

**Feasibility Report from the Notebook University
Implementation Committee**

Or

Learning in a Digital World

Presented

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This report provides the university community with a comprehensive list of the critical issues and proposed solutions regarding the feasibility of ISU becoming a mandatory notebook computer (laptop) institution. Although this committee has had only a short time to prepare this report, we believe that an ongoing committee can continue to address other issues.

Background

In Summer 2004, a group of faculty and staff members traveled to 5 different, public laptop institutions in the Midwest to investigate the how these institutions worked as a laptop schools, to learn about their implementation processes, and to investigate the feasibility of one or more colleges at ISU adopting a laptop requirement¹. Following these visits, representatives of this group presented the possibility of a laptop requirement to multiple administrative and governing organizations, including President's Cabinet, Faculty Senate, Student Government Association, and Senate subcommittees (CAAC, SAC, FAC, Grad Council). All of these groups provided feedback on the laptop concept to Academic Affairs. In early February, 2005, following the recommendation of Senate, a committee was formed by Provost Maynard "a more complete proposal that satisfactorily addresses [issues] the committee might uncover in its work."

The committee was comprised of 19 faculty, staff, and student members representing multiple constituencies of the institution. The committee was formally charged to:

1. Investigate the feasibility of adopting a mandatory student notebook program at Indiana State University. The committee should develop a comprehensive list of issues (see #2 Depth of Inquiry) and to the extent possible, offer proposed solutions – initial report due April 1, 2005
2. Develop a formal implementation plan. The committee should continue to investigate the notebook university program implementation to address any additional issues not identified in (a) above. Further more, the committee should consider process issues and provide a formal implementation plan that can be used to guide subsequent implementation – due September 1, 2005

This report represents the work done by the committee to date on the first part of the charge. To accomplish this task, the committee met on 10 different occasions for at least 20 hours total between February 10 and March 31. This report is considered the first step of the committee's work.

¹ One original impetus was the College of Education – beginning Fall 2004, Ball State Teachers College began a laptop requirement will all incoming students. Students are required to purchase an Apple PowerBook.

Issues Identified

The committee has been involved in the identification of issues related specifically to a laptop initiative. These issues are presented here, along with the resolutions considered at this time by the committee.

Rationale

A sound rationale needs to be in place to initiate a laptop requirement. “So every student has a laptop” is not a sufficient justification. We know from our investigations that one reason Wake Forest University began this requirement was to increase faculty-student interaction beyond the classroom – this was an identified need for them. Rose Hulman Institute began their initiative to support their academic program and ensure that all students would have a minimum, required configuration in order to complete course work. Northern Michigan was responding to competitive pressures when they began their requirement.

The committee viewed several reasons specific to Indiana State University that could support a laptop requirement.

1. A laptop program could serve as a partner for the strategic themes of experiential learning and community engagement. The university is already exploring a variety of strategies and pedagogies that can be used to forward these themes – the laptop and its collaborative learning potential, immediate access to information, and tools for knowledge creation also lend itself to classroom opportunities for students to become actively engaged with the content, both in the classroom and while working on projects within the community.
2. The committee read several reports that strongly suggest that the students who ISU will be recruiting in the near future are currently learning in a technology driven environment. These 8-18 year olds have been branded as Millennials and based on the research, higher education institutions will need to consider different pedagogical and organization structures in order to engage these students appropriately in the learning process².
3. The committee also considered the competitive edge that might occur, given recent technology-related positive press experienced by other state institutions³.

² *Educating the Net Generation*, published by EDUCAUSE - the 2004 National Educational Technology Plan from the US. Dept. of Education - <http://www.educause.edu/books/educatingthenetgen/5989>, and *Generation M: Media in the Lives of 8-18 Year-Olds*, by the Kaiser Family Foundation - <http://www.kff.org/entmedia/7250.cfm>

³ March 31, 2005 article that appeared in IndyStar.com called *Netsavings With a Click*

Lease versus Purchase

The committee has spent a considerable amount of time discussing the issue of lease versus purchase. While the group originally believed a mandatory lease plan and associated fee was the optimal solution, the AAUP Open Forum that was held on March 16 provided some clarification based on the concerns expressed by students and faculty at that time. Therefore, the committee presents for consideration the following:

- The university would recommend students purchase one of two computers that would meet minimum expectations (a middle range business laptop and a higher end business laptop). ISU would negotiate with a vendor to provide these machines at a reduced cost. The vendor will be expected to finance student laptops by credit card payment, check, cash, or payment plan. Students would be able to add desired peripherals and purchase these at the same time as the laptop. When the company ships the laptop to the student, it will be pre-loaded with the ISU standard image and software that is expected of all students.
- ISU would need to draft a statement that clarifies how the laptop requirement supports our commitment to the development of lifelong learners who are strong in information technology literacy.
- A purchase requirement would release ISU from the need to assess a new fee.
- The Committee also discussed how the student would perceive a program that after making lease payments for eight to twelve semesters to realize that they do not own the equipment at the end of their college career. It seemed important, and was brought up at the AAUP meeting, that students may feel they would not have anything to show for their money at the end of the lease or that they would have to make yet another payment to receive their “own” laptop that they perceive as theirs already. The purchase program would be optimal to ISU by eliminating our risk of bad debt as we would not be involved in financing the laptops.

The web site for purchase would be available to allow purchases by students who have “committed” to ISU for 9 months prior to matriculation. That possibility will provide students familiarity with the laptop prior to starting school at ISU. This would allow students and families to purchase the laptop for Christmas, birthdays, graduation gifts, etc. In 2004-05, 49% of the students owned a desktop, 25% owned a laptop, 20% owned both, and 6% did not own a computer of their own⁴. While these numbers are high, it is important to note that there is no standardization among these computers, for

⁴ Data from *2005 Technology Profile – Indiana State University* - <http://www.indstate.edu/oit/irts/pubs/profile/Tech%20Profile2005.pdf>

make/model, age, capacity, etc., A laptop requirement will allow those students to purchase and receive the standard notebook initially and reduce the number of students coming to ISU with non-standard laptops.

The “early purchase” with the ISU discount could be used to commit students to ISU. If the student decides that they do not want to come to ISU after purchasing a notebook with the ISU discount, they could be billed for the difference between the ISU discount price and the “consumer” price. This will deter potential students from saying that they are coming to ISU just to get the discount.

Laptop Platform and Suggested Configuration

It is recommended that the laptop platform required for student be Windows based. Although Macintoshes were discussed by the Committee several issues have appeared that would make supporting the Macintosh platform difficult, including:

- Cost to support Macintosh is higher than Windows based platforms
- The additional expense to become certified as a Macintosh repair center
- Training to be a certified Macintosh repair technician is costly
- The number of Macintoshes on campus, less than 10%, does not provide enough usage to offset costs
- Money could be diverted into the Discipline Specific and Public Macintosh labs to provide necessary functionality
- Software compatibility issues would become very costly if software for both platforms has to be purchased (i.e. SPSS for Macintosh)
- Additional space in the repair area would be required to handle Macintoshes
- Additional personnel would need to be certified
- Usage surveys in existing ISU labs show that *exclusive use* of Macintoshes is nearly negligible (less than 1% of students use the Mac labs exclusively)

Because of the low volume, purchase pricing would not be as aggressive as the Windows based platforms

It is recognized that the Macintosh platform is required in some disciplines that have specific needs for Macintoshes. Funds from other sources could be used to make the discipline specific and public Macintosh labs that meet the needs of these departments. It is also important that when configuring the Windows based laptops that they are configured to handle some of the special needs of Macintosh users. Macintoshes provide a necessary function and will be available in labs for students to use in their educational programs.

Therefore, students who need a Macintosh notebook computer would be able to purchase one at their own risk outside the ISU purchase program. They would be able to install the Microsoft Office suite from OIT as part of the technology fee program, but would not

receive on-campus support and service. If they attended a class that expected them to have a Windows laptop, they would be at a disadvantage.

Students can choose how long they want to keep their laptop, or can choose to purchase newer versions as they become available, if desired. This would significantly reduce their costs. The computer must meet the ISU minimum hardware specifications while they are at ISU.

Students may elect to purchase a different laptop than the mandatory model that ISU recommends. However it will be important to provide educational material and strong recommendations from ISU to make it clear the distinct advantages of purchasing one of the recommended laptops. A student that elects to bring his/her own laptop will pay for any software issues including installation or troubleshooting at the OIT Student Support Center or be responsible for his/her own software issues. Hardware service would not be provided for the non-ISU standard laptops. The student would assume all responsibility of having a functioning laptop for those times when it is used in the classroom or for class work. Students not purchasing a laptop or having a non-standard laptop will assume the associated risk.

Consultation and surveys of departments/programs would be used to establish the base model requirements that will meet the needs of most students. A higher end model/standard would be established for the programs that have needs not covered by the base model; students who enroll in the “high-end” programs would purchase the high-end configuration when they begin. Students who declare a “high-end” program after they have purchased the base model would be able to purchase memory or other add-ons to upgrade the base model to the high-end.

Cost and Configurations

Important note: These are used for examples only. An RFP would be required to get the most cost effective laptop for ISU.

The mid-range business-class laptop cost of \$1560 is an estimate and is not based on any volume discounts or negotiated pricing and does not take into consideration that the laptops would be purchased in fall 2006/2007. IBM’s forecasting model indicates that a laptop purchased from the web would drop in price approximately 2.5% per quarter. This would mean that the \$1560 laptop above would cost in the range of \$1443 in August of 2006 and possibly \$1275 in August of 2007. However the cost is somewhat unpredictable as materials pricing changes depending on the economy and advances in technology. It must also be noted that this price is not based on any volume discounts that the University would receive by going to a single source vendor for purchase of laptops. The cost of the laptop would be lower than the \$1560 configuration, but a drop of 2.5% per quarter would not significantly impact the lower negotiated price as the vendor will provide deeper discounts. It is possible, and likely, that by the time the laptops are

configured in 2006 that the specifications could change based on cost, software requirements, and advances in technology.

The two laptops listed here are models available today. Specifications would be updated when the rollout begins. The laptops have some important features that are a necessary requirement for any laptop model that is purchased for the mandatory laptop initiative, including:

- A processor of 1.5GHz or higher with low-power consumption circuitry
- 512MB of RAM or higher
- Windows XP Professional SP2 with media
- 40GB or higher hard drive
- No Floppy drive
- Internal 56K modem
- Internal RJ45 wired Ethernet port
- Internal 802.11 b/g Wireless Network Connection
- CD-RW/DVD Combo drive
- 3 Year Warranty (with options to increase the warranty up to 4 years)
- Weight at less than 5lbs.
- Portable USB “jump drive” that students can use to transport files between computers (not necessary to bundle with the computer)

Optional Items for students to pick:

- Carrying cases (various formats with ISU Logo on all cases and maybe some customizable options)
- Accidental Damage Protection for optional 1,2,3, and 4 year plans (this would be strongly recommended)
- Theft Insurance with options of 1,2,3, or 4 year plans (this would be strongly recommended)
- Peripherals – Printers, scanners, USB external disk drives, etc.

In the following descriptions “business class” refers to the quality of the components as well as the stability of the architecture from unit to unit. A business class computer would be highly tested and would be a good candidate for hard disk “imaging” – where the contents of the hard drive could be standardized and copied from machine to machine. “Consumer class” machines vary in the hardware components used from unit to unit and often use lower-quality components. It would be more difficult to prepare a hard drive image for a consumer class machine.

Sample Mid-range Business Class Laptop Configuration:

Intel® Pentium® M Processor 730 (1.60GHz) 14.1 inch XGA, Intel GMA 900
Operating Systems: Microsoft® Windows® XP Professional, SP2, with media
Memory: 512MB DDR2 400MHz SDRAM, 1 DIMM

Hard Drives: 40GB Hard Drive, 9.5MM, 5400RPM
Floppy Drive: No Floppy Drive
Modem: Internal 56K Modem for Dell Latitude D-Family Notebooks, Factory Install
AC Adapter: 90W A/C Adapter
Module Bay Devices: 24X CD-RW/DVD Combination Drive
Wireless Local Area Networking Options: Intel® PRO/Wireless 2200 802.11b/g WLAN miniPCI Card
Batteries: 6 Cell Primary Battery
Carrying Cases: Nylon Deluxe Carrying Case
Hardware Support Services: Promo 3 Yr Limited Warranty plus 3 Yr NBD On-site Service and CompleteCare
File System: NTFS File System for all Operating Systems

Total Price* \$1,560.62

Sample High-end Business Class Laptop Configuration:

Intel® Pentium® M Processor 760 (2.00GHz) 14.1 inch XGA, Intel GMA 900
Operating Systems: Microsoft® Windows® XP Professional, SP2, with media
Memory: 1.0GB DDR2 533MHz SDRAM, 1 DIMM
Hard Drives: 80GB Hard Drive, 9.5MM, 5400RPM
No Floppy Drive
Modem: Internal 56K Modem for Dell Latitude D-Family Notebooks, Factory Install
AC Adapter: 90W A/C Adapter
Module Bay Devices: 24X CD-RW/DVD Combination Drive
Wireless Local Area Networking Options: Intel® PRO/Wireless 2200 802.11b/g WLAN miniPCI Card
Batteries: 6 Cell Primary Battery
Carrying Cases: Nylon Deluxe Carrying Case
Hardware Support Services: Promo 3 Yr Limited Warranty plus 3 Yr NBD On-site Service and CompleteCare (accidental damage protection)
File System: NTFS File System for all Operating Systems

Total Price* \$2,036.61

Financial Aid

As long as the laptop program is mandatory, the cost of the computer would be figured into the student cost figures that are used to compute financial aid. The students would complete the necessary paperwork and it would be evaluated with other normal fees. If the program is optional then financial aid becomes much more difficult as each student would have to be evaluated on a case by case basis.

Although financial aid would be available if a mandatory laptop program were implemented it is important to note that new money would need to be added to financial aid to help offset the costs of the laptops. It is possible that the middle class student would be most affected because they do not receive as much or any financial aid. However this is also the case now so it does not seem to be a solvable issue and should not be considered when making the decision to do the laptop initiative unless new financial aid funds are made available.

Timeframe

The initial date for implementation placed in front of the committee was for Fall 2006. The committee has held discussions with admissions representatives and found that Fall 2006 is too soon for a mandatory program that allows for adequate notification to potential students and their families. However, with the purchase requirement, the program can be optional for all students as early as 2006, and a requirement for incoming freshmen in 2007. There is an advantage to providing this program as an option in 2006 – many parents request information from OIT on the type of computer to purchase for their students and likewise, students have questions about set-up, maintenance, network connectivity, etc. For those students and families who are seeking assistance with computer technology purchases, an optional purchase program can provide a needed and beneficial service.

The following list of issues was considered in recommending the fall of 2007 as the first year of mandatory ownership, including:

- Student recruitment issues (view books are already set for Fall 2006)
- Infrastructure issues (time to properly address issues such as large-scale classroom wireless, printing, scanning, etc.)
- Facilities/classroom issues (classroom furniture, electrical requirements, etc.)
- Registration issues (possibly indicating “Notebook Intensive” sections of classes so that sophomores, juniors, seniors are not impacted by enrolling in an inappropriate section of a course during the 3-year phase-in)
- Curricular enhancement issues (provide release time, programming support, pedagogy support for faculty who wish to incorporate notebook enhancements into their courses; faculty should be surveyed to determine the type and amount of support they require for curricular enhancement; the survey will allow the resources to be focused on the most receptive faculty; extra resources should be provided for enhancement of General Education courses because those courses will have an impact on the greatest number of students at the earliest point in their ISU experience; time is required for the “enhancement” efforts but time will be

required to make the decisions of where and how resources will be reallocated/budgeted)

- Support personnel issues (retraining staff for different roles; providing repair/maintenance; providing programming, training; consulting for faculty)
- As a course for freshmen, UNIV 101 could be revamped. It could become a notebook intensive course beginning in Fall 2007. Notebook intensive learning modules could be developed allowing university “basics” to be covered more consistently across all sections of UNIV 101.
- Possibly most important, providing university administration sufficient time to study the decision and receive input from appropriate parties.

Graduate Students

Graduate programs can determine whether they choose to make the laptop a requirement of the program. If it is not a requirement, graduate students could still participate in an optional purchase. Graduate student recruiting must be clear about the cost and service advantage of purchasing the recommended laptop so that students can make effective choices (regardless of requirement or optional purchase) before matriculation.

Part-time Undergraduate Students

Purchase would not be required for those students who matriculate as part-time students (less than 12 credit hours/semester). The option would be made available to part-time students. However, a part-time student would not be excused from laptop-related coursework (either within or outside the classroom). A pool of laptops would need to be provided on a rental basis for part-time students. The rental fee for the laptops would provide the necessary income to pay for these laptops.

Distance Education Students

The program would be optional for students who are in approved, full-distance education programs. The recommended laptop available for purchase will meet the minimum, published computing requirements (and these minimum specifications need to be increased to keep pace with instructional demands). A purchase program will allow for direct shipping with pre-loaded ISU software, an advantage for the fully-distance student.

Infrastructure Issues

Technology infrastructure is critical to the laptop initiative.

1. Wireless
 - a. Wireless access in the classrooms must be sufficient to allow an entire class to be online at the same time. Continued improvement/enhancement of the campus wireless network is part of the University Technology Plan.
 - b. Wireless access off campus should also be investigated so that students could receive the maximum benefit from using a wireless laptop. This would be especially enticing to students who live within a few blocks of campus. This could be partnered with the Wireless Terre Haute initiative. This should not be viewed as a problem or factor that would need to be considered in making the decision to become, or not become, a laptop institution.
2. Classroom Set-up for both students and instructor needs to be conducive to easy use of laptops during class and still allow for instructor flexibility to teaching.
 - a. Student desks – students need to be able to have sufficient desk space to safely use a laptop. A desktop that is too small can increase the risk of accidents. Oddly angled desktops will not ergonomically serve student needs. Tables are an often used alternative, but may not give the instructor flexibility for classroom layout necessary for different approaches to pedagogy. Insufficient desk space will not easily allow a student to juggle multiple forms of media (i.e. laptop, textbook, other materials, etc.). This particular challenge may change with time as incoming students opt for electronic versions of textbooks over the traditional book, become more comfortable with the use of the computer for note taking, online access of materials, etc.).
 - b. Teaching stations – the teaching stations must be made compatible with the laptop, but in the short run, must also maintain the desktop machine that is currently in these stations to accommodate those faculty, graduate teaching assistants, and adjuncts that may not have a laptop. There is currently a committee through OIT that has recommended a minimum classroom computing configuration that takes into account potential laptop use and covers all classrooms.
 - c. Network storage and integrity will enable a laptop initiative to flow smoothly and help prevent loss of data and files in the case of theft or accident. Students and faculty need to be able to access the storage space both on and off-campus.
 - d. Secure wireless connectivity - will become more critical as the campus becomes more reliant on wireless. It will be important to increase the security of wireless as we move towards ubiquitous computing.
 - e. Wireless Dead Zones – for test taking and instructor peace of mind, particularly in the area of academic integrity. There are technology

solutions available now that can provide these “dead zones” as needed. We should provide advice to instructors about dealing with this issue.

Faculty Computers

The computing choice is critical for current faculty. The level of choice needs to be extended to faculty so that they may select a desktop computer, the current high-end laptop model, or an Apple. Units could still choose to limit faculty choice, as is currently done as well. Choice of a laptop, desktop, or Apple computer at one time would not mandate future choice as the replacement cycle occurs for current faculty.

Of larger concern for faculty computing is maintaining an acceptable replacement cycle such that all tenured and tenure track faculty are able to work on current machines to support teaching, research, and service work. The University may want to investigate leasing options for faculty and staff computers.

In terms of new faculty hires, in order to make the switchover to a laptop initiative, new faculty would receive the recommended laptop unless the department chair presents a rationale as to why another system is necessary for his/her faculty role and that request is approved by the Dean.

For all faculty and staff who would use a laptop, the use of a docking station at the desk will greatly enhance the functionality and transition. The intent is to keep the faculty member’s own monitor, keyboard, and mouse. The docking station makes it easy to connect the laptop to the peripherals and the network.

Temporary and Adjunct Instructors/ Graduate Teaching Assistants

The use of a laptop as an instructional tool cannot be limited to tenured and tenure track faculty. ISU employs many adjunct, full-time temporary, and graduate teaching assistants that teach our undergraduate students and in particular, teach many of the courses that students take during the first years at ISU – courses that will be critical to the success of a laptop program that is phased in through freshman/new student matriculation.

Laptops must be available to this instructor population. There are multiple ways that this could occur, and it is important to recognize that one plan may not fit all instructional units. One recommendation is that regardless of the path for faculty acquisition (i.e. purchase or lease), extra laptops be purchased/leased and placed in academic units for use as needed by instructors and TAs. As replacement cycles occur, usable laptops being replaced could be rotated to this group of instructors, much as is currently done with desktop machines.

Staff

The use of a laptop computer for support staff and EAP should be up to individual units. There are units where it makes sense to use mobile computing such as financial aid and admissions. Additionally, there are EAP who regularly teach and need to be able to utilize the same technology. Alternatively, there are some areas where the information being handled on the workstation is of a sensitive matter that the computer should not be removed from campus. Again, in those instances where a laptop is determined to be important and of use, a docking station will make the transition easier.

Phase-In

We suggest a phase-in approach by matriculating class as a feasible solution. It can be optional for incoming students in 2006, and any other student on campus. There is not sufficient lead time and advertising time to make it a requirement for the 2006 entering students. In 2007, purchase of a laptop would be required for all incoming, full-time undergraduate students. It would not be necessary to do a pilot program with a College or smaller group, but provide a broader base of having the fall 2007 freshmen requirement to purchase a laptop. Incoming transfer students will be required to participate.

However, advice from other institutions is that faculty have the opportunity to use laptops before the student program begins so that they can learn how to make use of the technology. Thus intensive faculty training is recommended.

Insurance

A mandatory purchase program will allow students to identify the level of insurance they would like and the corresponding level of deductible. It is important to give students complete, accurate information as to why accidental and theft insurance is important and how to determine if their current household/parent insurance already covers a laptop and to what extent. ISU should recommend a level of insurance and provide information as to why that level is recommended. It is difficult to predict where the insurance rates will be in 2006 and 2007. The student would determine the amount of deductible to be paid. Accidental damage insurance protects the laptop from drops, spills, etc. Considering that the students will be carrying the laptop from class to class there is greater risk for these types of accidents to occur. It is very important that students understand that these types of damage are not covered under normal warranty and are reasons for purchasing an ISU standardized laptop with accidental damage protection.

Faculty Development

It is difficult to predict how many faculty members will use the laptop technology in the classroom. It is important to note that the faculty on campus during 2004-05 may not be the same as the faculty who will be present in 2007-08, or even in 2010-11 when the initiative would be fully phased-in. Regardless, there are some things already known about faculty and related student technology use in 2004-05:

- 99% of students use email
- 93% of students use BlackBoard/WebCT
- 63% of students use on-line testing
- 16% of students are completing an E-Portfolio
- 85% of faculty use electronic presentation software
- 70% of faculty use web course management software
- 115 faculty use LiveText within their course(s)
- 1,182 students are currently registered LiveText users⁵

If the laptop initiative is moved forward a faculty development program should begin in 2005-06, in particular for those faculty/instructors who are actively engaged in teaching first and second year students. IRTS and the CTL have agreed to work with faculty and create learning objects if desired. The emphasis will be on both how to use the laptop instructionally and on using OIT resources to develop materials for their use where appropriate.

If the laptop initiative is implemented, the coursework impacted by this initiative could be guided by principles derived from the National Center for Academic Transformation (NCAT). The NCAT focuses on the transformation of academic practices by using technology and cost savings as quality enhancements for large-enrollment, introductory courses. Over 30 institutions have participated in the redesign process and have developed more learner-centered environments as well as substantial cost savings with this approach⁶. ISU will be hosting a visit from the NCAT on April 7 and will assess the viability of a summer workshop program on course redesign following the visit.

Also, it is important for us not to suppose what faculty needs might be if this initiative is approved. The committee therefore recommends that in order to effectively plan for faculty training and development, a survey is distributed by the committee prior to its next scheduled report (if work continues) with directed questions regarding faculty needs.

⁵ Data from *2005 Technology Profile – Indiana State University* - <http://www.indstate.edu/oit/irts/pubs/profile/Tech%20Profile2005.pdf>

⁶ More information can be found about this at <http://www.center.rpi.edu/>

Student Support

Providing support for student equipment has been a major point of contention among the students. The students point to the Student Technology Fee and ask, “Why are you not able to work on my computer? I paid my technology fee.” The committee suggests that an on-the-spot service be implemented and a loaner program be used when additional service is needed. OIT has already indicated that it plans to begin a fee-based service program in 2005-06. The committee consensus is that this will give OIT the opportunity to work out problems in the system.

As the laptops run out of the manufacturer’s warranty, hardware repair could still be offered for a fee at the fee-based service center. This would allow the student to continue to maintain their older laptop in working condition for as long as parts are available for the model they own and that software continues to work on the laptop.

ADA Requirements

Special considerations must be given to ADA regulations. Although it is difficult to provide all possible scenarios it is the responsibility of the institution to accommodate as necessary. As special requirements are identified solutions would need to be found and applied to accommodate the need. Experts in this area should be consulted.

Laptop Recovery

Identification and retrieval of stolen laptops could be attained by working with Public Safety, state and local authorities, and local vendors. However it is important to state again that other laptop institutions that were visited reported very little theft. With a purchase program, we believe that students will take responsibility for their own property.

Risk Assessment

Discussions regarding the safety of the students openly carrying laptops around the campus must be emphasized. Although the institutions that were visited stated that theft was not an issue, students must be made aware to take precautions, as they do now, not to put themselves into compromising situations. Public Safety as well as Terre Haute City Police would need to be part of an overall safety promotional campaign that would provide student awareness.

Battery Café

A battery exchange center (i.e. trade exhausted batteries for fully charged ones) would be made available for laptops from the recommended purchase list. Students that purchased the mandatory laptop would have access to fresh batteries when needed. Students that did not have an ISU mandatory laptop would not be given the opportunity to use this service.

Printing

Printing on campus for a mandatory laptop initiative could be accomplished by placing printers in strategic locations in each academic building and in common public areas. The number of printers located in the academic buildings can be determined based upon need. Printers are accessible via a wireless connection from laptops. There are other options for determining the number and locations of these printers including:

- Current Public Lab locations
- Ease of access to students
- Locations where the printers can be serviced quickly in case of issues
- Public access areas
- Student surveys

Locations would likely change as we become a more ubiquitous computing campus thus the locations and numbers of printers would need to be adjusted.

Student Technology Fee

With a purchase program, the student technology fee will remain essentially the same (although the committee encourages a re-examination of how the fee is assessed in summer sessions).

The way that the monies from the technology fee are distributed need to be clear. The same amount that currently goes into computer labs will not be necessary, although some will be necessary to support the labs as described in this report. A portion of the fee will be needed to support battery cafés and the service center. Finally, a larger portion will be needed for software licenses and support of the software that will be required for all students to support instructional needs. Recommendation of specific software is beyond the scope of the committee at this point in time.

Expansion of the geographic range of the wireless would also seem to fall into a useful application of the technology fee.

Special Purpose and Open Computer Labs

There are currently 36 Discipline Specific/Special Purpose Labs on campus with capacity that ranges from 8-38 seats. A number of special purpose labs will need to continue for specialized software, advanced computing, etc. Those programs that utilize specialty labs would need to work with OIT to identify these labs and identify how needs might change (if at all) if laptops are used. OIT has already begun work to bring the special purpose labs into the rotation cycle of all computing labs and that continual updating of equipment will need to continue to meet programmatic instructional objectives.

The number and nature of the open computer labs will need to change to support a laptop initiative. At least one twenty-four hour space and strategically placed labs will be necessary to provide space for students to access printing and attach to peripherals such as scanners. These labs can also operate as battery cafés where students can swap depleted batteries for fully charged ones – this option and ability would be limited to those students who have purchased the laptop through the University purchase agreement.

Some of the open computer lab space will also need to be converted to service center space to provide easy, quick service to students with laptop problems and to those students who may need to rent a computer for class use.

A mandatory laptop program will enable any classroom to become a computer lab – one useful byproduct may be the facilitation of ITL courses that are often now scheduled at inappropriate times in order to find empty lab space.

A mandatory laptop program will also allow faculty to have “access” to a computer lab at any time needed. A preliminary report from OIT indicated that this past semester only two faculty were turned away from using computer labs because of a lack of space. However, this figure does not measure the number of faculty/instructors who have been turned away from a desired time period and have had to adjust/rearrange instructional timelines to be able to use a lab. As increasing numbers of students are required to use electronic portfolios (such as LiveText), computer lab access becomes increasingly important.

Specific Instructional Lab Needs

There are some very specific uses for which computer labs are used at this time. These uses need to be planned into the conversion to a laptop program. The ones that have been brought to our attention are discussed below:

In the Sycamore Advantage orientation students are spread across multiple labs in order to complete the testing that is part of the current program. We have talked to several laptop institutions that are public and similar in size. These institutes test students using

the laptop that is given to them at the orientation program (these are all leased machines). A purchase program would change the nature of this somewhat. However, it would still be possible to negotiate with the vendor to have student purchased laptops available for pickup/purchase so a student trains on his/her laptop, and to provide extras for testing that would be available for purchase, or perhaps could become part of the adjunct/GA pool, or the computer for new faculty who have not yet arrived on campus. A distinct advantage for the orientation programs will be that any room can become a testing/training lab and not limited to the lab space available

Program Promotion

Accurate, timely, and appropriate promotional material must be available to the constituents of ISU. This promotional material must make clear why ISU values a mandatory laptop program (i.e. support of our strategic themes, high levels of information technology literacy for ISU graduates, and meeting the instructional needs of Millennials – the new generation of college students.)

Program materials must also make clear why a particular laptop machine was selected and why there is a price differential between a consumer and business class machines. Some of these important differences are highlighted below:

Why a business class machine is preferred over consumer class machines:

- Battery life is longer (in terms of years of use and time per charge)
- Centrino technology in business class helps to prolong battery usage
- More advanced engineering utilized in a business class machine ensures greater reliability of all parts and longevity of the machines across the years.
- Consistency of internal parts that make repair and predictability better (consumer machines are less expensive because they use whatever parts are cheaper at that moment, meaning that a machine manufactured on an assembly line one day may have different parts than a machine manufactured the next day)
- Compatibility with University wireless network can be assured.

Additionally, promotional materials need to describe the advantages of purchasing the University recommended laptop, points which are summarized below:

- Sufficient computing power is present so that the computer could be expected to serve for four years.
- Professional version of operating system will be installed prior to shipment (consumer grade machines come with home versions which don't provide the functionality and levels of security required at ISU. Students have access to the professional version through the campus software agreement, but would need to load it themselves or pay to have OIT load it.
- Updates to the operating system and applications software can be preloaded or "pushed" to the student.
- Virus software will be pre-loaded and updates will be "pushed" to those with the University laptop.

- “Spyware” software will also pre-loaded and updates will “pushed” to those with the University standard laptop.
- Remote software fixes can occur through push software like Zenworks
- Warranty service can be handled for free through the University (although not on Macintoshes).
- Exchangeable battery service through battery cafés
- Laptop loaner program for those who may need more extensive servicing.
- Standardized laptops provide for easier repairs when/if the laptop becomes problematic either due to software, or hardware. The standardized image is reloaded and the computer is repaired within a specified length of time or the student is given a loaner.
- Laptops come preloaded ready to be used in the ISU software environment
- Printing is already set up for the ISU network and ready
- All access to network storage is already programmed in to provide protection for the student’s data
- Students can provide other students help based on their experiences with exactly the same laptop (a network of support)
- A disk image CD is given to the students so that they can reload their laptop any time it becomes unstable
- Accidental damage insurance can be added at the purchase time
- Possible trade-in allowance for old ISU standard laptop to purchase a new ISU standard laptop (not yet established)

Academic Integrity

There are currently groups on campus considering issues related to academic integrity. The committee knows that a laptop requirement will not lessen these considerations, and when appropriate must be factored into discussions.

Conclusion

This report is the first stage in the committee’s overall charge. If desired, the committee will continue with the second charge to create a formal implementation plan. It is the consensus of the Notebook Implementation Committee that another Task Force be created to continue the pursuit of answers to questions that do not necessarily fall within this committee’s scope. The primary focus of this group’s efforts should focus on the question: Is Indiana State University prepared to instruct the next generation of learners? The present committee may not be the group needed to answer this question. We would strongly suggest that this group have significant representation from the teaching faculty, and from the student body. This effort should also include staff from enrollment services and representatives from the First Year Initiative.