



Technology Guidelines

Notebook Computers

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PURPOSE

The following establishes general guidelines and a minimum set of expectations to follow when purchasing new notebook personal computers.

SCOPE

This guideline covers the hardware components, base operating software, warranty, support, and service requirements for 3 levels of notebook computer configurations.

APPLICABILITY

This guideline is applicable to notebook computers only and does not cover desktops or other systems required for support services or applications requiring unique or special configurations.

GUIDELINE

The guidelines outlined in this document define hardware specifications for procuring notebook computers for faculty, students and staff. These guidelines can and should be applied to all units/offices in order to provide a standard platform across the college. It is recommended these configurations be used to govern the purchase of all notebook computers.

The guidelines allow colleges to migrate to systems that are current-technology and that can also assist in reducing support costs associated with warranty and deployment. They adopt versions of chipsets and processors that will serve to maximize anticipated hardware life cycles.

Colleges should always follow this document, where possible, when making new notebook purchases since all VCCS system wide notebook product and application

decisions will be based solely upon the specifications included in these guidelines. All exceptions should be clearly documented and submitted when requesting purchasing approval.

Netbooks do not replace laptop computers for regular use. They do not automatically come with air cards for Internet connectivity and do not offer the capabilities of a laptop. They are intended for occasional use when traveling. There are no minimum standards at this time.

Thin Clients may function as replacements for more traditional computers in certain situations. There are a variety of possible architectures and manufacturers. However, thin clients should provide the user with the same minimum standards and functionality as the more traditional notebook computers that they are replacing.

MICROSOFT WINDOWS - CONFIGURATION CATEGORIES			
User Profile	MOBILE WORKER	DAY EXTENDER (MAINSTREAM)	DAY EXTENDER (POWER)
Processor	Core i5 520M	Core i5 520M	Core i7 620M
Memory	2-3 GB DDR3	3-4 GB DDR3	**4 GB DDR3
Chipset	Intel QM57	Intel QM57	Intel QM57
Hard Drive	120GB;	160GB;	250GB;
Optical Drive	DVD-RW	DVD-RW	DVD-RW
Graphics	Integrated Intel HD Graphics	Integrated Intel HD Graphics	Discrete
Display Size	14.1-inch wide	14.1-inch wide	15.6-inch wide
Resolution	WXGA	WXGA+	WSXGA+
External Monitor	No	Optional	Yes
USB Ports	At least 2	At least 3	At least 4
NIC	Integrated 10/100/1000	Integrated 10/100/1000	Integrated 10/100/1000
Modem	Optional Integrated 56 Kbps	Optional Integrated 56 Kbps	Optional Integrated 56 Kbps
Wireless	802.11n	802.11n	802.11n
Extra Battery	No	Optional	Optional
Weight	3.5 to 5.75 pounds	3.5 to 5.75 pounds	5.5 to 6.5 pounds
*Warranty	*Three years	*Three years	*Three years

APPLE MAC - CONFIGURATION CATEGORIES

User Profile	MOBILE WORKER/DAY EXTENDER (MAINSTREAM)	DAY EXTENDER (POWER)
Processor	Core 2 Duo	Quad Core
Memory	2-4 GB	4-8 GB
Hard Drive	320GB;	500GB;
Optical Drive	DVD-RW	DVD-RW
Graphics	Intel HD Graphics 3000	Intel HD Graphics 3000
Display Size	13 or 15-inch wide	17-inch wide
External Monitor	No	Yes
USB Ports	At least 2	At least 3
NIC	Integrated 10/100/1000	Integrated 10/100/1000
Modem	Optional Integrated 56 Kbps	Optional Integrated 56 Kbps
Wireless	802.11n	802.11n
Extra Battery	No	Optional
*Warranty	*Three years	*Three years

*Warranty – colleges may consider purchasing additional coverage such as Accidental Damage Protection for Microsoft Windows based systems and Apple Care Protection for Mac based systems.

**Memory – colleges installing more than 4GB of memory for power users should consider a 64-bit system.

Mobile Worker – notebook computer is not the primary system of use.

Day Extender (Mainstream) – notebook computer is the primary system of use needed to power basic applications.

Day Extender (Power) – notebook computer is the primary system of use needed to power graphic design applications i.e. AutoCAD.

**Discrete – colleges should consider 512MB or 1GB graphics card. This is memory dedicated to the graphics card.

PROCESSOR NUMBER FEATURE TABLE							
PROCESSOR NAME	CACHE	CLOCK SPEED	CORE	CHIPSET	VIRTUALIZATION	EXECUTE DISABLE BIT	ENHANCED INTEL SPEEDSTEP™
Intel Core i5 520M	3 MB L2	2.4 GHz	Dual	Intel QM57	Yes	Yes	Yes
Intel Core i7 620M	6 MB L2	2.66 GHz	Dual	Intel QM57	Yes	Yes	Yes

NOTE:

- i. The System Office provides contracts for procuring Dell and Hewlett Packard equipment. These contracts were designed so VCCS could maximize its savings on specific models and configurations. The VCCS contract information can be found at the following link:

<http://www.vccs.edu>

- ii. There are five statewide PC contracts established by VITA. In addition to these standard configurations, however, note that many other vendor notebooks can be purchased off of these contracts. To do so, you will need to refer to the contract tables titled "Off-Spec Discounts."

VITA state contract link:

<http://www.vita.virginia.gov>

- iii. Intel Core processors are manufactured on the company's 32nm process, which includes Intel's second generation high-k metal gate transistors. This technique, along with other advances, help increase a computer's speed while decreasing energy consumption. New Intel Core i7 and Core i5 processors also feature exclusive Intel Turbo Boost Technology¹ for adaptive performance, and thus smarter computing. Intel Turbo Boost Technology¹ automatically accelerates performance, adjusting to the workload to give users an immediate performance boost when needed. Intel® Hyper-Threading Technology², available in Intel Core i7, Core i5 and Core i3 processors, enables smart multi-tasking by allowing each processing core to run multiple "threads," providing amazing responsiveness and great performance, balanced with industry-leading energy efficiency when processing several tasks simultaneously.
- iv. All the configurations listed in the chart above should be capable of supporting the Windows 7. Colleges should strongly consider 3GB of RAM

as the minimal threshold (Entry User level) — the additional memory will offer better performance and increase the potential longevity of the PC.

GUIDELINE-QUALIFIED STATE CONTRACT NOTEBOOK PCs					
VENDOR	MOBILE WORKER	DAY EXTENDER (MAINSTREAM)	DAY EXTENDER (POWER)	VCCS	Link: (*)
Dell Latitude E6320	✓			Contract link	State contract link
Dell Latitude E6420		✓		Contract link	State contract link
Dell Latitude E6520		✓		Contract link	State contract link
Dell Precision M4500			✓	Contract link	State contract link
HP 2560p	✓			Contract link	State contract link
HP 6460b		✓		Contract link	State contract link
HP 6560b		✓		Contract link	State contract link
HP 8560w			✓	Contract link	State contract link
Lenovo ThinkPad	✓	✓		n/a	State contract link
Maestro	✓			n/a	State contract link

(*) May require valid vendor user account
Guideline deviations
 (viable if meets specific user need):

Warranty, Support, and Service:

Warranty:

- Minimum three years parts warranty - Minimum three years labor warranty
- Minimum three years Next Business Day parts delivery
- Encloses documentation that fully explains the length, terms and conditions of the warranty and support services.

Support:

- Technical Support, 24-hr, 7-day, Toll-Free
- Internet e-mail and File access
- World Wide Web support/access containing current product information, technical support documents, etc.
- The vendor must supply the following phone numbers and Internet addresses where appropriate:

Technical Support #

E-mail Address

World Wide Web Address

Other (List)

Please Note:

- Upon request, the vendor must be able to supply reference accounts where 200 or more such systems are installed in a networked environment.
- All replacement components supplied by the vendor must be new and equivalent to those originally installed in the system.
- The vendor must supply all requested documentation to aid in verifying and evaluating the proposed workstation, including, but not limited to, all questions raised in this document.
- Upon request, the vendor must provide a test unit for a 30-day evaluation. Prospective vendor is responsible for all shipping charges.
- The system units must be fully compatible with major manufacturer's network interface cards and network operating systems.

Miscellaneous:

- Energy/Environmental:
- System must be EPA Energy Star compliant.
- System must be FCC class B approved.

Operating System:

- Microsoft Windows 7.
- OS must be installed on the hard disk.
- Must include the OS on DVD, or USB jump drive.

Design/System Considerations:

- Must provide all original hardware documentation and support software on the internal hard drive, DVD or USB jump drive if available.
 - System must be fully Plug-n-Play ready/compliant.
 - Entire system must be fully compatible with major network operating systems.
 - All computers of each model purchased must be built with comparable components.
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