

SigmaNEST Requirements

This document describes a configuration that SigmaTEK considers to be reasonable for an independent system, for a work station attached to a server and for a server.

SigmaTEK makes no warranties regarding the suitability of the systems described in this document to a particular site's requirements. Each site must assess their own individual needs and make their own decisions. Some sites may have greater mass storage requirements; others may prefer larger video screen sizes. The system configurations described here describe typical, recommended systems for new purchases that may be expected to be suitable for a few years. Many older and less capable systems, may also prove to be satisfactory now, but may need earlier replacement.

Independent System

The following configuration is considered reasonable for a single user installation or for several networked workstations that are not attached to a server:

CPU type	Intel Core range with 2 or more cores AMD Athlon X2 or Phenom range
Memory (RAM)	4 GB
Hard disk capacity	250 GB
Hard disk type	2 or more SATA drives configured as Raid 0 or Raid 5 (min. 3 drives) – 7,200 RPM or greater
DVD reader or writer	
Optical mouse, trackball, etc.	
Screen resolution	1024 x 768 (absolute minimum to display all dialogs)
Video	Dedicated graphics card with at least 128 MB video RAM and good OpenGL support
Operating system	64-bit Windows Vista Business, Corporate or Ultimate edition 64-bit Windows 7 Professional or higher
Network	100 Mb/s network card access to other machines and shared Internet connection

Work Station System

The following configuration is considered reasonable for a work station that is attached to a server where the server houses the SigmaNEST database and configuration information:

CPU type	Intel Core range with 2 or more cores AMD Athlon X2 or Phenom range
Memory (RAM)	2 GB
Hard disk capacity	80 GB
Hard disk type	SATA – 7,200 RPM or greater
DVD reader or writer	
Optical mouse, trackball, etc.	
Screen resolution	1024 x 768 (absolute minimum to display all dialogs)
Video	Dedicated graphics card with at least 128 MB video RAM and good OpenGL support
Operating system	Windows Vista Business, Corporate or Ultimate edition Windows 7 Professional or higher
Network card	100 Mb/s for access to server and shared Internet connection

Server System

The following configuration is considered reasonable for a server to house the SigmaNEST database and configuration information while serving about 5 to 10 attached SigmaNEST work stations plus light additional loads, such as file sharing, print serving and backup functions.

CPU type	1 or 2 Intel Xeon 5000 series with 2 or more cores or 1 AMD Opteron 1000 series or 2 AMD Opteron 2000 series
Memory (RAM)	4 GB
Hard disk size	500 GB
Hard disk type	3 or more SATA drives configured as Raid 5 – 7,200 RPM or greater
DVD reader or writer	
Operating system	64-bit Windows 2003 Server standard edition or higher 64-bit Windows 2008 Server standard edition or higher
File system	NTFS
Network card	1 GB/s with access to a shared Internet connection

Note: If an existing Microsoft SQL Server database server is used for the SigmaNEST database, it must be SQL Server 2005 or later.

Laptops

SigmaNEST runs fine on a laptop. All our sales staff use them to demonstrate SigmaNEST, but a typical, low-end laptop is not suitable for production for the following reasons:

- The screen size is small. Generally a 19" (48 cm) or larger screen is recommended for comfortable long-term work.
- Most low to mid-range laptops are shipped with 5,400 RPM disk drives that slow the whole system significantly.
- Most laptops do not permit multiple drives and Raid controllers and disk size is sometimes constrained. Multiple drives and Raid are not required, but can significantly increase the performance and availability of the data.
- Most low to mid-range laptops do not have dedicated graphics cards. The integrated graphics controller might advertise prodigious amounts of RAM, but that is not dedicated video RAM, it is "stolen" from the system RAM. OpenGL support may also be an issue with an integrated controller.
- Laptops have to support two conflicting goals: getting work done and preserving battery life. Work requires power, so extending battery life involves slowing the work. CPU's in laptops rarely run at full speed and are often slowed dramatically in the interest of longer battery life.

All these issues can be overcome with enough money, careful selection, configuration and an external monitor, but it is important to realize that a typical, off-the-shelf laptop from a local retailer, may not be sufficient.