SJSU Workstation Refresh & Virtual Desktop Infrastructure (VDI) Program

Program History

Date	Action
2/15/2016	Reviews/Updates: IT Management Advisory Committee, AVP ITS - MC
8/7/2013	Draft Program Released

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Introduction and Purpose

The Workstation Refresh Program provides replacement Workstations for employees and computer labs which are 4-years old or older. The devices will utilize centrally supported systems including Workstation Patching, Active Directory, Encryption, Vulnerability Scanning, and Mobile Device Management where applicable in order to meet a number of goals including computing standards, information security, and cost management. The program will provide campus-wide governance on the purchase of workstation hardware as well as a service for departments to purchase new equipment.

The systems targeted by this program are the gateway for SJSU's community into our technological space. The program includes replacement lab, public facing, faculty, and staff workstations which all contribute to university strategic priorities. Most notably, the program will build vibrant and creative learning spaces, promote interdisciplinary and cross-divisional partnerships, reduce duplication of services, create a more positive end-user experience, and increase reliability.

Scope

The refresh program is being offered as part of ITS Baseline Services for campus. All operational-fund and self-support departments eligible for ITS Baseline Services are included in the program. The Workstation Refresh Program includes:

- All state operating funded departments
- The Auxiliary and Self Support units who have opted into the program
    - College of International and Extended Studies
    - University Housing
    - Parking Services

The program provides the appropriate IT Technician one replacement Workstation every four years for each Full-Time employee position and computer lab space on campus. The program does not provide workstations for new positions, new lab locations, new office locations, student assistants, graduate assistants, contractors or volunteer positions. Any exceptions to this rule shall be evaluated on a case by case basis. For each workstation provided by the program, one four-year old workstation must be removed from service.

One workstation will be provided to each permanent position assigned to each department, as well as each existing lab/kiosk/common use machine. Each workstation will be assigned to one of four "refresh cycles" indicating which group is slated to be refreshed that fiscal year (Purchase Year 2013/014 - cycle A, Purchase Year 2014/2015 - cycle B, etc.). Each cycle will be provided with new hardware every four years.

Auxiliary units and Self Support units

The refresh program excludes funding for non-state funded auxiliaries and self support units.

New Employees

Departments are responsible for purchasing Workstations for new employees if they choose to provide a new computer to those employees. The Workstation Refresh Program Coordinator may assist with and conduct the purchase for the new employee to get the best pricing for SJSU, but it is not required for the department to buy the workstations through the Workstation Refresh Program. New computers for new employees are not funded by the Workstation Refresh Program.

Part-Time, Temporary faculty/staff, Volunteer, Contractor, and Student Assistants

Temporary faculty/staff, volunteer, contractor and student employees shall be provided a workstation at the expense of the hiring department. It is the hiring departments' choice whether they issue a new computer or a recycled computer. The Workstation Refresh Program does not provide funding to refresh workstations for these employment types.

Departments with Part-Time employees shall receive computers based off their Full Time Equivalent calculations:

 (Sum of Weekly Hours worked by all Part Time Employees) / 40, Rounded Down to the Nearest Whole Number = Quantity of Workstations Provided Every Four Years

For example, a department with 3 Temporary Employees working 20 hours per week '(20+20+20)/40 = 1.5' shall receive 1 replacement computer every four years for those employees to share. The department is still responsible for funding initial purchase.

Pricing and Department Chargebacks

$1,000 per workstation is allocated for each machine eligible for replacement. While many Standard Configurations are no-cost to the department, any make and model may be specified. All Workstation Refresh computer orders from departments require approval from the Associate Dean or Associate Vice President. Departments are responsible for funding any difference in workstation cost over $1000.

All orders must be placed through or receive written authorization from the Workstation Refresh Program Coordinator. The Workstation Refresh Program will not retroactively reimburse departments for orders which did not receive written authorization nor will any Workstation Refresh funding be transferred to a department for self-administration.

Pricing for non-standard (upgraded, portable, etc.) and out of scope (temporary, vendor, etc.) constituents will be at-cost on a per-device basis. Prices will vary depending on device/configuration desired, availability, and current market costs. ITS will maintain and publish a pre-negotiated pricing model for the following standard devices:

- PC Desktop with Monitor
- Mac Desktop Workstation with Monitor
- Mobile Tablet
- Dockable PC Laptop
- Ultra Portable PC Laptop
- Workstation-Class PC Desktop
- Ultra Portable Mac Laptop
- High Power Mac Laptop
- Monitor

ITS will assist with consultation services as well as purchase of non-standard equipment through the Refresh Program on request.

See – Standard Workstation Configurations

Asset Management

Per Integrated CSU Administration Manual (ICSUAM) 8065.0 SJSU is responsible for maintaining an inventory of information assets containing Level 1 data. Due to the widespread availability of sensitive data (passwords, student data, health insurance information, medical records, home addresses, library circulation information, bids, facilities diagrams, grades, etc.) all devices distributed through the Refresh Program must be tracked. ITS provides an asset management system (iSupport) for the purpose of tracking all devices capable of storing sensitive data, including all workstations, servers, printers, and state owned mobile devices.

All devices received through the Refresh Program must be tracked through the central iSupport asset management system. Department Technicians are responsible for data entry of all delivered Workstations in iSupport including:

- o Make/Model
- o Serial Number
- o ITS/Property Tag Number
- o Purchase Date
- o Refresh Cycle
- o Includes Display Purchased by Refresh
- o "Last Seen" Date
    - ▪ Department Technicians must validate that all workstations are accounted for at least annually, either visually or through reporting tools (BigFix, Active Directory, etc.)
- o Primary User (Employee Machines)
    - ▪ Must contain position number
- o Physical Location
- o DOD Wipe Date, where applicable
- o Disposition Date, where applicable

The system will track a device throughout its entire lifecycle including initial purchase, current location, current owner, data disposition status, and survey status. Departments receiving devices are considered device custodians and will be responsible for maintaining an accurate inventory.

As part of each department's annual Information Security Risk Assessment, a Physical Inventory Report and Discrepancy memo must be provided to the Information Security Officer noting any missing equipment. Each department will be given 10 days to locate the property. If the department is still unable to locate the property after the 10-day grace period, the department will note that the property is missing on a Missing Equipment Report and will file a police report with the San Jose State Police Department for investigation. The Workstation Refresh Program will not fund the replacement of missing/lost/stolen equipment.

Hardware Configuration

Three standard "no cost to department" computers will be specified by IT Management Advisory Committee and Workstation Refresh Program Coordinator as the default computers provided by the program. These options will include a PC Desktop with Monitor, an Apple Desktop with Monitor, and a Mobile Tablet. The device configurations will be reviewed by the IT Management Advisory Committee at least semi-annually. This configuration must be suitable to address the computing needs for office productivity, console application programming, and general lab use.

See – Standard Workstation Configurations

All Workstations purchased by the campus must meet or exceed the specifications outlined in the SJSU Workstation Hardware Standard.

Laptops, Macs, Tablets, and PC Desktop Upgrades

A laptop computer, tablet, or non-standard PC desktop will be considered an upgrade to the default configuration. The Program will provide only one desktop, laptop, or tablet per employee. Secondary computers, and upgrades to the standard configuration will be made on a per-device basis and funded by the receiving department using the following model:

Cost of upgraded device – $1,000 = Portion paid by department

ITS will maintain recommended configurations in order to take advantages of economies of scale, bulk pricing, maintaining a single computer disk image, and ability to scale technology support.

Virtual Desktop Infrastructure (VDI)

IT Services provides a Virtual Desktop Infrastructure (VDI) to support lab and employee computing needs on campus. VDI Zero/Thin clients shall be considered equal to a standard refresh and follow the same cycles, rules and funding models.

Monitors, Printers, and Other Devices

The Workstation Refresh Program will provide one 23" replacement monitor per Refreshed Workstation to be used as a primary display. It is the Departments' choice whether they issue additional monitors to a location. The Workstation Refresh Program does not providing funding for additional displays.

Departments may not distribute monitors provided by Workstation Refresh to other locations, i.e. Departments are not allowed to move a monitor provided to an employee and install it in a Computer Lab.

Only one monitor will be provided per workstation. Monitors attached to Laptop docking stations are considered secondary. Printers, and other devices are not included in the refresh program, however ITS will maintain a configuration of a standard monitors to take advantage of our bulk pricing agreements

Purchasing Process and Disbursement

Department Refresh Coordinators

Each College/Department must appoint a Department Refresh Coordinator who is responsible for facilitating communication regarding Workstation Refresh, submitting all Workstation Refresh orders to IT Services, validating/signing for shipments as they arrive in the department, overseeing deployment within the deployment and ensuring compliance with this standard. See Appendix A.

Procurement

Department Refresh Coordinators shall request Refresh computers through the IT Services Workstation Refresh Program Coordinator. All orders must be placed through or receive written authorization from the department's Associate Dean or Associate Vice President and Workstation Refresh Program Coordinator. The Workstation Refresh Program will not retroactively reimburse departments for orders which did not receive prior authorization from the ITS Workstation Program Coordinator nor will any Workstation Refresh funding be transferred to a department for self-administration.

The Workstation Refresh Program Coordinator shall receive the following prior to purchasing equipment:
- Order Request from Department
  - Shall Contain:

- - A listing of all position numbers or lab locations computers will be deployed
  - Requested make/model/configuration
  - A listing of machines that will be removed from service
- Written approval from department AVP or Associate Dean for all Workstation orders.
- Chartfield information – Orders with chargebacks only

The Department Refresh Coordinator shall:
- Ensure equipment being signed for matches what was ordered: quantity, make and model
  - Report any discrepancies to the Workstation Refresh Program Coordinator
- Update the ITS asset management tool with all new computers
- Facilitate Deployment to department users
- Ensure old computers are removed from service and update iSupport inventory within 60 days

Right of Refusal

IT Services reserves the right to temporarily hold orders for departments who are not complying with this standard. Some examples of this include but are not limited to:
- Department Management has not approved orders
- Department IT Technicians have not updated the ITS asset management database
- Department IT Technicians have not removed refreshed machines from service
- Department have not provided Chartfield String for custom orders
- IT Services is receiving order requests from individuals other than the Department Refresh Coordinator.

Upon remediation of any citied issues, Refresh service shall resume.

Decommissioning

All machines removed from service must follow the SJSU Decommissioning and Disposing of Workstations and Servers Workflow.

Decommissioning

All departments are required to update the Asset Management System whenever a device is taken out of operation. Decommissioning of devices will follow standard operating procedures or returned to ITS for proper disposal. Department inventories and automated tools (I.e. BigFix, ActiveDirectory) will be compared to order sheets to ensure computers are being decommissioned as quickly as they are purchased.

IT Services reserves the right to refuse future orders where departments cannot prove a 1:1 Refresh Purchase to Decommission ratio.

Data Disposition

Data disposition shall follow SJSU Electronic Data Disposition Standard.

Images & Standard Software

Workstation images at minimum must comply with SJSU Information Security Standards and include:
- Antivirus (required on all devices, regardless of operating system)
- Patch Management (i.e BigFix)
- Password Management (Active Directory)
- Encryption (Workstations storing Level 1 Data only)

- User specific logon credentials
- "Least Privilege" logons for users
- Must not deploy standard "factory" images installed by PC providers (Dell, HP, Lenovo, etc.)

ITS will assist with image creation where necessary and provide services to ensure adequate protection of our information assets including: Active Directory, Password Management, Patch Management, Encryption, and Antivirus.

Software Licensing

Departments are responsible for purchasing, maintaining, and ensuring compliance with all software vendors. A number of system-wide and campus-wide agreements are currently in place which provide licenses for essential software such as Microsoft Office. All workstations must be purchased with the appropriate licensing for the installed Operating System. Contact ITS for additional information. Also visit https://software.sjsu.edu for software licenses available.

Information Security Tools

In an effort to protect campus information assets a number of new technologies are available in conjunction with the Program. Per ICSUAM 8000 all workstations shall be equipped with Antivirus protection, meet minimum password standards, be physically secure, be maintained with security patches, and sufficiently protect Level 1 and Level 2 data stored on internal memory. In conjunction with SJSU Information Security Standards the Workstation Refresh Program will require the usage of Sophos Antivirus, SJSU Central Active Directory Services, physical locks in lab environments, Patch Management, and hard drive encryption wherever practical; any exceptions must be documented and approved by the Information Security Office. These services will be provided and managed by ITS as part of ITS Baseline Services.

Governance

SJSU's Chief Information Officer (CIO) or his/her designate will coordinate and oversee the Workstation Refresh program. The CIO reports annually to the University Cabinet on the current state of Workstation Refresh.

The Workstation Refresh Program is reviewed with campus constituents through various committees and other governance bodies. The CIO and the ISO are standing members of the IT Management Advisory Committee. This committee is advisory and reports to the University Cabinet on policies and plans related to IT management and use of information resources.

The Information Security Management Team meets regularly to review security policies and issues, discuss specific information technology needs, identify areas of concern, clarify and interpret policies, and develop communication and implementation strategies and plans.

The IT Services Workstation Refresh Program Coordinator is responsible for internal operations of the Workstation Refresh Program.

Administrators across the University are responsible for ensuring Workstation Refresh Standards, and Practices are followed by employees in their respective areas.

Technical support staff and individual users are expected to follow established Standards and Practices and to report potential security violations.

Definitions

Workstation
Any Desktop computer, VDI Thin Client, Laptop Computer, or Mobile Tablet type device.

Desktop
A personal computer small enough to fit in an individual workspace. Does not have to be capable of storing data.

Examples:
- Acer Aspire
- Apple Mac Mini, iMac, and Mac Pro
- Asus E-Box and Essentio
- Dell Alienware, Dimension, Optiplex, Precision and XPS
- Gateway SX Series
- HP Pavilion, 110, and Compaq
- Lenovo Erazer, C, H and K Series
- Sony VAIO

VDI Thin Client
A personal computer small enough to fit in an individual workspace incapable of standalone operation, and capable of "virtually" performing Desktop activities on a centralized server. These devices are essentially terminal devices which provide keyboard, USB, and mouse inputs and audio/video outputs to the user.

Examples:
- Acer Veriton
- Dell C, D, R, T, V, Z Series and Wyse
- HP MultiSeat, T Series, and Smart Client

Laptop
A personal computer that is portable. Does not have to be capable of storing data. Includes Touchscreen and Traditional Screen Tablets, and Convertible devices which are capable of running a Desktop Operating System (i.e. Microsoft Windows, Apple OSX)

Examples:
- Acer Aspire
- Asus VivoBook
- Apple MacBook and MacBook Air
- Dell Alieneware, Inspiron, Latitude, Precision, NB, Slate (ST), Venue (Windows Models) and XPS
- HP Envy, Pavilio, and Split
- Google Chromebook
- Lenovo Ideapad and Yoga
- Samsung ATIV
- Sony VAIO
- Toshiba Satellite

Mobile Tablet
A personal computing device that is portable. Does not have to be capable of storing data. Includes Touchscreen and Traditional Screen devices, Tablets, and Readers which run on a device-specific mobile operating system (i.e. Apple iOS, Android, Nook, Kindle). Does not include Cellular Phones

Examples:
- Acer Iconia
- Amazon Kindle and Kindle Fire
- Apple iPad, iPad Mini, and iPod
- Asus MemoTab, VioTab, and Transformer
- Barnes and Noble Nook
- BlackBerry Playbook
- Dell Venue (Android Models)
- Google Nexus
- HP Slate and Split
- Microsoft Surface and Surface Pro
- Samsung Galaxy
- Sony Xperia

Program Maintenance

The San José State Chief Information Officer or his/her designate performs an annual review of this Program and communicates any changes or additions to appropriate SJSU stakeholders. The SJSU Workstation Refresh Program shall be updated as necessary to reflect changes in CSU policies, SJSU's academic, administrative, or technical environments, or applicable laws and regulations.

The program may be augmented, but neither supplanted nor diminished, by additional policies and standards.

Any changes to this program shall be communicated in writing to stakeholders by the CIO including Deans, AVP's, Technical Staff and all changes must be reflected in writing on the IT Services Web Site.

Appendix A – Department Refresh Coordinators

IT Department	Department Refresh Coordinator	Backup Coordinator
College of Applied Science and Arts	David Kessler	
College of Business	Nick Van Eyck	Andy Yeung
College of Education	April Lee	
College of Engineering	Lee Andersen	
College of Humanities & Arts	Bruce Gardner	Jim LeFever
College of International and Extended Studies	Allen Madanipour	
College of Science	Cathy Kozak	Steve Boring
College of Social Science	Alan Leventhal	
Dr. Martin Luther King Jr. Library	Christina Mune	
IT Services, Academic Technology, President's Office, Administration & Finance, Intercollegiate Athletics	Michael Cook	Christopher Laxton
Mineta Transportaion Institute	Thomas Leavitt	
Moss Landing Marine Labs	Rhett Frantz	Jeff Arlt
School of Information	Stanley Laufer	Randy Cheng
Student Affairs	Ron Wong	
University Advancement	Rigo Vargas	
University Housing	Patrick Ho	Chuck Wu

Appendix B – Roles and Responsibilities

Task and Responsibility	Responsibility
Support and Services for Users What users request from us Services = we provide to users Support = software, hardware, departmental things we support	
Trouble Call, Tickets, User Consultation & iSupport Respond to calls, Work iSupport tickets, Assist users, Resolve problems	Department IT
Information Dissemination to Users Create messages, Document procedures	ITS & Department IT
Installation: Hardware & Software Using written procedures	Department IT
User Training Coordination Organize & coordinate training, Develop training plan & curriculum, Coordinate training times, location, instructors, & equipment	Department IT
Operations Internal things we do to run the department in service of IT and the campus	
Desktop Management Software Coordination Create, maintain, test and deploy application objects, Document procedures	Department IT
Desktop Power Management Coordination & Maintenance Design, Configure, Monitor usage, and Document Procedures; Coordinate testing & deployment; Document changes; Maintain settings, schedule and configuration, using written procedures	Department IT
Liaison to Campus Resources	ITS
Internal Procedure Documentation Coordination Create department standards; Review IT folders for procedures; Coordinate directory structure for documentation; Document procedures	Director, Identity, Security & Enterprise Computing
Internal Training Coordination Organize & coordinate training, Develop training plan & curriculum, Coordinate training times, location, instructors, & equipment	Director, Identity, Security & Enterprise Computing
Property / Hardware Physical Inventory Survey equipment/property as requested, Reconcile IT checkout equipment inventory quarterly (report on status to IT director), Inventory equipment / property assets annually, Document Procedures	Department IT
Remote Computing Coordination Design laptop configuration for remote access; Coordinate remote access services for users Document procedures	ITS & Department IT

Patches for Workstations Coordination: Non-Microsoft via Big Fix: Determine patches to install; Test patches; Schedule & apply patches; Document Procedures	ITS & Department IT
Software License Compliance Develop policies & procedures; Document procedures	Department IT
Workstation Application Change Control Coordination Coordinate changes with IT, users, campus resources; Develop and send communications; Coordinate testing & deployment	Department IT
Workstation Hardware Change Control Coordination Specify configuration; Coordinate changes with IT, users; Coordinate testing & deployment; Document procedures	ITS
Workstation Refresh Deployment Interview users; Setup workstations following written procedures; Provide workstation to user; Follow up with users following procedures; Update refresh workstation deployment log with names and dates	ITS & Department IT
Workstation Refresh Imaging system maintenance; Maintain images, document image updates and changes, document and maintain imaging procedures	ITS
Workstation Refresh Coordination, Workstation Recycle Coordination Develop policies and procedures for upgrades & replacements; Specify system configuration; Specify system recommendations; Place orders; Assign tasks for student assistants IT and staff; Track workstation status; Document procedures	ITS
Malware Coordination Integrate with IT applications, Coordinate updates & problems with ITS, Review software logs periodically; Document procedures	ITS
Audits Review & adjust our access rights internal and external Review & align our software & hardware compliance and policies	
Workstation Security and Asset Audit – Performed Annually Reconcile patches for: Windows, anti-virus, anti-spyware; Assess physical security; Coordinate changes	ITS & Department IT
Laptop Equipment Audit – Performed Annually Reconcile laptop inventory, location, usage	ITS & Department IT
Property Audit – Performed Annually Reconcile IT LAN database to actual property locations; Coordinate updates	ITS & Department IT
Software License Compliance Audit – Performed Annually Reconcile licensed software purchased to actual installs; Coordinate changes	ITS & Department IT
Strategic Planning	
Workstation Refresh Planning	ITS