally the multi-processor support in some virtual environments has been shown to be unstable.

## **RAM**

The amount of RAM per core will affect the speed at which processes run and the size of blocks that data sets are broken down into. 1 GB RAM per core is suggested but you may further optimize the system by purchasing additional RAM.

## **Hard disk**

Not critical for ICS performance since this is not a solution for storage or data backup. A standard single drive will be sufficient.

## **Network**

The ICS nodes and clients must be connected via a switched gigabit Ethernet (1000baseT) or similar high-performance network for the best performance.

A lower performance network will slow transmission between clients and nodes, and data transfer may then become the rate-limiting step.

It is essential that client machines (those that are to run Volocity) are equipped with a gigabit Ethernet card to take advantage of the gigabit network.

The ICS services must be able to communicate through any firewall installed on the system. An exception to Windows Firewall will automatically be created for the ICS services. If a different firewall is in use it will be necessary to permit the ICS services to communicate through that firewall.

## **System Requirements for Clients**

Client machines will run Volocity and may also participate in processing therefore they should meet the specifications detailed in Technical Note 263: System Requirements for Volocity Product Range.

The clients must be running Volocity 5.2 or higher. It may be necessary for clients to be running the latest version of Volocity in order to take advantage of each new release of the ICS.

## **Virus Protection**

Real-time anti-virus scanning on client and node computers will severely impair performance. Real-time scanning must be disabled for Volocity and ICS applications.