

## Desktop Computing Initiative

### Background

Desktop initiatives at Old Dominion University have concentrated on hardware procurement, consistent hardware and software environments, and managed desktops. Desktop replacement has been accomplished through ETF allocations and special projects, such as Y2K. Colleges and departments have used the guideline of replacing desktops every 3 to 4 years, however, a plan to replace desktops on a regular cycle has never been developed. Special pricing and contracts are in place to purchase Intel hardware from Gateway, Macintosh hardware from Apple, UNIX hardware from Sun, IBM, SGI, and Compaq.

### Desktop Hardware Standards and Life Cycle Replacement

The University partnership with Gateway has proven successful and beneficial. Standardizing on the E-series of desktops has provided hardware consistency and reliability on the campus. Using Gateway's Custom Integrated Services (CIS) machines can be ordered directly with a customized software image and tagged with an Old Dominion asset tag. The customized software image reduces setup time for new machines from 4 hours to 1 hour. Gateway has provided special pricing and promotions for using CIS. Microsoft Office 97 was bundled with every machine ordered through CIS at no cost. In addition, Gateway donated 20 systems for an open lab at the Northern Virginia Center. Novell ZENworks is used to manage the Wintel (Microsoft Windows running on Intel hardware) desktop environment. ZENworks provides application delivery, push and pull technology for software installation, and desktop hardware and software inventory.

Old Dominion also maintains a good working relationship with Sun Microsystems. Through aggressive pricing and promotions, the Sun platform has been the predominant UNIX-based hardware on campus for several years. Sun donated equipment to establish a 29 station UNIX e-commerce lab. SGI, and Compaq systems are primarily used in research areas. Linux is also used in research, however is being used as the primary desktop in a few disciplines. IBM RS/6000 hardware is the standard hardware platform for Banner and related systems.

The University maintains a contract for hardware repair and maintenance of desktop equipment. SysPro provides personal computer and peripheral maintenance (warranty and non-warranty) and repair services. The standard response time is 4 hours, Monday – Friday 8a.m.-5 p.m. Grunman offers maintenance contracts for Sun and SGI equipment. Time and material rates and yearly maintenance options are available from Gunman.

**Are the current standards meeting the needs of the campus? What review process should be established to maintain hardware standards? Should the University establish a life-cycle replacement strategy? If a strategy is established, should the strategy fit within current budget allocations or should special funding be requested to meet the requirements of the strategy?**

### Labs and Student-owned PCs

Old Dominion does not have a mandatory computer purchase requirement for students. Recommended hardware configurations and special pricing are provided to students who desire to purchase a computer. Dell, Gateway, and College Computers offer systems directly to students meeting the configuration guidelines established by the Academic Technology Committee. Mid-range and high-end configuration recommendations are provided for both Intel and Apple laptops and desktops. The University resident halls are networked, providing a network connection for every student. Currently 50% of the students have computers and are using the network.

The University provides nine open computing labs with 311 PCs at the main campus and the higher education centers. A new 40-station open lab is being constructed in Education 229. The following provides the configuration of the machine by lab.

Lab Location	Computer Equipment	Printers Available
BAL 100	(20) Gateway E3200 Pentium III	(1) HP 8100 Laser
Kaufman 115	(60) Gateway E3200 Pentium III	(2) HP 8100 Lasers
Library	(57) Gateway E3200 Pentium III	(2) HP 8100 Lasers
MGB 342	(30) Gateway E3200 Pentium III	(1) HP 8100 Laser
Webb Center	(41) Gateway E3200 Pentium III	(1) HP 8100 Laser
Technology 355	(19) Gateway E3200 Pentium III	(1) HP 8100 Laser
Penn Center	(19) Gateway E3200 Pentium III	(1) HP 8100 Laser
VBHEC	(45) Gateway E3200 Pentium III	(1) HP 8100 Laser
Northern Virginia Center	(20) Gateway Performance 600	(1) HP 8100 Laser

Several college and departmental labs support discipline specific applications and serve for both open and instructional use. Access to computers at TELETECHNET sites is determined through arrangements and agreements established for each of the sites. For example, at the Virginia community college sites, each community college provides lab machines based on TELETECHNET enrollment. At sites, such as Dahlgren, University machines are provided.

**Should the University require students to own computers? Can the requirement be implemented by college or department needs? The number of open lab machines on the main campus is approximately 3% of the student population, which is well below other institutions in Virginia. What is the appropriate percentage of open lab machines to students? For students who own laptops, should wireless LAN access be provided?**

#### Software

OCCS manages a site license program providing contract management for University wide software and resells software purchased through volume agreements. The method for determining the need for a volume agreement or campus-wide license has been loosely organized. Thus, multiple departments own small-volume purchases of software where volume agreements or campus-wide licenses could result in institutional savings. In addition, multiple departments have made decisions not to purchase software because of the cost for small purchases. A combined purchase may have provided the price reduction necessary for the departments to proceed with the software procurement.

The site license program offers the following software.

Software	Vendor	Type of License	Cost
SPSS	SPSS	Campus-wide License	\$15,000.00/annually
SPSS	Sigmaplot	Volume Discount	
SPSS	Amos	Volume Discount	
SPSS	Systat	Volume Discount	
SPSS	SamplePower	Volume Discount	
Arcview, Arcinfo	ESRI	Campus-wide License	\$25,000.00/annually
Geomedia, Geomedia PRO	Integrph	Campus-wide License	\$10,000.00/annually
McAfee Virus	Network	Campus-wide	\$24,000.00/annually

Software	Associates	License	
Microsoft	NT	Volume Discount	\$47.00/copy
Microsoft	Office 2000	Volume Discount	\$43.00/copy
Microsoft	Office 2000 Professional	Volume Discount	\$55.00/copy
Microsoft	Visual Studio	Volume Discount	\$69.00/copy
Microsoft	Project 2000	Volume Discount	\$45.00/copy
Microsoft	Office 98 for MAC	Volume Discount	\$48.00/copy
Microsoft	Front Page	Volume Discount	36.00/copy
Corel	WordPerfect Office	Volume Discount	\$37.00/copy
Corel	WordPerfect Office Professional	Volume Discount	\$68.00/copy
SAS	SAS for PC	Volume Discount	\$30.00/copy
SAS	SAS for UNIX	Volume Discount	\$71.00/copy

**What policies and review process should be implemented for software standards, selecting what software is offered through a site license program, whether software is funded centrally, what software should be available in the labs, and how best to deliver applications to distance learners?**

### Technology Support

Old Dominion University operates a complex technology environment, which has provided and continues to provide for new opportunities in both academic and administrative programs. The technology environment has changed dramatically over the past two years with a distributed computing environment of powerful machines at the desktop linked together by high capacity servers and broadband networks. Even with these changes and the continued rapid pace of technology change at the University, the model to support the technology has remained basically the same. A review of technology support models and an investigation of the application of these support models at Old Dominion University have led to the following findings:

- \$ A central only computing support model is ineffective and inefficient in a distributed computing environment.
- \$ A departmental only computing support model leads to incompatible computing systems and higher costs.
- \$ A multi-tiered support structure with both central and distributed support staff increases the total effective support to the end users.

The use of technology tools to take advantage of programmatic opportunities is the key to their success. A multi-tiered support model focusing distributed support staff on departmental application support and the first level of desktop support is recommended for Old Dominion University. With the central support staff providing infrastructure services, second level support for the desktop, and collaboratively maintaining technology standards with the campus, the multi-tiered support structure will increase technology support for end-users.

During the 2000-2001 budget planning process, the President endorsed the strategy of moving to a multi-tiered technology support model at Old Dominion University. In consultation with the Provost and Vice President for Academic Affairs, the Deans, and the Vice President of Administration and Finance, the Office of Computing and Communication Services will develop an implementation strategy and identify the long-term resource needs for implementation.

**What is the best organizational structure to manage a multi-tiered support structure? Who manages the resources and how are the use of the resources held accountable?**

*Mobile Computing and Remote Access*

Beginning in the 1999 – 2000 budget year, through a contract with Internet Connections, the University provided a mechanism through which remote connectivity is available to all faculty on a “7 x 24 “ basis. The same service is available for staff and students at a rate of \$8.50/month. This connectivity provides access to the Internet, Old Dominion University Internet-based resources and computational resources. Access to secure resources is not available through the Internet Connections services.

Access to specialized desktop software applications is not made available remotely. Currently, faculty and students have to run a local copy of the licensed software on a personal machine or a TELETECHNET machine. OCCS is currently testing delivering specialized applications installed on campus to remote sites, such as homes and TELETECHNET sites, using a thin client strategy. Joe Betit has been working with OCCS, to test delivering GIS applications using the thin client strategy. In his initial testing, Joe stated “It worked great ! This will be a real break through if it works okay. We will need to deliver remote sensing and softcopy (digital aerial mapping) next semester on TELETECHNET.”

**Should remote access include a Virtual Private Network (VPN) strategy to provide access to secure resources and enhance security to existing resources for faculty and staff? Can a thin client strategy benefit the faculty and students? Will a thin client strategy be cost effective?**