

Proposal for Upgrading Computer Science Network Lab Computers

Project Description

The Introduction to Network and System Administration course taught by Mr. Jeff Bauer, a teaching faculty who is the IT director of FSU Foundation, is designed to give students practical experience administering systems with Unix-based and Windows-based operating systems. The entire course, including all class meetings and homework, takes place in the Network Lab with each student working on their own assigned computer. The current set of 48 computers in the lab was purchased in 2011. There are all Dell OptiPlex 780s with a Core 2 duo (E7500), a 250GB hard drive, 12GB memory, and a DVD drive. Mr. Bauer's class typically is capped at 30 students, but occasionally an additional student or two has been added due to special circumstances; the other 18 computers in the lab are generally used for other classes that require hands on practices such as graduate level and ungraduated level Operating Systems, Linux Kernel Programming, Device Driver Programming, and Digital Forensics.

At this time, the hardware in these computers is a significant limiting factor in the course. The tasks required for the class (some which are performed on virtual machines) are computationally-complex enough that waiting for the computer to catch up represents a large fraction of class time, which slows the rate at which the class can progress to the point where it is difficult to cover all the material in the course. The 250GB hard drive space on the current lab computers have been barely sufficient for the course's storage needs, but operating system storage needs change as they update constantly (usually by getting bigger) so we cannot be certain that it will continue to be sufficient. The current machines are also out of warranty and are experiencing more frequent hardware failures due to their age.

We would like to purchase new computers to better suit the evolving needs of the course. The new computers would have larger hard drives (500GB) to forestall problems of limited storage and double the number of cores (from 2 to 4) to improve performance.

Impact of the project

The networking lab typically hosts one section of Introduction to Network and System Administration every semester as well as other classes related to hands on practice. Total number of students who use the lab ranges from 60 to 90 per term. Since some of the hands on courses are required course, all computer science major students will have chances to use the lab during their time at Computer Science.

Project Plan

While the course prompting the upgrade is generally capped at 30 students, we would like to upgrade all 48 machines. This will allow either class using this lab to grow or shrink as needed, as long as the combined enrollment does not exceed 48, while guaranteeing every student has access to the same hardware and therefore has the same opportunity to succeed in their coursework. Replacing all 48 computers would cost \$60,024.96 (\$1250.52 per computer). The department's Systems Group would

set up the physical machines; the students in the classes will perform software installations as part of their course activities.

Ongoing Support

The computers come with a three-year hardware warranty. Hardware and software maintenance is provided by the Systems Group.

Project Team Description

The project team consists of the Systems Group led by Yu Wang. Mr. Wang has Master's Degree in Computer Science and 16 years of experience administering large complex computer and network systems.

Supporting Documents

1. Photo of the Network Lab





2. Price quote for replacement for 48 new computers.

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eQuote Details

eQuote Number	1021513882600
eQuote Name	Netlab computers
Customer Number	143905878
Contract Code:	29ABG
Saved On	12/1/2016
Expires On	1/30/2017
Saved By	yuwang@cs.fsu.edu
Premier Page	Florida State University SpearMart

eQuote Cart Contents

Item	Quantity	Estimated Ship Date	Price
 Dell Precision Tower 5810 - Build your own Precisions Workstations T5810 Premier Discount	48	Available to ship in 4 - 6 business days	\$98,016.00 (\$37,991.04) <hr/> \$60,024.96

Catalog Number	84 / cup5810w7pm
Category	Description
Dell Precision Tower 5810	Dell Precision Tower 5810 XCTO Base
Memory	16GB (4x4GB) 2400MHz DDR4 RDIMM ECC
Keyboard	Dell KB216 Wired Keyboard English Black
Video Card	Nvidia NVS 310, 1GB, 2 DP (1 DP to SL-DVI adapter)
Boot Hard Drive	500GB 3.5" Serial-ATA (7,200 RPM) Hard Drive
HDD Controller	Integrated Intel AHCI chipset SATA controller (6 x 6.0Gb/s) - SW RAID 0/1/5/10
Additional Storage Devices	No Media Card Reader
Operating System	Ubuntu Linux 14.04 SP1
Mouse	Dell MS116 Wired Mouse Black
Network Card	1Gbit NIC add-in card (PCIe- Intel)
CD ROM/DVD ROM	16X DVD+/-RW Drive
Sound	No Add-in Sound Card (Integrated Audio)
Speakers	Internal Speaker
Power Cords	US 125V Power Cord
Documentation/Disks	Safety/Environment and Regulatory Guide (English/French Multi-language)
Hardware Support Services	3 Year Hardware Service with Onsite/In-Home Service After Remote Diagnosis
Systems Management	No Out-of-Band Systems Management
Resource DVD	Resource DVD not Included
4th Hard Drive	No Additional Hard Drive

Catalog Number	84 / cup5810w7pm
Category	Description
3rd Hard Drive	No Additional Hard Drive
Placemat	Precision Workstation Tower 5810
Canada Ship Options	Non-Canada orders only
Chassis Options	Dell Precision Tower 5810 425W TPM Chassis, BW
E-Star	No Energy Star
Processor	Intel® Xeon® Processor E5-1607 v4 (4C, 3.1GHz,, 2133MHz, 10MB, 140W)
Dell Data Security Encryption	No DDPE Encryption Software
Internal Hard Drive Configuration	C1 SATA 3.5 Inch, 1-2 Hard Drives
Chassis intrusion switch	Chassis Intrusion Switch
UPC Label	No UPC Label
TPM Security	TPM
Storage Volume	Boot drive or boot volume is less than 2TB
Packaging	Dell Precision Packaging
Monitor Stands	No Stand
FGA Module	No FGA
Adapters	No Accessories
Optical Software	PowerDVD Software not included
2nd Hard Drive	No Additional Hard Drive
Thunderbolt Card	Not Selected in this Configuration
Regulatory Label	T5810 Regulatory Label (DAO)
Processor Branding	Intel® Xeon® Label
Teradici Remote Workstation Access Host Card	No Dell Tera2 Remote Access host card for the Wyse P25 Zero Client
Microsoft Application Software	No Productivity for Federal and Premier
Non-Microsoft Application Software	Dell Applications for N-Series
RAID Configuration/Connectivity	No RAID
Protect your new PC	No Security Software
Operating System Recovery Options	OS-Windows Media Not Included
Dell Backup & Recovery	No DBAR
External Speakers	No External Speaker

Price does not reflect applicable shipping, taxes and state environmental fee.

Subtotal **\$60,024.96**

Same day shipment subject to order size limitations, Dell standard shipping methods and payment via credit card, gift card or Dell Business Credit. Notification will be provided if there are payment delays which could impact shipping date. Electronics and accessories may ship separately.

Smart Selection. Limited quantities. Only available for orders placed by 5:59 p.m. CT Mon.-Thurs. Systems shipped the next business day after an order is placed. Subject to order approval. Software and accessories not part of the configuration will be shipped separately and may arrive after your system. Please note that Smart Selection Configuration pricing cannot be combined with other pricing offers or discounts provided or agreed to by Dell. ** Orders with Custom Factory Integration might require additional processing time.

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¹Subject to applicable law and regulations.

Student Technology Fee Budget Template for 2016-2017 Project Funding Proposal

Project Title: Hardware upgrade for Computer Science Network Lab

Organization or College: Arts and Sciences

Department or Unit: Computer Science

Project Period Start Date: 5/1/2017 End Date: 5/30/2017

I. Senior/Key Personnel

List senior and / or key personnel whose compensation will be funded through project non-recurring funds

First Name	Middle Name	Last Name	Project Role	Requested Salary	Fringe Benefits	Funds Requested
A.						
B.						
C.						
D.						
Total Funds Requested for Senior/Key Personnel						\$ -

II. Student & Other Personnel

	Requested Salary	Fringe Benefits	FTE	Funds Requested
Graduate Students				
Undergraduate Students				
Other Personnel				
Total Funds Requested for Students & Other Personnel				\$ -
Total Salaries, Wages & Benefits				<u><u>\$ -</u></u>

Student Technology Fee Budget Template for 2016-2017 Project Funding Proposal

III. Equipment

List items and dollar amounts for each item, including software, (or multiple items of the same type with a total cost of) over \$2,000 - add lines as needed

Item Description	Funds Requested
A. Computer Dell Precision 5810. \$1250.52 each and 48 total	60,025
B.	
C.	
D.	
Total for items over \$2,000	\$ 60,025.00

Total for Additional items (less that \$2,000 each)

Total Equipment Costs	\$ 60,025.00
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IV. Other Costs

	Funds Requested
Materials & Supplies	
Consultant Services	
Equipment or Facility Rental/Use Fees	
Additional Project Costs (describe in budget justification)	
Total for Others Costs	\$ -

Total Project Cost	\$ 60,025.00
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