Office of the Chief Information Officer (OCIO)	Guideline NO. 201.10 **PC Procurement Guideline**
Purpose: This guideline along with OCIO Policy No. 201 provides a common decision model for agencies, the OCIO, OFM, and the legislature to evaluate PC procurement decisions and reduce PC lifecycle costs.	**Effective Date:** September 30, 2013 **See Also: PC Procurement Policy No. 201** **IT Security Policy No. 141**

Agencies must manage the activities and costs of each step in the PC lifecycle to effectively manage PC total cost of ownership. The PC lifecycle steps and cost components used in this Guideline are listed below:

- Planning
- Acquisition
- Deployment
- Asset management
- End user support/maintenance
- Systems administration
- Decommissioning

These lifecycle steps are defined at the end of this guideline. Agencies may choose a different lifecycle based on business requirements and working conditions, but most lifecycle models share many similarities.

In the process, agencies will align standard PC configurations, the agency PC refresh plan, and operating budget.

1. Standard Configurations

To effectively manage PC life-cycle costs, agencies should limit the number of standard configurations they support to reduce disparity and complexity in the install base. Increasing the number of PC models, operating systems, or system images the IT staff must support directly increases most components of PC life cycle cost. These include planning, acquisition, deployment, end user support/maintenance, and system administration.

Because different types of users require different types of PC hardware and software, standard PC configurations should be developed for major user types in the agency. Each standard configuration should accommodate agency support requirements, the user type business requirements, working environment, software performance requirements, and operating system migration plans.

To maximize useful life, standard configurations should provide the performance “headroom” to support the operating systems and software likely to be deployed during a PCs useful life.

Standard configurations are recommended for four basic user types. The exact specifications are driven by the user type’s business requirements, software load, and compliance with OCIO

and agency IT Security Policies. These may vary from agency to agency depending on the agency's primary business needs:

- **Standard User (office-based user):** These users work mostly in the office, under mainstream working conditions that require little more than the state's office productivity applications to meet their business needs. This configuration should meet the needs of the greatest number of users in the agency.
- **High performance users (power users):** Users of compute intensive or graphics intensive applications require high performance processing and storage. Power user examples include software developers, graphic designers, Geographic Information Systems users, engineers, scientists, and analysts with large databases, etc.
- **Traveling Users:** These laptop or notebook users frequently work outside the traditional office and carry their devices with them most of the day. These users tend to be harder on their devices as they carry them on planes, through hotels and customer work sites, and store them in overheated cars. Hardware failures are often higher for these users. Laptops or notebooks with smaller form factors and reinforced chassis are recommended for these users to achieve planned replacement cycles.
- **Day Extenders:** Laptop or notebook users whose systems tend to stay docked in the office most of the time. They take their devices home one or two nights a week to do extra work, and sometimes take them to meetings during the day. These PCs experience less wear and tear than traveling PCs and may experience slightly lower failure rates. Devices used for this purpose should be capable of supporting standard office productivity software, as well as the ability to support mobile connectivity.

The following business and technical circumstances may be reasons why agencies may provide an employee with a configuration that deviates with one of its standard configurations:

- **Fixed function or task-based use:** In some cases, employees with a limited scope of duties or specialized tasks may not require PC's that rise to the level of capability specified for the Standard User. Business functions for these users could include claims processing, point of sale, laboratory instrumentation, call centers, billing or accounting functions, etc. The applications supporting these users are usually not demanding and are more static than the state's office productivity applications.
- **High-end power use:** For some specialized job functions, it may be necessary to provide PCs with capabilities that exceed those specified for typical power users. In these cases, it may be necessary to acquire PCs with extremely powerful processors, higher end graphics and monitors, and larger amounts of storage.
- **Specialized mobile use:** In some cases, it may be necessary to equip mobile users with laptops or notebooks with specialized capabilities. Exceptions to the traveling user configuration could be devices that are specially hardened or "ruggedized", capable of performing specialized functions for audio/video, location based processing, or incorporate enhanced wireless capabilities. Based on the type and nature of work to be performed, it may be appropriate to equip employees with smaller form factor devices such as tablets to most efficiently perform their business function.

Media tablets, used for browsing and light input or editing, are a promising class of devices for employee productivity, but are out of scope for this version of the guideline. The media tablet market is still highly volatile. Manufacturers are experimenting with products and searching for

the optimum combination of sizes, prices, and features to satisfy enterprise requirements. Devices sufficient for enterprise-class use are emerging on the market. As a result, it is too early to recommend standard configurations.

All Information Technology assets purchased, including PCs, must enable compliance with OCIO and agency IT Security Policies.

2. Replacement Life Cycle

The useful lives for PCs are listed below based on the State Administrative and Accounting (SAAM) Manual:

Desktops	4 years
Laptops/Notebooks	4 years

These useful life standards apply to the Standard User defined in the standard configurations above. The following business and technical circumstances can cause agencies to select longer or shorter PC replacement cycles for in-place PCs and new machines.

Replacing PCs too soon or too late will increase life cycle costs. Replacing PCs too soon will increase PC acquisition, deployment, and disposal costs. Delaying PC replacement too long exposes agencies to increasing hardware failures, and a rising accumulation of disparate PC configurations, operating systems, and system images that require support. This increases direct and indirect lifecycle costs for troubleshooting, system administration, security patching, maintenance, and end-user support.

In addition to hardware failure and obsolescence, the useful life of a PC is driven by the user's work patterns, work environment, and the performance requirements of the user's software load. As a result, the useful life for PCs can differ for different types of users:

- **High performance users (power users):** May require more frequent PC replacements, especially if hardware performance boosts or frequent software upgrades can demonstrate a clearly evident return on investment.
- **Traveling Users:** Often require shorter replacement cycles of two to three years. These users tend to be harder on their devices. Hardware failures occur earlier and shorten the useful life. Downtime can be very costly and disruptive to travelling users because they are isolated from agency support and maintenance services.
- **Day Extenders:** Take their laptops or notebooks from the office less often than travelling users and subject them to less wear and tear. Since these devices experience lower hardware failure rates than travelling devices and are closer to technical support in the office, the useful life can usually be extended to four years. In some cases, the capital savings from extending the useful life to four years can be offset by increases in other life cycle costs, user dissatisfaction, or technical obsolescence.
- **Fixed function or task-based users:** Users with a limited scope of duties or specialized tasks can sometimes run PCs longer than others, five years or more, if other business needs are still met. The applications supporting these users are usually not demanding and are more static than the state's office productivity applications.

In addition to the business and user requirements above, answers to the following questions drive replacement decisions for existing PCs. Specifically, can the current PCs:

- Support the current operating system (OS)?
- Run the agency software load, including security?

- Connect to all standard agency networks and peripherals?
- Support the next planned OS migration?
- Support fixed functions or specific tasks, where the PC workload is acceptable and the software load rarely changes?

If the answers to these questions are yes, the replacement cycle could be extended past the standard 4 year lifecycle for desktop PCs. Laptops and notebooks should not exceed a four year life cycle. The questions above should also be considered when selecting configurations and replacement cycles for new PCs.

Agencies must receive OFM Accounting Division prior written approval to use an alternative useful life. See State Administration and Accounting Manual (SAAM) subsection 30.20.70.c.

For planning purposes, a PC's replacement cycle and useful life are the same except when using the Vendor Operating Lease. The operating lease term, and therefore the replacement cycle, must not exceed 75% of the PC useful life.

While media tablets are outside the scope of this version of the guideline, early mention on useful life is warranted. The primary driver for media tablet replacement will be the ongoing volatility of their operating system. Although the technological life time of media tablets may exceed two years (yet to be proven), the useful life is likely to be restricted to two years by the operating system upgrade cycle.

3. Competitive Purchase Prices

State PC Master Contracts provide volume purchase discounts for agencies, whether quantities are large or small. Contract prices and standard configurations are updated periodically. However the PC market changes continually with price competition, new model announcements, and fluctuating supply and demand for PCs, processors, memory, storage and other components.

In preparation for procurements, agencies must contact the master contract vendor at the time of purchase to determine if better current pricing is available than contract prices. Alternatively, an agency may conduct a competitive procurement to obtain the best value for the state. Many of the factors affecting PC purchase prices are listed below. These factors may increase or decrease purchase prices in a given situation:

- Standard configurations usually draw lower purchase prices.
    - Sometimes however, vendors can offer better pricing on configurations that slightly differ from standard contract configurations, but don’t differ enough to impact other life cycle costs. Compare the impact on other life cycle costs against the savings.
- When current PC models are phased out for new models, prices sometimes drop while inventory lasts.
    - The savings from purchasing close-outs may or may not be offset by increases in other life cycle costs such as systems administration, patch management, and end user support because older models remain longer in the agency.
    - New models may cost more initially but could provide more capacity to satisfy emerging software requirements for collaboration tools, etc., over the PC’s lifecycle. Newer models may better support other life cycle management activities including OS migration, image management, patch management, etc.

- Market PC prices frequently rise and fall due to changing supply and demand for PC models and components such as processors, memory and storage. Agencies must move quickly to capitalize on savings opportunities, or avoid increases.
- Incentive discounting
    - Vendors may offer special incentive discounts to agencies they don't do business with in order to earn new business. These discounts often are not offered to other agencies or to the state as whole.
    - When vendors offer these discounts to a prospective new agency, the discounts may be lost if the purchase is combined with purchases from other agencies
- Large purchases sometimes attract larger discounts. Batching purchases can provide a savings in some cases but not in others, as shown in the example above.
- Steady business volume with a vendor can result in consistently good pricing over time.

4. Alignment of Procurement with Agency Budget

Since PCs are standard equipment for offices and employees, agencies are expected to plan in the agency operating budget to proactively refresh the PC installed base. As much as possible, agencies should synchronize standard PC configurations, the PC refresh plan, and the operating budget. The refresh should be planned and budgeted in regular intervals, with reasonably consistent expense levels, in ways that minimize PC life cycle costs.

With predictable refreshes, labor and funding demands don't spike, and IT staff can be deployed efficiently, according to plan. This refresh can be improved upon, unlike sporadic and disjointed upgrades.

Reasons that procurement expenses exceed agency budgets could include:

- Current PC life cycles have been extended due to previous or current budget constraints. This creates a backlog of purchases that exceed previously budgeted amounts**.**
- The agency is transitioning from a financing method to cash purchasing. The transition creates greater funding demands, especially in the first half of the transition.
- External regulations or funding sources may limit agency refresh planning and budgeting

5. Financing Method

The Department of Enterprise Services (DES) Capital Lease is the preferred financing method for PC procurements. In certain circumstances however, other financing methods may provide important advantages or lower costs when total lifecycle costs of ownership are evaluated.

Experts agree that PCs undergoing harder use from traveling users or power users, and that experience rapid obsolescence as a result, are better candidates for operating leases. PCs with less intensive use and longer life cycles are good candidates for the DES Capital Lease or purchasing with cash or Certificates of Participation (COPs).

Selection of a financing method to effectively manage PC lifecycle costs depends on the agency situation for each of the following drivers:

- Useful life of the PCs procured
- PC quantities, locations, and deployment timeframe
- Alignment of the PC refresh plan, the operating budget, and funds availability

- Agency plan for insourced or outsourced deployment and decommissioning

The financing methods available to agencies are described below:

Purchase:
This is an outright cash purchase.
- The agency is responsible for asset management and holds title to the equipment.
- The agency acquires warranty coverage for the desired period
- The agency chooses whether to deploy and decommission PCs with their own staff or acquire this life cycle service via master contract for an additional fee
- To avoid a large cash outlay, batch deployments, or large inventories, agencies may wish to apply the lean principle of just-in-time delivery and order smaller quantities of systems more frequently (monthly) based on actual agency needs. This would give agencies the expenditure predictability of leasing and the lower cost option of cash payment.

Purchase with COPs:
The agency acquires PCs and arranges COP financing directly with the State Treasurer.
- The agency is responsible for asset management and holds title to the equipment
- The agency acquires warranty coverage for the desired period
- The agency chooses whether to deploy and decommission PCs with their own staff or acquire this life cycle service via master contract for an additional fee.
- The agency makes payments to the State Treasurer for the term of the COP.
  - The maximum COP financing term equals the useful life of this asset class in the SAAM manual. Agencies must obtain OFM written approval for a shorter or longer term.

Information on the State Treasurer's COP financing is available at:
http://www.tre.wa.gov/government/leasePurchaseProgram.shtml

DES Capital Lease:
The DES Capital Lease is a continuation of the DES leasing program agencies have used for years. DES acquires PCs for the agency and arranges COP financing with the State Treasurer. Agencies can take ownership of PCs or return them at the end of the lease.
- DES is responsible for asset management and holds title to the equipment.
- DES includes warranty coverage in the lease to coincide with the PC useful life
- The agency chooses whether to deploy and decommission PCs with their own staff or acquire this life cycle service via master contract for an additional fee.
- The agency makes monthly lease payments to DES through the term of the COP.
  - The maximum COP financing term equals the useful life of this asset class in the SAAM manual. DES must obtain OFM written approval for a shorter or longer term.
- At the end of the lease term, the agency can choose for DES to:
  - Remove the PCs. DES can replace them with new PCs through a new lease, or the agency can otherwise acquire new equipment as needed. DES transfers the used PCs to the Computers for Kids Program.
  - Transfer ownership of the PCs to the agency. No further acquisition related payments are due.
  - Extend the lease for an agreed period of time. Lease payments do not continue but service fees remain through the extension.

Information on the DES leasing program, including rates and fees for cost benefit analysis, can be found at: http://des.wa.gov/services/IT/ITContracts/Pages/Technology-Leasing.aspx

Vendor Operating Lease:
The Vendor Operating lease became available in May, 2013 on certain Western States Contracting Alliance (WSCA) PC master contracts. Agencies lease directly from the vendor. This lease can be considered where agencies need equipment refreshes of 36 months or less and no ownership is desired during or after the lease commitment. The Vendor Operating Lease is subject to four conditions:

- The present value of the lease payments must be less than 90% of fair market value
- Lease term must not exceed 75% of the PC useful life defined in the SAAM Manual
- The lease must not include a bargain purchase option
- The lease must not provide transfer of ownership

Other characteristics of Vendor Operating Leases:

- The vendor acquires and finances the equipment, and holds title throughout the lease term
  - The maximum lease term is 36 months as of this writing. It is 75% of the PC useful life defined in the SAAM manual.
- The agency is responsible for asset management and lease contract management
- The vendor includes warranty coverage to coincide with the lease
- The agency chooses whether to deploy and decommission PCs with their own staff or acquire this life cycle service from the vendor as part of the lease.
- The vendor takes possession of leased PCs promptly at the end of the lease
- Changes to the operating lease, including equipment upgrades and extensions, can be negotiated for a fee. Extensions cannot surpass the maximum lease term. The cost of unanticipated changes can offset the lifecycle savings of the lease.

Information on PC operating leases can be found at:
http://des.wa.gov/services/IT/ITContracts/ITMasterContract/Pages/default.aspx

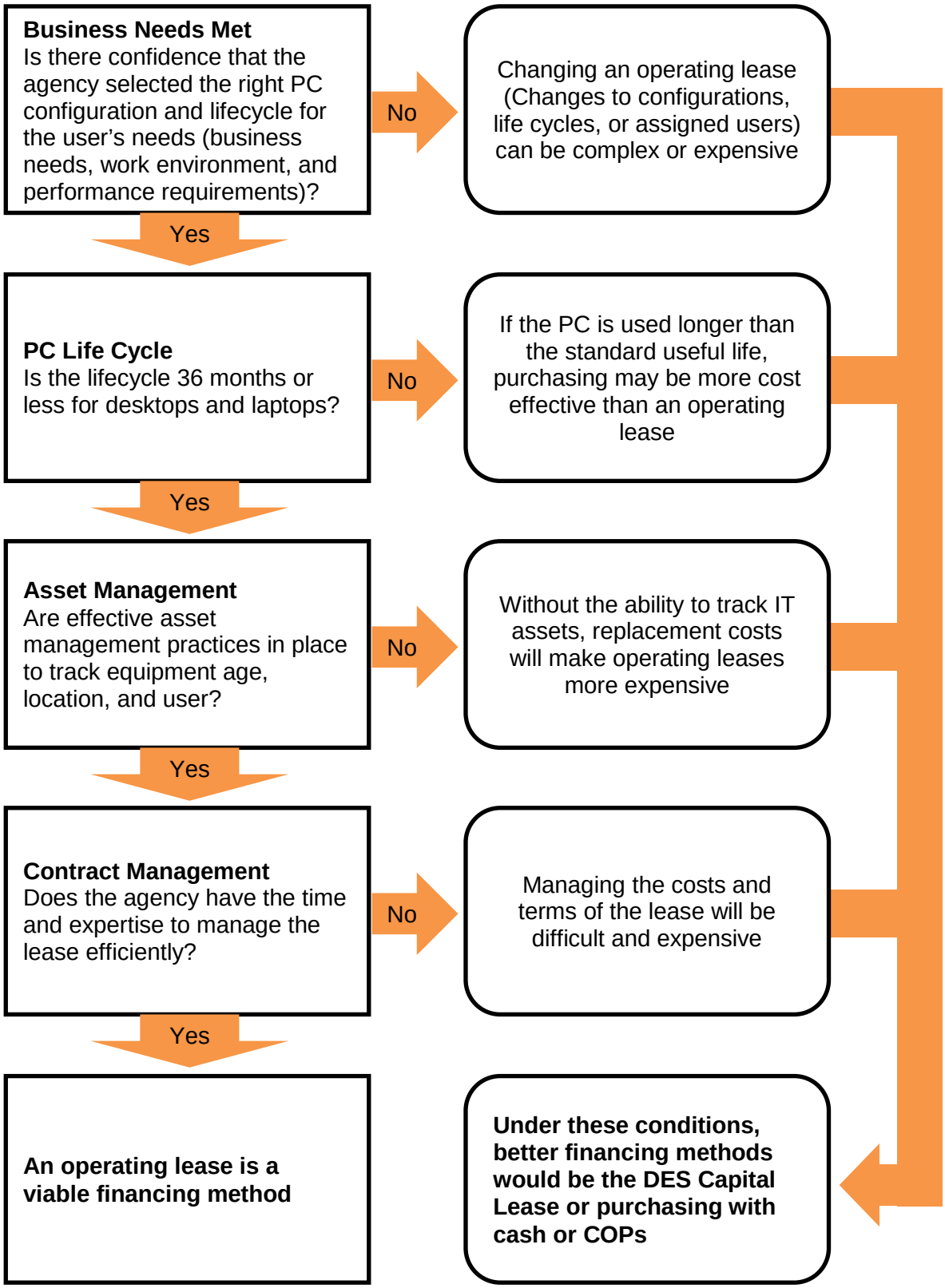
The SAAM manual policy on useful life may be found at SAAM subsection 30.20.70.c.

Determine how the pros and cons below benefit the agency to select a financing method and assess impacts on PC life cycle costs.

Purchase (Cash) Pros- Cash Purchase • Lowest cost option from cash flow perspective for 4+ year replacement cycles, excluding other life cycle costs • No interest expense • Agency has full flexibility in equipment and services purchased • Lowest cost option for PCs with longer than standard useful lives	Cons-Cash Purchase • Large cash outlays required unless a just-in-time delivery approach is taken • Committed to asset until the next time cash is available • Own potentially obsolete equipment at end of useful life if it can't be replaced • Agency provides asset management • May violate Federal regulations to spread equipment costs over useful life
Purchase (COP) Pros- COP Purchase • Avoid large lump sum cash outlay • Expenditure predictability	Cons-COP Purchase • Interest payments • Own potentially obsolete equipment after financing if it can't be replaced

Pros- COP Purchase, continued • Agency has flexibility in services and equipment purchased conditioned on meeting COP criteria • Agency could get more life out of PCs after COP payments are completed • Tax exempt financing • Spreading equipment costs over the useful life meets Federal regulations	Cons- COP Purchase, continued • Funding must be available for payments over the term of the COP • Agency provides asset management
DES Capital Lease	
Pros-DES Capital Lease • Easy to refresh equipment every three to four years • Avoid large lump sum cash outlay • Expenditure predictability for budgeting • Agency has flexibility in services and equipment leased, within COP criteria • Ownership can be transferred to the agency at the end of the lease • Agency could get more life out of equipment after lease expires • DES provides asset management • Tax exempt financing • Spreading equipment costs over the useful life meets Federal regulations	Cons-DES Capital Lease • Interest expense and DES fees • Funding must be available for payments over lease term
Vendor Operating Lease	
Pros- Vendor Operating Lease • Easy to refresh equipment every three years since this is the maximum term • Easier to upgrade hardware-dependent software • Lowest cost option from cash flow perspective for short replacement cycles of 3 years and less (for heavy PC use, etc.), excluding other life cycle costs which could offset savings • Agency is not stuck with obsolete equipment • Avoid large lump sum cash outlay • Expenditure predictability for budgeting • Spreading equipment costs over the useful life meets Federal regulations	Cons-Vendor Operating Lease • Taxable financing expenses • Less agency flexibility in services and equipment leased - based on master contract options • PCs must be turned back at end of three year lease • Higher risk if funds are not available to replace returned PCs • Agency provides asset management • More expensive if replacement cycle is 4 years or more • Operating lease market may be adversely impacted by pending accounting standards changes • Must have good procurement/negotiations up front. • Funding must be available for payments over lease term

The agency should also consider the management issues in the decision tree below when evaluating operating leases, purchasing options, or the DES Leasing alternative:



PC Lifecycle Steps:

The steps of the PC life cycle used in this Guideline are defined below. These steps comprise the major components of PC lifecycle cost.

- Planning: Refers to the process of developing the PC refresh plan, identifying business requirements and employee working environments that drive agency PC configurations, developing standard configurations, matching standard configurations to employees based on business need, and scheduling replacements for employees. Planning should include continuously improving PC replacement.

- Acquisition: Includes purchasing activities by acquisition and contract personnel, satisfying state competitive acquisition requirements, obtaining the best prices and life cycle services, negotiating contracts, creating purchase orders, reconciling receiver's reports and processing payment.

- Deployment: Consists of system imaging, testing, delivery, installation, network connectivity and testing, packaging removal, end user walkthrough, inventory, and record keeping.

- Asset Management: Involves gathering and maintaining detailed hardware and software inventory information on PC configuration, useful life, age, lease / financing expiration, location, user assignment, etc. This is used to support cost accounting and inform decisions relating to hardware and software purchases and redistribution.

- End User Support/Maintenance: The direct support of the user and their system. This includes help desk services, problem tracking, assistance from technical support staff, on-site troubleshooting, equipment repair, and upgrades.

- System Administration: Ensuring that systems are maintained and configured in such a way that they are reliable, secure and productive. Activities include system image updates, operating systems and application software upgrades, security patches, configuration changes, and documenting the configuration of a system.

- Decommissioning: This includes PC removal from the work location, wiping state data from the PC, software and license transfers, transporting for proper disposition, updating asset management records, and preparing the work location for replacement equipment.

Definitions

Personal Computer (PC): A physical computer, designed around a micro processer, whose primary purpose is to provide a single concurrent user with access to personal productivity software such as web browsers, e-mail readers, word processors, spreadsheet applications, and software for other business or personal uses. A typical PC includes at least a system unit, monitor, keyboard, and mouse. PCs are contrasted from servers and mainframes.

Desktop PC: A PC that is designed to stay in a single location. The system unit may rest on the floor as a tower or on a table or desktop, and may take the form of an all-in-one machine where most components are in one chassis. Unlike laptops and other portable devices, desktop

computers cannot be powered from an internal battery and therefore must remain connected to an electrical outlet.

Laptop /Notebook: A portable PC utilizing an internal battery, integrated keyboard, and pointing device that is small enough to use on your lap and take with you in different environments. Nowadays, a computer laptop is more frequently called a notebook computer, though technically laptops are somewhat larger in size than notebooks in both thickness and weight. Some laptops and notebooks are powerful enough to replace desktop PCs.

Useful Life: An estimate of the total time that an asset is usable and in service. Useful life is used in computing depreciation on an asset, instead of using the physical life.

Replacement Cycle: A period of time between the purchase of an asset and its replacement with an equivalent asset. The replacement may be the result of the end of the asset's absolute physical life, its obsolescence, or some other reason.

REVISION HISTORY

Date	Action taken
September 30, 2013	New Policy adopted.

CONTACT INFORMATION

For questions about this policy, please contact your OCIO Information Technology Consultant.

APPROVING AUTHORITY

Chief Information Officer Date
Chair, Technology Services Board