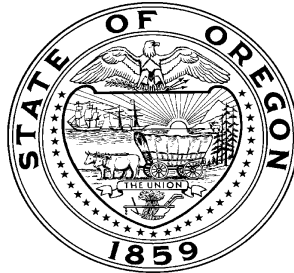


# STATE OF OREGON



Issues the Following  
REQUEST FOR INFORMATION (RFI)  
Seeking Information About

## **PC/Laptop Power Management Software**

ORPIN Number 102-1506-08

Date of Issuance: November 12, 2008  
**Responses Desired by: November 26, 2008**  
Issuing Office: State of Oregon, Dept. of Administrative Services  
Enterprise Information Strategy and Policy Division  
ATTN: Nicholas Betsacon  
955 Center Street N.E., Room 470  
Salem, OR 97301

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## **APPENDICES:**

**Appendix 1: Excerpts from DAS Policy regarding PC operations.**

**Appendix 2: Technology Refresh Committee PC/Laptop Specifications.\***

\*Technology Refresh Committee PC/Laptop Specifications are a work in progress and are subject to periodic adjustment.

## Organizational Entities and Acronyms

Throughout this document, the following short names and acronyms are used for brevity and readability:

Short Name	Description
<b>State</b>	State of Oregon
<b>DAS</b>	Department of Administrative Services
<b>PMA</b>	PC/Laptop Power Management Software Applications that include both PC management applications with power management functionality and power management-focused applications.
<b>EISPD</b>	Enterprise Information Strategy and Policy Division
<b>SDC</b>	State Data Center
<b>ORPIN</b>	Oregon Procurement Information Network
<b>Respondents</b>	PMA Manufacturers and Providers submitting written responses to the RFI
<b>RFP</b>	Request for Proposal
<b>RFI</b>	Request for Information
<b>SDC</b>	State Data Center

### Disclaimer

This RFI is issued solely for information and planning purposes and does not constitute a solicitation or the intent to solicit. The State will not regard responses to this RFI as offers and will not accept them as forming a binding contract in any manner. The issuing agency will help protect from disclosure information that RFI Respondents regard as “proprietary,” but only within the statutory framework of Oregon Revised Statutes, Chapter 192 (Public and Private Records; Public Reports and Meetings). Any such submitted information must be clearly marked as confidential matters, proprietary information or trade secrets. The State does not regard submitted prices as confidential, proprietary or trade secrets, but process information concerning price development may be. The State will not return responses to the RFI. The State will directly notify Respondents via email concerning the release of an RFP related to this RFI. Respondents are solely responsible for all expenses associated with developing and submitting responses to this RFI. The State will reject any RFI Response submitted requiring any payment by, or costs to the State.

## PMA RFI

### 1 Introduction and Purpose

This is a Request for Information (RFI) concerning the efficacy of PMA for DAS and other state agencies in Oregon. It is **neither** a Request for Proposals (RFP), **nor** a supplier "prequalification" within the meaning of OAR 125-247-0550(1). The DAS EISPD is issuing this RFI as an information gathering and fact-finding marketing effort, only; and **not** as a public procurement solicitation that will directly result in a contract award. However, it is a prelude to an eventual RFP concerning the same subject matter that DAS may ask the State Procurement Office to release in the next few months. The planned RFP may seek to acquire PMA from a single supplier through the vehicle of a statewide price agreement in which Oregon state and local government entities may participate as authorized purchasers.<sup>1</sup>

**Responses to this RFI are desired by November 26, 2008, at 5:00 P.M. (Pacific Time).**<sup>2</sup> The DAS EISPD requests submission of responses in Microsoft Office 2003 formats as RFI Respondents deem appropriate, e.g., Word, Excel, etc., with one (1) signed hard copy and electronic copy on disk, CD or DVD. **Alternatively, electronic submissions via email attachments and electronic signature are acceptable.** Responses must be submitted to the single point of contact ("SPC") for the RFI as identified below:

**Nicholas Betsacon**  
**State of Oregon Department of Administrative Services**  
**Enterprise Information Strategy and Policy Division**  
**955 Center Street N.E., Room 470**  
**Salem, OR 97301**

**Phone: 503.378.3052**  
**FAX: 503.378.3795**  
**Email: [nicholas.betsacon@state.or.us](mailto:nicholas.betsacon@state.or.us)**

The DAS EISPD will use any responses to this RFI to: (i) help determine whether competition exists to provide the required goods and perform any needed services; (ii) refine requirements and contract terms and conditions related to PMA RFP development, (iii) establish a nonbinding, open list of PMA providers, in addition to the general public, prior to issuing an RFP, and (iv) **identify PMA providers to present their offerings to the state government information community at a PMA demonstration opportunity in Salem, Oregon scheduled for December 11, 2008, between 9:00 a.m. and Noon PT.** In the event the state procurement office releases in ORPIN an RFP for the subject

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<sup>1</sup> DAS is contemplating issuing a PMA RFP that provides for the award of statewide price agreements to multiple PMA suppliers.

<sup>2</sup> If an interested PMA Supplier needs additional time beyond November 26, 2008, in which to submit a response, please contact the SPC identified above.

## PMA RFI

goods and services, the RFI respondents will receive individual emailed notice of such release.

An important purpose of the RFI is to identify capabilities and qualifications of Respondents to provide the required goods and perform any needed services. Respondents are expected to present examples of engagements they have completed in the past three years that showcase their expertise, strengths, and credentials in providing PMA to state and local government entities or comparable organizations. Additionally, Respondents should provide information, including pricing, for their full range of PMA solutions that support the requirements reflected in this RFI.

## **2 Background**

DAS is the central administrative agency of Oregon state government. DAS works to effectively implement the policy and financial decisions made by the Governor and the Oregon Legislature. The Department also sets and monitors high standards of accountability to ensure that state government uses tax dollars productively. To fulfill its mission, DAS supports state agencies by providing a strong and stable management infrastructure, including oversight for facilities operations in numerous public buildings in Salem, Oregon.

State government operations in DAS buildings currently consume nearly 50 million kWh of electricity per year. The annual spend associated with this consumption is around \$3.5 Million. Plug loads constitute approximately 30% of this electrical load. Nearly one-third of this plug load is related to personal computing equipment<sup>3</sup> operations.<sup>4</sup> DAS has promulgated a Resource Conservation Policy, DAS Policy 107-011-010, which requires state buildings, primarily DAS-owned buildings, to conserve energy and other resources as much as possible. The policy includes tenant participation in reducing plug loads. The efficient operation of personal computing equipment is a major part of proper plug load management in which tenant agencies can participate.

<http://www.oregon.gov/DAS/OP/docs/policy/state/107-011-010.pdf>

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<sup>3</sup> Personal computing equipment includes PCs, laptops, monitors, printers and other PC/Laptop peripherals. The plug load data reflected in this RFI relates to employee work stations, only. It excludes SDC operational costs.

<sup>4</sup> Data from 50 state agencies in Oregon circa 2005 (excluding Oregon University Systems, Lottery, Legislative Administration, Judicial Department, Secretary of State, Treasury, and other independent state entities) reveals state government's ownership of 36,848 PCs. From this inventory, roughly 30,000 PCs were deployed in the 11 agencies that look to the SDC for their computing and networking infrastructure support.

## PMA RFI

Oregon's passion for and commitment to the growth of Green IT<sup>5</sup> is in keeping with the state's reputation as a central staging area for the launch of critical sustainability programs. Examples of Oregon's Green IT efforts include:

- **Involvement with the Climate Savers Computing Initiative (“CSCI”).** In January 2008, Governor Kulongoski agreed to partner the state with CSCI, and publicly pledged to reduce greenhouse gases by deploying energy efficient computers throughout the state. Oregon already practices desktop PC power management through mandated “shut-off” after normal business hours and on weekends—but with controlled exceptions for pushing out new software and fixes (DAS Policy 107-011-010). Currently, the DAS Technical Support Center (“TSC”) uses ScriptLogic *Desktop Authority* to help manage PC deployment and operations within DAS.<sup>6</sup> Oregon wants to develop a desktop power management baseline in order to determine the efficacy of acquiring desktop power management software to augment its efforts in this area.
  
- **Promulgation of an enterprise-wide policy guiding agencies in the acquisition and disposal of their electronic products (DAS Policy 107-009-0050, *Sustainable Acquisition and Disposal of Electronic Equipment*).** In support of the Governor's Sustainability Executive Orders, this policy adopts EPEAT standards for the acquisition and disposal of electronic products. It also defines all surplus and excess electronic products as e-waste that must be refurbished for re-use, disposed of through statewide electronic recycling contracts or returned to manufacturers through contract “buy-back” provisions for ultimate disposition in a manner that prevents hazardous materials from entering the waste stream.  
  
<http://oregon.gov/DAS/OP/docs/policy/state/107-009-0050.pdf>
  
- **Technology Refresh Committee.** DAS has established a Technology Refresh Committee (“Committee”) to monitor changes affecting personal computing equipment. The Committee is comprised of IT, business and procurement professionals who represent the interests of stakeholder agencies and personal computing equipment vendors under contract with

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<sup>5</sup> Green IT calls for the efficient use of computing and networking resources by balancing the typical business focus on economic viability with thoughtful consideration for social responsibility and environmental impact. Oregon seeks Green IT solutions to conserve energy in operations, reduce IT maintenance-related activities, extend the useful life of hardware, and allow for responsible recycling of computing and networking equipment past its useful life.

<sup>6</sup> However, the TSC currently has limited authority over which personal computing equipment is purchased, which system aspects are enabled, and how the equipment is operated. The TSC is not currently able to ensure that optimal power management protocols or energy efficiency requirements are followed.

## PMA RFI

the State of Oregon. The Committee periodically meets to discuss technology, procurement and Green IT trends. These discussions lead to the adoption of brand-neutral technical specifications that drive the State's personal computing equipment acquisitions. The Committee's current personal computing equipment specifications are reflected in Appendix 2.

- **DAS Resource Conservation and Sustainability Program recommendations for desktop power management.** The DAS Resource Conservation and Sustainability Program ("Program") recommends desktop work station environments that call for the following basic components:
  - One flat panel monitor
  - One PC
  - One keyboard
  - One mouse
  - Shared, networked printer

If the recommendation is adopted, DAS divisions would be required to develop supporting business cases for desktop deployments that exceed the basic configuration.

The Program makes the following additional recommendations:

- Require aggressive power-down settings for all computers and monitors at initial deployment.
- Develop new standards for when computers are turned on and off.
- Develop a standard that employees plug computer, monitor, and peripherals into a power strip that can be turned off with one switch when leaving at night, every night.
- If systems need to stay on for virus protections or other downloads, it is advertised for a specific night and becomes the exception.
- Investigate impacts and benefits of moving to more laptops with docking stations in the office and returning to more thin client environments.
- Research the issue of end-of-life battery recycling.
- Investigate using PMA on DAS servers for more effective centralized control in turning off workstation systems based on user profiles.

The State's information community is anxious to attend the planned **December 11, 2008** demonstrations of PMA solutions that can facilitate the State's desire to further green its PC desktop operations. The State ultimately desires to develop and implement a statewide price agreement(s) through which state and local

## PMA RFI

government entities may purchase PMA and related professional services, e.g., integration, testing, base lining, training and support.

### **3 Requirements and DAS Questions**

#### **3.1 DAS desires to more effectively manage its PC Power Environments.**

PMA may enable state agencies to further reduce CO2 emissions and operational costs from desktop PC/Laptop operations, with minimal impact on employee productivity in recommending such transitions. DAS understands that there are PMA that can use a PC's embedded power management functionality to implement centralized power management for all devices operating on a particular network through a central management interface. Some applications enable users to group and categorize systems by diverse factors, including location and function. Once configured, these power management agents will store all settings and will perform the power functions with no further user or administrator intervention required; except as necessary to further modify configurations. **DAS is interested in responses from manufacturers and sellers of PMA that can satisfy these general requirements.**

DAS is aware of the following PMA offerings that may be effective in helping the state meet its power management goals. The RFI does not presume that this list is exhaustive.

- a. **Commercial PC Life Cycle Configuration Management Products that Include PC Power Management Functionality:**
  - o Altiris
  - o BigFix
  - o KACE
  - o LANDesk
  - o Script Logic's *Desktop Authority*<sup>™</sup>
  
- b. **Power Management-Focused Products:**
  - o 1E's *NightWatchman*<sup>™</sup>
  - o Faronics Technologies *Power Save*<sup>™</sup>
  - o Verdiem's *Surveyor*<sup>™</sup>
  
- c. **Free Open Source Products:**
  - o Energy Star's *EZ Save*<sup>™</sup>, *EZ GPO*<sup>™</sup> and *EZ Wizard*<sup>™</sup>

DAS is interested in responses from PMA vendors, whether or not listed above; whose products will satisfy the general requirements in section 3.1.

## PMA RFI

### 3.2 PMA Professional Services.

The State would like to hear from PMA vendors capable of providing the following related professional services:

- Account and Project Management
- Solutions Consulting and Design (including without limitation, base lining),
- Installation,
- Integration to Infrastructure,
- Training, and
- Maintenance and Support (including updates and changes).

### 3.3 PMA Product Marketing and Licensing Questions.

- (1) How do you market and distribute your PMA products?
- (2) The State is interested in determining the standard or alternative marketing and licensing schemes prevalent in the PMA marketplace. Identify and describe the marketplace standards or alternatives you know about, e.g., user, seat, computer, enterprise.
- (3) Based on your marketing model, describe the licensing and pricing model or models that you use in distributing your PMA software products. If you include an enterprise model in your marketing plan, would that include a single government entity, a group of government entities, or all state and local government entities in the State?
- (4) Is your software COTS software? Is it proprietary or open source? In either licensing model, what are your standard terms and conditions?
- (5) Does your licensing model include maintenance and support, or are these services bundled separately? If maintenance and support are separated services, what are the related cost models (e.g., an annual fee based upon a percentage of the licensing costs)? What is the included scope of services for maintenance and support? Do you provide standard upgrades as part of maintenance and support, or does the software user have to buy a new software version? What is excluded from your maintenance and support plan?

## PMA RFI

### 3.4 PMA Product Hosting Questions.

- (1) How are your PMA products hosted (platforms, operating systems, databases supported, virtualization, etc.)?
- (2) What hardware do you require or suggest for installation and operation of your software? Do you sell this hardware? If not, how do you acquire it?
- (3) If possible, please provide an architecture diagram of your recommended software installation and, if different, the most common installation from your customer base.
- (4) Do you provide hosting services? If so, please describe them.
- (5) Do you provide a turn-key solution for installation, configuration and operation from the customer's site? If so, please describe the typical turn-key process that you follow.

### 3.5 PMA Professional Services Capacity and Multiple Award Questions.

- (1) What is your capacity to handle implementation services for different types, large numbers and a wide geographic range of Oregon public entities?
- (2) The State is contemplating the release of an RFP that would permit the award of multiple price agreements for PMA. What approach would you recommend or suggest for the State's administration of multiple price agreements for the same products and services (e.g., authorized purchaser access by region, through supplier rotations or by the conduct of order-by-order competitive selections involving all awarded suppliers)?

## 4 SDC Environment and Technology Refresh Specifications

Respondents may consider the following general SDC standards<sup>7</sup> and Technology Refresh Committee specifications related to PC/Laptop acquisitions when determining the suitability of PMA offerings:

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<sup>7</sup> The SDC primarily hosts server operations for eleven state agencies, and may also host selected operations for other public entities. Moreover, the contemplated RFP will lead to a single or multiple price agreements in which local government entities may participate along with state agencies. There will be disparate information environments represented by this diverse group of potential authorized purchasers. IN RESPONDING TO THIS RFI, PLEASE BE

## **PMA RFI**

### **4.1 SDC Software**

- The software environment (language) should be 'open' or built upon 'industry standards' (e.g. WebSphere, Java, .NET, PHP, etc.).
- The software solution should run on open or 'industry standard' operating systems (e.g. AIX, Windows, Z/OS).

### **4.2 SDC Hardware/OS Platform Standards**

The SDC utilizes the following hardware/OS Platform Standards:

- UNIX: The SDC runs UNIX applications on AIX.
- Z/OS applications will run on the State Mainframes.
- The state utilizes .NET solutions (Microsoft Windows).
- Linux solutions will run on Intel based hardware or on Z/OS (Z-Linux). The SDC standard O/S for Linux solutions is SuSE.

### **4.3 Intel-Based Hardware Platforms**

- The SDC standard for deployment into Intel-based environments is to utilize virtualization technologies (VMWare ESX) as much as possible.
- The SDC has standardized on IBM Series X hardware.
- The SDC runs Windows Server 2003 (32-bit and 64-bit) Standard and Enterprise Operating Systems and SuSE Linux.

### **4.4 Backup Systems**

- The SDC backs up all platforms using IBM Tivoli Storage Manager (TSM).
- Backups will be performed by the SDC and incorporate the Automated Tape Library.

### **4.5 Storage Systems**

- The SDC utilizes the SAN for data storage.

### **4.6 Technology Refresh Committee PC/Laptop Specifications**

- Refer to Appendix 2.

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CERTAIN TO PROVIDE A FULL DESCRIPTION OF ALL ENVIRONMENTS IN WHICH YOUR PRODUCTS WILL INSTALL AND OPERATE.

## PMA RFI

### 5 Sample Response Outline

The following is a suggested outline for a response to this RFI:

**Section 1** – Corporate Experience over the past three years in providing PMA to state and local government entities or comparable higher education and private sector organizations (including the documented experience of personnel whom the Respondent would likely task for any of the Services-related work reflected in this RFI).

**Section 2** – Product(s) Description, including features and functionality that would meet the needs in the six functional areas identified in RFI Section 3.1, and Related Standard Prices.

**Section 3** – Services Offerings aligned with the PMA Professional Services identified in RFI Section 3.2, and their Related Standard Rates.

**Section 4** – Requirements and DAS EISPD Questions. Incorporate responses to RFI Section 3 “Requirements and DAS EISPD Questions” at this point in your submission. As applicable, please include cross-references to your submissions in Sections 2, 3 and 6 that provide the information responsive to this Section 4.

**Section 5** – A statement of your desire to participate in the upcoming PMA demonstrations scheduled for 9:00 a.m. to Noon (PT) on December 11, 2008, in Salem, Oregon; and a high-level preview of a proposed 20 to 30 minute presentation.

**Section 6** – Identify any current State of Oregon, Western States Contracting Alliance (WSCA), or GSA contracts utilizing the Product(s) or Services Offerings, or both, described in your response. Additional Materials (provide any other materials, suggestions, and discussion the respective Respondents deem necessary and appropriate to best depict their proposed approaches and offerings)

This outline is intended to minimize the effort of prospective Respondents and structure the responses for ease of analysis by the State. Nevertheless, prospective Respondents are free to develop their responses as they deem most convenient and appropriate. DAS EISPD requests submission of responses through the manner and means discussed in RFI Section 1, *Introduction and Purpose*, to the single point of contact identified in that same section.

**PLEASE NOTE AGAIN THAT THIS RFI IS NOT A PROCUREMENT DOCUMENT.** It does not constitute an offer from the issuing agency for any commercial engagement. Responses are voluntary and shall not bind the

## **PMA RFI**

respondent to the State or any state agency in any contractual, fiscal or other manner. Respondents bear responsibility for all costs and expenses related to their development and submission of a response to this RFI. In the event the State Procurement Office releases in ORPIN an RFP for the subject goods and services, the RFI respondents will receive individual emailed notice of such release.

-END-

## PMA RFI

### **APPENDIX 1: STATE OF OREGON RESOURCE CONVERSATION POLICY EXCERPTS CONCERNING PC OPERATIONS.**

State government in Oregon recognizes the connection between effective PC power management and energy and cost savings. In September 2007, the Department of Administrative Services (“DAS”), Facilities Division, promulgated DAS Policy 107-011-010, *Resource Conservation* (the “Policy”). The Policy includes specific instructions related to *Computers and Office Equipment* and *Computer User Action When Not in Use for 1 Hour or More*.

#### **STATE OF OREGON RESOURCE CONVERSATION POLICY EXCERPT RE: COMPUTERS AND OFFICE EQUIPMENT**

##### **“Computers and Office Equipment:**

- All printers and copiers that are equipped with an automatic “power down” or “energy saver” feature shall be enabled for after work hours.
- Eliminate personal printers in favor of shared printers.
- Utilize the sending of links or hyperlinks instead of the entire attachment to your email distribution lists to save on energy and paper printing.
- Utilize the appropriate screen/monitor resolution to view documents on screen rather than printing them out, as well as print preview to specify page limits and only print what is needed.
- Develop a shared folder/file management strategy through the network for work units so documents can be viewed and shared electronically, rather than having multiple copies in many folders and distributing draft hard copy versions.”

#### **STATE OF OREGON RESOURCE CONVERSATION POLICY EXCERPT RE: COMPUTER USER ACTION WHEN NOT IN USE FOR 1 HOUR OR MORE**

##### **“Computer User Action When Not In Use for 1 Hour or More:**

- Log off machine
- Do not shut down machine or turn it off
- Turn power off on monitors, specialty or dedicated individual printers, PC speakers and label makers to conserve energy
- **Turn off all of the above peripheral equipment when leaving at night. When notified by IT section of network system updates, such as virus protection upgrades, ensure machine is left on at night.”**

**PERSONAL COMPUTING EQUIPMENT SPECIFICATIONS – 2008**

**DESKTOP SPECIFICATIONS\***

	<b>BASIC</b>	<b>ADVANCED</b>	<b>WORKSTATION</b>
<b>Chassis:</b>	Small Mini-Tower	Small Mini-Tower	Mid Tower Case
<b>Processor: DQ35 Chipset</b>	Intel Celeron Processor 1.6GHz 800 MHz (Optional AMD)	Intel Core2Duo E6550 2.33 GHz 1333FSB (Optional AMD)	Intel Core2Duo E6750 2.66 GHz 1333FSB
<b>Cache:</b>	512K	4Mb	4Mb
<b>Memory:</b>	512 MB (22 GB RAM with 2 DIMMs)	2 GB RAM with 2 DIMMs)	2 GB RAM with 2 DIMMs
<b>Keyboards:</b>	PS/2 keyboard	PS/2 keyboard	PS/2 keyboard
<b>Monitor:</b>	No Monitor	No Monitor	No Monitor
<b>Video Card:</b>	Integrated Video	Integrated Video	Removable Video Card
<b>Hard Drive:</b>	80 GB SATA HDD	80 GB SATA HDD	250 GB SATA 7200 RPM
<b>Floppy Drive:</b>	Optional (Not standard)	Optional (Not standard)	Optional (Not standard)
<b>Operating System:</b>	MS Vista or downgrade to Windows XP Pro	MS Vista or downgrade to Windows XP Pro	MS Vista with downgrade to Windows XP Pro
<b>Mouse:</b>	USB optical scroll mouse	USB optical scroll mouse	USB optical scroll mouse
<b>Integrated Network Adapter (NIC):</b>	Integrated 10/100/1000	Integrated 10/100/1000	Integrated 10/100/1000
<b>Wake on LAN:</b>	Yes	Yes	Yes
<b>Optical Storage Device:</b>	CD-RW/DVD Combo	CD-RW/DVD Combo	CD-RW/DVD-RW Burner
<b>Audio Solution:</b>	Integrated Sound	Integrated Sound	Integrated Sound
<b>Speaker:</b>	Internal Audio Speaker	Internal Audio Speaker	Internal Audio Speaker
<b>Hardware Support Services:</b>	4 years Parts & Labor with 4 years Next Business Day Onsite Service	4 years Parts & Labor with 4 years Next Business Day Onsite Service	4 years Parts & Labor with 4 years Next Business Day Onsite Service
<b>Asset Tagging:</b>	Yes	Yes	Yes
<b>Dual Monitor Card:</b>	No	No	256M Card DVI-I capable
<b>EPEAT*</b>	Silver	Silver	Silver

\* Base Model without options  
(Desktop Options on following page)

**Appendix 2\_Technology Refresh Committee Recommendations for PC Equipment Specifications**

**DESKTOP OPTIONS**

	<b>BASIC</b>	<b>ADVANCED</b>	<b>WORKSTATION</b>
	17 in. Flat Panel LCD Monitor	17 in. Flat Panel LCD Monitor	17 in. Flat Panel LCD Monitor
	19 in. Flat Panel LCD Monitor	19 in. Flat Panel LCD Monitor	19 in. Flat Panel LCD Monitor
	19 in. Wide Flat Panel LCD Monitor	19 in. Wide Flat Panel LCD Monitor	19 in. Wide Flat Panel LCD Monitor
	22" W Flat Panel LCD Monitor 24" W Flat Panel LCD Monitor	22" W Flat Panel LCD Monitor 24" W Flat Panel LCD Monitor	22" W Flat Panel LCD Monitor 24" W Flat Panel LCD Monitor
		CD/DVD RW Burner	CD-RW DVD Combo
	Celeron D 3.46	Intel Core2Duo E6750 2.66 GHz 1333FSB/4Mb Cache	Intel Core2Duo E6850 3.0 GHz 1333FSB/4Mb Cache
	Memory 1GB (2x512)	120 GB HDD	
	Small Form Factor Chassis	160 GB HDD	250 GB HDD
	USB - 1.44MB Floppy Drive	Memory 4GB (4x1GB)	Memory 4GB (4x1GB)
		Small Form Factor Chassis	
		3 button USB optical mouse	3 button USB optical mouse
		Dual Monitor Card DVI –I capable	USB - 1.44MB Floppy Drive
		USB - 1.44MB Floppy Drive	

**Mini-Notebook – Available as an off-spec Notebook. No standards set at this time.**

**Appendix 2\_Technology Refresh Committee Recommendations for PC Equipment Specifications**

**LAPTOP SPECIFICATIONS\***

	<b>STANDARD</b>	<b>POWER USER</b>	<b>TABLET</b>
Processor: 965 Chipset	Core2Duo T7250 2.0 GHz	Core2Duo T7500 2.2 GHz	Core2Duo 1.66 GHz
Cache:	2Mb	2Mb	2Mb
Memory:	2GB RAM with 1 DIMM	2GB RAM with 1 DIMM	2GB RAM with 1 DIMM
Display:	14.1 XGA Display	15 WXGA Display	12" WXGA Display
Video Card:	Integrated video	Integrated or Removable card	Integrated Video
Hard Drive:	60GB 5400 RPM	120GB 5400 RPM	80Gb HDD
Floppy Drive:	None	None	None
Operating System:	MS Vista with downgrade to MS Windows XP Pro	MS Vista with downgrade to MS Windows XP Pro	Vista or XP Tablet PC Edition
Mouse:	TouchPad	TouchPad	Various Input
Integrated Network Adapter (NIC):	Integrated 10/100/1000 + 56K Modem NIC Combo	Integrated 10/100/1000 + 56K Modem NIC Combo	Integrated 10/100
Wireless Card:	Intel 4965 ABG N	Intel 4965 ABG N	Optional
Optical Storage Device:	CD-RW/DVD Combo	8x Multi Drive DVD-RW	Optional - 8x Multi Drive DVD-RW
Battery Type:	Lithium-Ion – 6 cell type	Lithium-Ion – 9 cell type	Lithium-Ion
Battery Life:	4 hours	6 hours	4 hours
Docking Port Replicator:	None	D/Port Replicator	Optional
Hardware Support Services:	4 years Parts & Labor with 4 years Next Day Onsite Business Service	4 years Parts & Labor with 4 years Next Day Onsite Business Service	4 years Parts & Labor with 4 years Next Day Onsite Business Service
Asset Tagging:	Yes	Yes	Yes
EPEAT*	Silver	Silver	Silver

\*Base Model without options (Laptop options on following page)

**Appendix 2\_Technology Refresh Committee Recommendations for PC Equipment Specifications**

**LAPTOP OPTIONS**

<b>Standard</b>	<b>Power User</b>	<b>Tablet</b>
128MB Video Card <del>32MB Video Card</del>	128MB Video Card 256MB Video Card	
8X DVD		
48X CD-ROM	802.11b/g Wireless Card, Integrated or Removable	
802.11b/g Wireless Card Integrated or Removable		
Docking Station or Port Replicator	Docking Station or Port Replicator	
Deluxe Carrying Case	Deluxe Carrying Case	
Basic Carrying Case	Basic Carrying Case	
1.44 MB Floppy Drive	1.44 MB Floppy Drive	
	80 GB HDD 5400 RPM (downgrade)	
	80GB HDD 7200 RPM (downgrade)	
Memory 4GB	Memory 4GB	
Vista Enterprise w/downgrade to XP PRO	Vista Enterprise w/downgrade to XP PRO	
Point stick input option	Point stick input option	
Battery Upgrade	Battery Upgrade	