Kildee Hall Multi-Media Development Center

A proposal submitted to the
University Computation Advisory Committee

By
The Department of Animal Science

Proposed by
Michael Larson
Laura Greiner
Philip Spike
George Brant
Jeff Berger
Keith Erlandson

Michael Larson
Graduate Research Assistant, Department of Animal Science

Laura Greiner
Graduate Research Assistant, Department of Animal Science

Philip Spike
Professor, Department of Animal Science

George Brant
Professor, Department of Animal Science

Jeff Berger
Professor, Department of Animal Science

Keith Erlandson
Undergraduate student, Department of Animal Science

Approved by
Dennis N. Marple,
Professor and Head of The Department of Animal Science

Eric O. Hoiberg
Associate Dean of The College of agriculture

Project Leader: Philip Spike (515) 294-6030  blspike@iastate.edu
II. Project Overview and Expected Benefit

A. Provide a description and intended purpose for all project expenditures and identify expenditures from Central Pool funds.

**Project Description:**
The major justification for this year’s proposal is to increase in the number of serviceable computers in the Department of Animal Science’s common lab facility. The justifications are as follows:

- Removing the older DECstation 5000/25 and relocating the G6/180 computers from the teaching lab located in Room 1
- Acquiring 24 new computers to replace the DECstations and G6/180 machines
- Acquiring four high-end computers that have the capacity to accept scanned information and store data onto CD’s
- Providing access to image editing and page layout software (e.g. PhotoShop 5.0, PageMaker 6.5.2) that will benefit students from across the campus

The equipment in room 1 Kildee has become outdated. While the DECstations have served well for a number of years, they have become seriously outdated. Originally, the DECstations were primarily used to run SAS and other high-end applications. Today x–windows software provides access through PC’s to high–end workstations and software. The PC’s in room 1 have 2GB hard drives and processors running at 180 and 200 MHz. The current suite of software requires all 2GB of hard disk with no further capacity for upgrading or adding software. The disk storage capacity could be increased but the processors are rapidly drawing to the end of their useful life. The main purpose of room 1 will continue to be a work area for students. Through discussions with students and faculty, it has been determined that there are additional capabilities needed in this student computer lab. We are proposing to dedicate one fourth of the computer lab to image editing and the development of graphic rich material. This new area will be termed: the Multi-Media Development Center (MMDC). The MMDC will include scanners, larger monitors, more memory, faster processors, CD writeable drives, and specialized software.

Room 1 has the space to accommodate as many as 32 students at one time and is a popular and heavily used facility that serves as a valuable student resource. The new Multi-Media Development Center will be allocating twice as much space per computer to accommodate scanners and a larger work area. These larger work areas are needed, but will reduce maximum number of workstations to 28. Even though this is less than capacity, it is almost identical to the current number of machines in room 1. Another computer lab in 124 Kildee has 13 computers and was designed for in-class interactivity and addresses most in-class use of computers. Students need room 1 throughout the day to work on class assignments and general student computing. The addition of the MMDC will make new and exciting technologies available to students in room 1.
The addition of scanners high-end hardware and specialized software to the lab facility would be used to enhance the following types of student projects, while providing the students with the opportunity to learn how to utilize this technology.

- Posters
- Papers
- Presentations
- World Wide Web pages
- Club publications (e.g. WWW homepages, herdbooks, brochures, yearbooks, other publicized activities)

In addition to the more technologically advanced computers, new software would also be added that would enhance the student’s capability in analyzing data for class, while enhancing their knowledge and understanding of the new software that is currently being used within various industries. The software that will be added will include:

- PC SAS 7.0
- PhotoShop 5.0
- PageMaker 6.5.2
- Acrobat 4.0
- Microsoft Office 2000 Pro
- Frontpage

The purpose of this proposal is to bring the Animal Science Department computer labs up-to-date with current computer technology and provide additional image editing capabilities to the laboratory. The computer labs in Kildee are currently heavily used throughout the day and during the evening hours. However, due to the obsolete equipment currently found in Room 1, the space is under utilized and the computers are limiting software upgrades or additions. A new printer is also proposed since the current printer is beginning to have repair problems and is nearing the end of its serviceable life.

We are proposing to offer several software packages that are unique to the animal science/agriculture disciplines in addition to the scanners (see above). These software programs require more advanced machines with additional amounts of memory, storage, and processing power than the computers presently found in Room 1. For these reasons, we are proposing to remove the DECstation 5000/25 Vincent terminals and older G6180’s, while adding new computers to handle elite software programs and scanners that would be provided in Room 1.

**B. Quantify how the proposed facilities or services will be made available to the students.**

1. Specify the hours this facility will be open for general student use.
   
   This lab will be open to students from 8:00 a.m. to 10:00 p.m. Monday through Thursday and 8 a.m. to 5 p.m. on Friday. Classes are not expected to use room 1 for any significant amount due to the availability of 124 Kildee for classes. Room 1 is accessible to graduate students on the weekends and nights but not to other students since the building is locked.

2. Identify the number of students that will be able to work simultaneously during these hours.
   
   We will be able to accommodate 28 students in Room 1, and an additional 13 in Room 124.
3. Identify the student populations that should benefit from this proposal. Estimate the number of students to be served.

There are currently over 800 students in the Department of Animal Science that would have access to these computers. This large student enrollment suggests that the Department of Animal Science should continue to be the site of public computing facility that can serve as a resource for the College of Agriculture as well as Iowa State University. Room 1 will be opened for all students of the University. With the additional software and computer upgrades, we feel that more students throughout the University will take advantage of our labs.

C. If the proposed project requires special new technologies, describe how these requirements will be met.

We are proposing the addition of scanners and CD writeable drives, but do not anticipate significant problems in configuring or managing their use.

D. Identify university facilities that would be needed for the proposed project. Specify the building(s) and room number.

The lab that is currently being renovated is 1 Kildee.

Section III. Support and Maintenance

The Department of Animal Science is committed to supporting the upgrade and maintenance of our labs to enhance both scheduled and unscheduled instruction requiring electronic technology. The funds that are available for instructional computing in Animal Science are sufficient to maintain the facilities in room 1 and 124 but are not sufficient to replace the computers on a timely schedule. This proposal requests the support of CAC to assist us with the upgrade of these facilities on a more timely manner.

We are also planning an upgrade in the network capacity of this room that is not included here. Current network access for the room is limited to a switched 10 Mb line and a shared 10 Mb line. We plan to at least double this capacity over the summer. These additional support and maintenance costs for this facility are paid through other resources made available to the Department of Animal Science by the College of Agriculture and Iowa State University. Currently, students are being charged a consumables fee of five cents per page for the use of the printer, which aids in covering the use of paper and toner cartridges. The Department of Animal Science has two full-time employees for computer support who assist with installation and maintenance of the laboratories.
Table 1. Full Itemized Budget  
(Costs for the Entire Budget)

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Description of item</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Central Pool</th>
<th>Department Pool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gateway</td>
<td>Intel PIII 600 MHz, 128 MB Ram, 20 GB HD, SB Audio PCI 128, 10/100 Ethernet Card, 17/40x CD-ROM, Internal Zip Drives, 19” Monitors (EV910)</td>
<td>24</td>
<td>$2,368.00</td>
<td>$38,332.00</td>
<td>$18,500.00</td>
</tr>
<tr>
<td>See Attachment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gateway</td>
<td>Intel PIII 800 MHz 256 MB Ram, 27.7 GB HD, SB Audio PCI 128, 10/100 Ethernet Card, 17/40x CD-ROM and Philips Recordable RE-Writeable, Internal Zip Drives, 21” Monitors (VX1110)</td>
<td>4</td>
<td>$3,782.00</td>
<td>$10,128.00</td>
<td>$5,000.00</td>
</tr>
<tr>
<td>See Attachment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microtek</td>
<td>Microtek Scan Maker 4 Color Scanner</td>
<td>4</td>
<td>$600.00</td>
<td>$1,650.00</td>
<td>$750.00</td>
</tr>
<tr>
<td>See Attachment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HP</td>
<td>HP Laser Jet 8000N Printer</td>
<td>1</td>
<td>$2,358.00</td>
<td>$1,608.00</td>
<td>$750.00</td>
</tr>
<tr>
<td>See Attachment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Headphones</td>
<td>28</td>
<td>$15.00</td>
<td>$420.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Microphones for Multi–Media computers</td>
<td>4</td>
<td>$10.00</td>
<td>$40.00</td>
<td></td>
</tr>
<tr>
<td>Microsoft</td>
<td>Frontpage</td>
<td>28</td>
<td>$37.00</td>
<td>$1,036.00</td>
<td></td>
</tr>
<tr>
<td>Microsoft</td>
<td>Frontpage CD Kit</td>
<td>1</td>
<td>$18.00</td>
<td>$18.00</td>
<td></td>
</tr>
<tr>
<td>Microsoft</td>
<td>Office 2000 Pro CD Kit</td>
<td>1</td>
<td>$18.00</td>
<td>$18.00</td>
<td></td>
</tr>
<tr>
<td>Microsoft</td>
<td>Office 2000 Pro</td>
<td>28</td>
<td>$50.00</td>
<td>$1,400.00</td>
<td></td>
</tr>
<tr>
<td>Adobe</td>
<td>Acrobat 4.0</td>
<td>4</td>
<td>$82.00</td>
<td>$328.00</td>
<td></td>
</tr>
<tr>
<td>Adobe</td>
<td>PhotoShop 5.0</td>
<td>4</td>
<td>$230.00</td>
<td>$920.00</td>
<td></td>
</tr>
<tr>
<td>Adobe</td>
<td>PageMaker 6.5.2</td>
<td>4</td>
<td>$222.00</td>
<td>$888.00</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$56,786.00</strong></td>
<td><strong>$25,000.00</strong></td>
</tr>
</tbody>
</table>
Table 1. Minimum Itemized Budget
(Costs for the Entire Budget)

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Description of item</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Central Pool</th>
<th>Department Pool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gateway</td>
<td>Intel PIII 600 MHz, 128 MB Ram, 20 GB HD, SB Audio PCI 128, 10/100 Ethernet Card, 17/40x CD-ROM, Internal Zip Drives, 19” Monitors (EV910)</td>
<td>16</td>
<td>$2,368.00</td>
<td>$18,638.00</td>
<td>$19,250.00</td>
</tr>
<tr>
<td>See</td>
<td>Attachment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gateway</td>
<td>Intel PIII 800 MHz 256 MB Ram, 27.7 GB HD, SB Audio PCI 128, 10/100 Ethernet Card, 17/40x CD-ROM and Philips Recordable RE-Writeable, Internal Zip Drives, 21” Monitors (VX1110)</td>
<td>2</td>
<td>$3,782.00</td>
<td>$3,564.00</td>
<td>$4,000.00</td>
</tr>
<tr>
<td>See</td>
<td>Attachment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microtek</td>
<td>Microtek Scan Maker 4 Color Scanner</td>
<td>2</td>
<td>$600.00</td>
<td>$450.00</td>
<td>$750.00</td>
</tr>
<tr>
<td>See</td>
<td>Attachment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HP</td>
<td>HP Laser Jet 8000N Printer</td>
<td>1</td>
<td>$2,358.00</td>
<td>$1,358.00</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>See</td>
<td>Attachment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Headphones</td>
<td>18</td>
<td>$15.00</td>
<td>$270.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Microphones for Multi–Media computers</td>
<td>2</td>
<td>$10.00</td>
<td>$20.00</td>
<td></td>
</tr>
<tr>
<td>Microsoft</td>
<td>Office 2000 Pro</td>
<td>18</td>
<td>$50.00</td>
<td>$900.00</td>
<td></td>
</tr>
<tr>
<td>Microsoft</td>
<td>Office 2000 Pro CD Kit</td>
<td>1</td>
<td>$18.00</td>
<td>$18.00</td>
<td></td>
</tr>
<tr>
<td>Microsoft</td>
<td>Frontpage</td>
<td>4</td>
<td>$37.00</td>
<td>$148.00</td>
<td></td>
</tr>
<tr>
<td>Microsoft</td>
<td>Frontpage CD Kit</td>
<td>1</td>
<td>$18.00</td>
<td>$18.00</td>
<td></td>
</tr>
<tr>
<td>Adobe</td>
<td>Acrobat 4.0</td>
<td>2</td>
<td>$82.00</td>
<td>$164.00</td>
<td></td>
</tr>
<tr>
<td>Adobe</td>
<td>PhotoShop 5</td>
<td>2</td>
<td>$230.00</td>
<td>$460.00</td>
<td></td>
</tr>
<tr>
<td>Adobe</td>
<td>PageMaker 6.5.2</td>
<td>2</td>
<td>$222.00</td>
<td>$444.00</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>$26,452.00</strong></td>
</tr>
</tbody>
</table>
E-4200 600

**Processor:** Intel® Pentium® III Processor 600MHz

**Memory:** 128MB 100MHz SDRAM expandable to 384MB

**Monitor:** EV910 19inch Color Monitor (18.0inch viewable area) added: US$70

**Case:** E-Series 10-bay Tower case added: US$50

**Keyboard:** 104+ keyboard

**Mouse:** MS IntelliMouse mouse & Gateway mouse pad

**Operating System:** Microsoft® Windows NT 4.0

**Expansion Slots:** 3 PCI, 1 PCI/ISA, 1 ISA and 1 AGP

**Floppy Drive:** 3.5inch 1.44MB diskette drive

**CD-ROM:** 17X min./40X max. CD-ROM drive

**Hard Drive:** 20GB 5400RPM SMART II Ultra ATA hard drive

**Video:** ATI RAGE 128GL 16MB AGP Graphics

**Sound System:** Sound Blaster AudioPCI 128D added: US$20

**Network Card:** 3COM PCI 10/100 Twisted Pair Ethernet w/WOL

**IOMEGA Drive:** IOMEGA 100MB Internal Zip Drive w/1 Zip Disk added: US$7

**LANDesk Software:** Intel® LANDesk Client Manager Software v6.0

**Anti-Virus Software:** Norton Anti-Virus Software

**Service Program:** 3 Year Parts & Labor Limited Warranty with 3 Years On-Site Service, Limited Hardware & Software Tech Support as long as you own your system

---

**Base Price:** US $2149

**Configured Price:** US $2368

**Shipping & Handling:** US$50 by UPS Ground

**Quantity:**

**Total Configured Price:** US$2368

---

**Name:**

**Company:**

**Fax #:**

**Phone #:**

**Sales Representative (if known):**

Would you prefer a ☐ fax or ☐ phone call

**Comments:**
Terms and Conditions of sale and limited warranty

Ordering information is encrypted using the Secure Socket Layer (SSL) protocol before being transferred to our Web Server for processing. Prices and specifications are subject to change without notice or obligation. These prices do not include shipping or sales tax if applicable. After your system has been built (lead times may vary), it may be shipped via 2nd day shipping in the continental US. 2nd day shipping within the continental USA is US for desktops and US for portables. 7 to 10 day shipping for Destination[TM] Big Screen PCs is US. add US shipping for each printer. All prices are quoted in U.S. dollars.
E-4200 800

**Processor:** Intel® Pentium® III Processor 800MHz  
**Memory:** 256MB 100MHz SDRAM **added:** US$200  
**Monitor:** VX1110 21inch Color Monitor (20.0inch viewable area) **added:** US$470  
**Case:** E-Series 10-bay Tower case **added:** US$50  
**Keyboard:** 104+ keyboard  
**Mouse:** MS IntelliMouse mouse & Gateway mouse pad  
**Operating System:** Microsoft® Windows NT 4.0  
**Expansion Slots:** 3 PCI, 1 PCI/ISA, 1 ISA and 1 AGP  
**Floppy Drive:** 3.5inch 1.44MB diskette drive  
**CD-ROM:** Philips Recordable/ReWriteable 4x/4x/24x CD-ROM **added:** US$129  
**Hard Drive:** 30GB 7200RPM Ultra ATA hard drive w/Ultra ATA 66 Controller **add** US$85  
**Video:** ATI RAGE 128GL 32MB AGP Graphics **added:** US$40  
**Sound System:** Sound Blaster AudioPCI 128D **added:** US$20  
**Network Card:** 3COM PCI 10/100 Twisted Pair Ethernet w/WOL  
**IOMEGA Drive:** IOMEGA 250MB Internal ZIP Drive w/1 Zip Disk **added:** US$1  
**LANDesk Software:** Intel® LANDesk Client Manager Software v6.0  
**Anti-Virus Software:** Norton Anti-Virus Software  
**Service Program:** 3 Year Parts & Labor Limited Warranty with 3 Years On-Site Service Limited Hardware & Software Tech Support as long as you own your system

**Base Price:** US $2599  
**Configured Price:** US $3742  
**Shipping & Handling:** US$50 by UPS Ground

**Quantity:** 1  
**Total Configured Price:** US$3742
Terms and Conditions of sale and limited warranty

Ordering information is encrypted using the Secure Socket Layer (SSL) protocol before being transferred to our Web Server for processing. Prices and specifications are subject to change without notice or obligation. These prices do not include shipping or sales tax if applicable. After your system has been built (lead times may vary), it may be shipped via 2nd day shipping in the continental US. 2nd day shipping within the continental USA is US for desktops and US for portables. 7 to 10 day shipping for Destination[TM] Big Screen PCs is US . add US shipping for each printer. All prices are quoted in U.S. dollars.
ScanMaker 4 Specifications

Description: 36-bit, single-pass flatbed scanner

Media: Reflective color or black-and-white originals; transparent originals

Image sensor: 5000-element linear array CCD
Light source: Three daylight cold cathode lamps

Scan modes:
- 36-Bit Color: 12 bits per RGB color. Approx. 68.7 billion colors.
- 12-Bit Grayscale: 4,096 shades of gray.
- 1-Bit Black & White: 64 halftone shades simulated.

Optical resolution: 600 x 1200 dpi
Interpolated resolution: 9600 x 9600 dpi
Maximum optical density: Up to 3.4 Dmax

Maximum scan size:
- Reflective: 8.5" x 14"
- Transparency: 8" x 10"

Software: Adobe Photoshop LE 4.0 image-editing software (PC/Mac); Caere OmniPage Limited Edition OCR software (PC/Mac); Caere PageKeeper Standard document management software (PC only); Microtek ScanWizard (PC/Mac).

Minimum system requirements:
- PC: IBM Pentium or later, and compatibles; CD-ROM drive; at least 16 MB RAM; Windows 95, Windows 98, or Windows NT 4.0.
- Mac: 68k-based Macintosh or Power Macintosh and compatibles; CD-ROM drive; at least 16 MB RAM; System 7.5 or higher.

Interface: SCSI. Adaptec PCI SCSI interface card included that works on Windows, as well as with the new Apple G3/G4-series Power Macintosh. SCSI cable also included.

Voltage: AC 100V to 240V
Power consumption: 23 watts
Frequency: 47HZ to 63HZ

Size: 15.25" x 6.29" x 22.3" (WxHxL)
Weight: 25.5 lbs.

Operating temperature: +50°F to +104°F
Relative humidity: 20% to 80%
HP LaserJet 8000 Series

Overview & Features

Last updated: December 16, 1999

Product Overview

The industry standard for departmental network printing.

In the tradition of offering practical, innovative network printing solutions, HP offers HP LaserJet 8000 Series printers. They combine the latest technologies with exceptional performance to give you truly hassle-free network printing for medium to large departments.

What's more, HP LaserJet 8000 Series printers have features that can provide outstanding output with a variety of media and paper-handling options, help improve performance while minimizing network traffic, and reduce your overall cost of ownership. Best of all, they come with something you can't get anywhere else—HP's unparalleled reputation for quality, reliability and compatibility.

For a complete network printing solution, HP JetDirect print servers provide connectivity for Fast Ethernet, Ethernet, Token Ring and LocalTalk environments, supplying cost-effective printer access to your entire department. And HP Web JetAdmin management software lets you remotely install, configure and proactively manage your printers from a common web browser—reducing your day-to-day support requirements.

It all adds up to the most hassle-free, easily managed network printing solution you can find for your department.

Spend less time on printer issues.

- Common technologies among HP LaserJet 4000, 5000 and 8000 Series printers
- Easy installation, configuration and management with HP Web JetAdmin
- Manual or automatic driver updates off the Internet
- Fewer help desk calls thanks to intuitive operations

Get optimum output, fast.

- RAM-based mopying with dynamic RIP-once for fast, efficient multiple original prints (mopies) over your network
- 1200-dpi quality without the usual speed, memory and network congestion penalties
- Increased data throughput and faster processing
- 15-second first page out*
- More efficient printing of large or complex jobs with 16 MB of standard memory (24 MB on HP LaserJet 8000 DN model)
Enhanced paper handling for increased productivity.

- Handles a wide range of paper sizes, up to 11 x 17 inches
- Offers straight-through paper path to prevent curling of heavier media and envelopes
- Variety of input and output sources reduces trips to the printer

*Throughput is application- and system-dependent. Optimal performance achieved with the most current software application drivers, recommended memory and I/O configurations.

Features

Easier Integration and Management

- HP Web JetAdmin provides simple installation, configuration and management from a common web browser
- HP Internet Installer and Oil Change for HP Customers give you automatic access to the latest printer drivers
- HP PCL 5e, HP PCL 6 and PostScript Level 2 emulation ensure compatibility with both PC and Macintosh files

Improved Performance

- 24-page-per-minute (ppm) engine and a new 133-MHz RISC processor mean less time spent waiting for your output
- 16 MB of standard memory lets you mop and RIP-once in dynamic RAM
- Three 32-bit PCI-based Enhanced I/O (EIO) interface slots provide greater flexibility for HP JetDirect 600N Internal Print Servers and accessories

Versatile Paper Handling

- Prints from 3.9 x 7.5 inch to 11 x 17 inch full-bleed for maximum versatility
- Large standard input capacity of 1,100 sheets reduces paper reloading
- Optional duplexer for two-sided printing (standard on HP LaserJet 8000 DN)
- Optional input sources (either one 2,000-sheet tray or 2 x 500-sheet tray) let you print on multiple paper sizes without swapping paper
- Straight-through paper path lets you use a wider variety of paper sizes and weights, and eliminates curling of heavier media and envelopes
- Multibin mailboxes with collation and stapling simplify complex jobs
- New 7-bin mailbox fits right on a desk or tabletop

Expandable

- HP JetAssist connector lets you easily add third-party paper-handling accessories
- Up to three open EIO interface slots for HP JetDirect 600N Internal Print Servers and accessories
- Up to 192 MB of memory with DIMM memory modules
- HP JetSend allows direct communication between printers, scanners and other information appliances without using the PC as the intermediary

Superior Print Quality

- HP FastRes 1200 prints 1200-dpi quality at the same speed as 600 dpi using standard memory

All three HP LaserJet 8000 Series printers feature innovative technologies that
can significantly reduce printer interaction. To decide which one is right for your department, look through these descriptions.