Office of Information Technology
Code of Ethics

Teamwork
- We foster productivity through accountability, being dependable, and sharing generously of our time and talents.
- We maintain a high level of expectations and collaboration within our team, across university, and the greater community.

Respect
- We conduct ourselves with kindness, fairness, courtesy, dignity, and humanity toward others.

Communication
- We are committed to honesty, openness, and transparency in all our interactions.
- We are proactive and honest with the information we share.
- We seek to understand and listen in all of our communications.

Responsibility
- We strive to be worthy of the trust that others place in us and the responsibilities, privileges, and legal duties in our work.
- We hold ourselves and our work against the highest standards of responsibility, excellence, and integrity.

Growth
- We strive to be proactive in the development of our knowledge, skills, and decision-making.
- We strive to help all resources through continual transformation.

Excellence
- We seek to maintain the excellence of Ohio University through proactive, knowledgeable, strategic, and innovative decisions.

Community
- We take our responsibility to the future of Ohio University and accept the challenge to carry it forward to future generations.
- We contribute to our larger community through charitable giving and active participation.
- We convey the values and beliefs of the university, the local community, and the region.
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NextGen Network Upgrade

Voicemail Upgrade

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Major Building Construction and Renovations

Retirement of Cabletron Switches in the Data Center

Major Network Designs

Systems & Operations Accomplishments for FY 2009-10

Storage

Server Management

Web Services/Departmental Solutions Accomplishments for FY 2009-10

Departmental Applications

Web Services

Customer Support Services Accomplishments for FY 2009-10

Educational Testing Center

Test Score Office

Technology Depot
Mission and Management Approach
The Office of Information Technology (OIT) provides information technology and services to the entire Ohio University community. These services include but are not limited to information security, network and systems infrastructure, enterprise-wide applications, voice and video communications, customer IT support services, academic technologies and training, web and departmental applications, IT policies/procedures, and overall technology leadership.

The Office of Information Technology’s mission and goals are:

To ensure reliable, secure, innovative, and customer-oriented information technology services and solutions are available to advance the academic mission and objectives of Ohio University.

Goals
- Provide information technology planning, development and leadership to the University community
- Provide a robust, secure, and up-to-date information infrastructure
- Investigate new technologies and implement provision of customer-oriented and integrated applications and services
- Provide transparent and measurable management practices

Changes Over the Past Decade
Technology has changed exponentially over the past ten years and has profoundly affected the delivery of IT solutions across Ohio University. However, OHIO lagged technological progress throughout much of the late 1990’s and the accumulated technological and organizational deficit culminated in the security breaches of 2006. Through extensive collaboration between University leadership, faculty, staff, students, and other stakeholders, OIT embarked on an aggressive five-year improvement and modernization campaign in 2007 which has resulted in significant improvements.

Critical Partners
As an enterprise-wide organization, OIT provides services for all constituents of Ohio University, including faculty, staff, students, prospective students, and alumni. Ohio University also partners closely with other state and national higher education organizations, state/federal government, and IT industry to deliver technology solutions. Finally, OIT works closely with its governance partners to discuss and plan technology directions.
The following chart and accompanying table describe the allocation of OIT resources by major University functional area.

**Table 1**

<table>
<thead>
<tr>
<th>PLANNING_UNIT</th>
<th>EFFORT</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>University-wide</td>
<td>52,698</td>
<td>40.3%</td>
</tr>
<tr>
<td>Provost</td>
<td>35,431</td>
<td>27.1%</td>
</tr>
<tr>
<td>Office of Information Technology</td>
<td>17,839</td>
<td>13.6%</td>
</tr>
<tr>
<td>VP Finance &amp; Administration</td>
<td>14,655</td>
<td>11.2%</td>
</tr>
<tr>
<td>President</td>
<td>4,657</td>
<td>3.6%</td>
</tr>
<tr>
<td>Regional Higher Education</td>
<td>3,032</td>
<td>2.3%</td>
</tr>
<tr>
<td>VP Student Affairs</td>
<td>1,133</td>
<td>0.9%</td>
</tr>
<tr>
<td>VP Advancement</td>
<td>1,020</td>
<td>0.8%</td>
</tr>
<tr>
<td>VP Research</td>
<td>250</td>
<td>0.2%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>130,714</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

*Refers to efforts that affect University-wide systems and processes, such as email, voicemail, network upgrades, etc.*
Critical Activities
The use of technology has dramatically changed types of services and constituent expectations. The following examples of new critical technologies and demands were not known 10 years ago:

- Learning/Course management system (Blackboard)
- Comprehensive financial management systems (FMS)
- Comprehensive student information system (PeopleSoft)
- Standard technology package in all classrooms
- Firewalls and security attack prevention services
- High speed network infrastructure
- Massive server capacities and storage requirements
- Uptime expectations require resourcing, redundancy, and reliability
- Integrated reporting capabilities

OIT projects and initiatives are in direct support of the five-year IT Improvement Plan established in 2007. This IT Improvement Plan was the result of substantive analyses and input from all university constituents in follow-up to the security events of 2006. This five-year plan is progressing well with the cornerstone, a new SIS, in its final year of implementation. This major accomplishment will set the stage for a successful campus migration to semesters in 2012.

Some of the specific initiatives currently underway are highlighted below. It is important to note these initiatives, in combination with substantial resource reductions over the past several years, have consumed almost all of OIT resources.

- Rufus Initiative
  - Replace Informs SIS and Sigma SAM with PeopleSoft Campus Solutions
  - Implement Tivoli identity management and access management
  - Establish Service Oriented Architecture standards for integrating with the new SIS
  - Implement Talisma constituent relationship management package
  - Implement University web portal
  - Implement enterprise reporting solution
- NextGen Network Upgrade
  - Wired network infrastructure improvement
  - Wireless network infrastructure improvement
- Modernized messaging
  - Replacement of Oak e-mail and Oracle Calendar with Microsoft Exchange
  - Replacement of aging voicemail system
- Course management software
  - Blackboard 9 upgrade and maintenance
  - Evaluation of competing solutions & future directions for course management systems
- Development and maintenance of financial and HR systems
- Development of Planning Unit-level applications services
- Consolidation of university-wide servers and services
- Optimization of desktop support services
- Creation and maintenance of departmental support applications for specific academic functions
- Information Security and Policy/Procedure development
The following chart and accompanying table describe the allocation of OIT resources by type of technology service.

*Projects are defined as efforts with a defined scope and start & end dates. An effort will be entered in PUP-E as a project if effort estimates are at least 100 hrs., OR the effort is determined to be of high impact or high visibility (or otherwise in need of the reporting and tracking available in PUP-E).

**Admin is defined as Budget, HR, Portfolio Mgmt., Procurement, Executive duties, Strategy & Planning, Governance, etc.

Critical Changes/External Trends

Environmental changes
Throughout the past 10 years, the scope and nature of OIT services and infrastructure have changed.
- Massive use of Internet
- Shift from scheduled, broadcast content to on demand, online content
- Expectation of immediate resolution or response to support requests
- Text messaging, IM, and social networking
- Gaming and online media
- Pervasive availability of on-line self-service services
- Expectation of real-time emergency notification
- Anywhere/anytime access – 24x7 expectations
• Online content
• Immediate resolution or response
• Rising cell phone usage coupled with declining land line and long distance usage
• IT security threats
• Privacy laws
• Mobile devices
• Distance and online learning increases

Human Landscape – changes and external trends
Changes in the way people interact with technology have had a profound influence on human behaviors.

• Students – highly tech-connected, savvy, demanding, changes in learning trends, significantly increased online learning requirements
• Faculty—moving quickly toward tech-connected, some resistant to change—requires a balance between traditional and innovative ways to deliver information
• Staff—tech-connected, huge demands for technological answers to business process efficiencies, increased data management, storage and archival demands
• Ohio and the Region—increased competition for students leads to increased demand for technological offerings to stay competitive
• Attracting, retaining, and developing skilled employees- huge demand for highly skilled tech-employees results in difficult to compete with compensation and work environments offered by private sector—higher turn-over results
• Training Internal—as financial support decreases so does investment in employee professional development—keeping current staff up-to-the moment in tech-advances suffers as professional development support dwindles
• Training of end-users—financial strain will result in ad hoc support instead of in-house support therefore availability of JIT help for new and updated applications will decline further.
• Motivation and morale—low across campus and OIT is not an exception. Inability to offer adequate compensation, professional development opportunities and limited supervision further erodes.
• Delivery of work/workplace flexibility—single-threaded service support limits ability to offer flexible work schedules and demand for 24/7/365 end-user help becomes a challenge.

Economic Landscape
The economic landscape for OIT has changed significantly in recent years. In response to security breaches in 2006, Gartner identified significant unfunded operational needs, and the University provided significant funding towards this gap. However, as shown below, budget reductions have greatly exceeded new investments, and significant operating challenges remain. In addition, OIT is in the process of implementing an additional $810,000 reduction of funding related to residential student computing. While OIT is working to mitigate student impacts, funding reductions will have a negative effect on service levels in other areas.
Summary of Changes in OIT General Funds

<table>
<thead>
<tr>
<th>Prior year General Fund Control Total</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>FY06 - FY12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$14,623,044</td>
<td>$13,813,587</td>
<td>$16,089,071</td>
<td>$17,270,666</td>
<td>$16,104,134</td>
<td>$14,623,044</td>
</tr>
<tr>
<td>Plus: New Investments</td>
<td>$67,581</td>
<td>$2,000,000</td>
<td>$350,000</td>
<td>$190,000</td>
<td>$</td>
<td>-</td>
</tr>
<tr>
<td>Minus: Reductions</td>
<td>($1,415,526)</td>
<td>$</td>
<td>$</td>
<td>$(1,366,224)</td>
<td>$(64,413)</td>
<td>$(3,746,163)</td>
</tr>
<tr>
<td>Plus/Minus: Restructurings</td>
<td>$107,180</td>
<td>($155,998)</td>
<td>$519,987</td>
<td>$</td>
<td>-</td>
<td>$(74,659)</td>
</tr>
<tr>
<td>Compensation (raises and benefits)</td>
<td>$431,308</td>
<td>$431,482</td>
<td>$311,608</td>
<td>$9,692</td>
<td>$230,306</td>
<td>$1,414,396</td>
</tr>
<tr>
<td>Total General Funds available</td>
<td>$13,813,587</td>
<td>$16,089,071</td>
<td>$17,270,666</td>
<td>$16,104,134</td>
<td>$15,295,368</td>
<td>$15,295,368</td>
</tr>
</tbody>
</table>

Technological Landscape
No area has undergone as much change as technology in recent years and this change is anticipated to continue for the foreseeable future. Information technology and services have become a critical component of the everyday lives of our faculty and students. It is very reasonable to say Ohio University is a technology-centric university.

The following is a brief summary of the technology landscape at Ohio University.

Instructional and Classroom Technologies
Technology has become an expected feature with standard audio-video equipment and services supported and maintained in the over 200 centrally-managed classrooms on campus. Future expected features will range from high definition video systems to real-time video interactions with collaborators around the globe.

Students and faculty have come to expect on-line course-specific information sharing. Services from providers such as Blackboard, D2L, and Moodle have become standard across academia. Future features will include improved course content (e-books) as well as enhanced synchronous and asynchronous communications with collaborators at other institution partners.

The following areas will continue to experience growth:
- Distance learning has expanded significantly at Ohio University and is expected to continue to grow. New models of online course delivery are expected to drive growth in IT infrastructure and require increased levels of internet bandwidth and technology support. While distance
learning has the potential to reduce physical infrastructure costs, successes in this area at Ohio University have resulted in over $400,000 in new licensing costs within OIT and future successes will result in additional new costs.

- The use of learning management systems such as Blackboard and Moodle is expected to expand, and will require support increases to meet student and faculty expectations. Migration toward open source solutions (i.e. Moodle or Sakai) could reduce acquisition costs but will require additional technical support resources for effective enterprise-wide faculty use.
- Web conferencing and interactive whiteboards are both established technologies which are expected to find increased use in classroom delivery models. OIT provides some basic level of support for these technologies (via Adobe Connect) today but expanded instructional use will require increased investments to stabilize operations.

As the lines between distance learning and traditional classrooms fade, course content delivery and interactions with students will shift and change in order to address learner needs and preferences rather than the location of the learner. This will require instructional technologists and faculty to create and adopt new tools and resources to serve the ever-growing distance learner population. As university budgets decrease and faculty are asked to teach more online courses in addition to traditional classroom courses, there is a need for courses and course content to not only be effective in the classroom – they must also be effective online.

**National Technology Perspective**

The “2010 Horizon Report,” a collaboration between The New Media Consortium and the Educause Learning Initiative, defines six technologies that have considerable potential to impact instructional technology and higher education over the next 2 to 5 years. Several key technologies include:

- **Open content** - A new educational perspective that encompasses the idea of using the Internet as a global dissemination platform for collective knowledge and wisdom, and to design learning experiences that maximize the use of open content. With Ohio University students spending approximately $25M per year on textbooks, increased usage of open source instructional content has the potential to significantly decrease student costs.
- **Electronic books** - In the next 2-4 years, we can expect to see more learning content and textbooks available as eBooks. The ability to manage eBook licenses also has the potential to significantly reduce student textbook costs.
- **Mobile computing** - Mobile learning can benefit learners and instructors by providing instructional materials and interaction through mobile devices wherever and whenever information is needed.
- **Gesture-based computing** - Interfaces based on natural human gestures, such as the Wii and iPhone
- **Simple augmented reality** – Overlaying virtual data on real world images for the purpose of enhancing the information.
- **Visual data analysis** - Utilizes advanced graphical algorithms to identify patterns and structure across digital images.
OIT and the IT Advisory Council developed the following high impact areas for information technology during the past fiscal year:

<table>
<thead>
<tr>
<th>IT High Impact Areas for Next 10 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cloud Computing and Outsourcing</td>
</tr>
<tr>
<td>2. Hyper-Connectedness</td>
</tr>
<tr>
<td>3. Ubiquitous Data Management</td>
</tr>
<tr>
<td>4. Analytics and Pattern Sensitivity</td>
</tr>
<tr>
<td>5. Virtual Workplace (students, faculty, staff, others)</td>
</tr>
<tr>
<td>6. Media-Rich Course Content (blurred lines between local/distance learning)</td>
</tr>
<tr>
<td>7. Simulation and Experimentation</td>
</tr>
<tr>
<td>8. Acute Reliance on Technology Availability</td>
</tr>
<tr>
<td>9. Data Security</td>
</tr>
</tbody>
</table>
The NextGen Network Upgrade project is a related activity that has improved network reliability and performance and resulted in many benefits across campus:

- The establishment of a high-performance communication infrastructure that is fundamental to instruction and research
- The creation of an enterprise communications architecture that has enabled server consolidation and modernization across campus that has resulted in significant efficiency gains in server utilization and management.

The NextGen Network has also introduced new challenges. University increases in internet use have outpaced internet bandwidth cost reductions, and this has resulted in a reduction in the responsiveness of the University’s outbound data communication. While improvements in network management practices will partially mitigate this reduction in internet service levels, it is expected that new funding will be required to ensure continued performance of internet-based services at a level consistent with the expectations of University constituents.

**Data Network**

Currently OIT is in the process of upgrading the Data Network across all campuses of Ohio University to the NextGen Network. This upgrade is being delivered in two phases, with the first phase scheduled for completion at the end of FY 2011. The project will upgrade nearly 2000 network components including, routers, switches and wireless access points, as well as many miles of fiber optic and twisted pair cabling. The new network will provide 100 Mbps connections to each of nearly 17,000 wired connections which is a 10 fold increase over the previous design. Similar speed increases will be built into a new wireless network, as well. To support the increase in connection speeds, the links between buildings are being upgraded to 10 Gbps, representing a 100-fold increase for many buildings.
The NextGen Network Upgrade was developed to support the expanding requirements related to technology and information systems, such as SIS, Blackboard, and Exchange. These types of systems are foundational elements in the business functions of the University, in the educational curriculum, in the research projects and in simple everyday life of our students, faculty and staff. Additionally, the tools that our constituents use to access these systems, such as laptop computers, iPads, Smartphones, etc. are becoming more and more mobile increasing the necessity of a high performance network to deliver the information.

Voice System
The current telephone system for the Athens Campus is an Ericsson/Aastra MD110 that was installed in 1987. It is a distributed system with 62 modules in 48 sites across campus with the main components in Alden library. There are approximately 11,200 extensions on the system. Regional Campuses have a variety of telephone systems that serve their local population. OIT also provides voicemail services, automated attendant systems and other voice-related services.

As the telephone system approaches its maximum life expectancy, OIT is planning to implement a modern data network-based VOIP telephone system and provide the most current and complete set of voice services available. The most advanced voice communications systems feature integration with cell phones, email, calendar and desktop computers. These features will improve the ability to receive phone calls and/or voice messages from anywhere.

Internet Network
The Ohio higher education network (OARnet) and the southeast Ohio area are also undergoing a major upgrade thanks in part to a federal broadband stimulus grant. This broadband consortium will greatly enhance the network connectivity among Ohio university main and regional campuses.

Office of the Chief Information Officer

Office of the CIO Accomplishments for FY 2009-10

Success Highlights
- Implementation of President’s Directive One Distributed IT Server Consolidation- OIT and departmental IT staff worked together to join every university-owned computer to the university's main Active Directory
  - Identified and completed migration of 309 distributed servers
  - Migrated 225 commodity service servers
  - Secured in place 84 research servers
  - Created security registration process for future server management
  - Reduced OIT and distributed IT budgets by $1.6M annually (staff and equipment reductions)
  - Reduced power consumption by 379,351 kW per year in OIT and estimate over 1,000,000 kW savings per year university-wide
• Rollout of Rufus Initiative - multi-year SIS replacement project to replace several aging, mission-critical IT systems, provide consistent, modern self-service interfaces for many academic and administrative tasks, and re-engineer the way the university handles student data
• Launch of NextGen Network Upgrade multi-year project designed to improve the capacity, robustness and security of Ohio University's wired and wireless network infrastructure
• Upgrades to major systems like Voicemail, Blackboard, student email, and faculty/staff email & calendars
• Sponsored major events-- IT Security Seminar, Classroom of the Future, Blackboard Open Forum, NextGen Network Upgrade & SIS Open Forum

Challenge Highlights
• Limited resources
• Emerging technologies gap

CIO Office
• Vendor savings – Business Services worked effectively with OIT departments, vendors, and the University community to deliver over a million dollars in savings through the following activities:
  o Procurement planning – OIT meets internally to discuss procurement approaches and vendor strategies prior to issuing procurements and prior to vendor negotiation
  o Better procurement methods – OIT has consolidated procurements and encouraged more competitive purchasing methods whenever possible
  o Better negotiation – OIT has adopted best-alternative and value-centric approaches to negotiation and recently presented the application of these methods to the Ohio Higher Education Computing Consortium (OHECC)
  o Better contracts – OIT has worked with Legal affairs to carefully reduce contract risk, lock in long-term discounts, and implement price protections to offset worst-case scenarios wherever possible
• Realignment – Business Services has met with each of the planning units on campus with distributed IT staff and worked to develop memorandums of understanding and service agreements to effectively transition and consolidate IT functions across campus. These changes are expected to improve IT staff efficiencies campus-wide.
• Cost management systems – Business Services implemented a new Pinnacle cost management system to replace the previously custom-developed billing software that had been written in Cobol and was no longer maintainable. The replacement system was implemented at a cost of less than 10% of the system which it replaced.
• Efficiencies and Restructuring – Business Services consolidated support staffing within a single building, and restructured and reorganized job functions to enable a staffing reduction of 33%
• Strategic Planning Support – Business Services has supported strategic planning initiatives across the University, including Vision Ohio, Environmental Scan and multi-year budget planning, reduction and efficiency planning, IUC shared service initiatives, SIS and NextGen updates, Realignement initiatives, ITAC initiatives, Budget Planning, and other CIO priorities.

Portfolio Management Office

IMPLEMENTATION OF PUP-E: Project UPdate and Entry (PUP-E) is a home-grown system to track project assignments, stages, status, and effort, across OIT. The effort included development, training, follow-up, and the establishment of associated business processes (quarterly meetings, weekly reminders, regular reporting and update, etc.)

NEEDS ASSESSMENT: A survey of OIT Directors and Team Leads, was conducted to determine which PMO-related services are most needed – summary report issued to the CIO

INTERNAL REPORTING: Regular and as-needed project and resource-related reporting for OIT Directors and CIO, was established, with the following reports now available:
  • Monthly per Project Reports
  • Monthly per Team Member Reports
  • Monthly Completed Projects Reports
  • Monthly Performance (Early, Late, Over or Under Estimated Effort) Reports
  • Monthly Per Planning Unit Reports (Project status per Planning Unit, Effort Breakdown per Planning Unit)
  • Resource Projection Report for upcoming 12 months (as requested)

EXTERNAL REPORTING: Establishment of monthly report for customers posted to the PMO website

RUFUS REPORTING AUTOMATION: The PMO implemented specialized, automated reporting and hours tracking for the RUFUS project

REQUIREMENTS AND ANALYSIS: Requirements gathering and business process analyses conducted by the PMO for the following projects:
  • Campus Directory
  • OCEAN – Automation of University Curriculum Council processes, particularly for Q2S transition
  • Regional Campuses: Document Imaging for Admissions
Fiscal Year 10 – Overall Effort
Ohio University Office of Information Technology (OIT)

OVERVIEW

In Fiscal Year 10 (FY10 - July 2009 through June 2010), OIT’s Portfolio Management Office (PMO) launched Project UPdate and Entry (PUP-E) to track OIT project status and effort. The objectives of the PUP-E implementation were:

- to allow OIT staff to view and enter
  o project team member assignments
  o project status
  o accomplishments and issues
  o hours worked
- to provide reporting on
  o project status
  o effort disbursement
  o resource availability
  o project performance

PUP-E was launched in December 2009, but historical data was entered into PUP-E, dating back to July 2009. Therefore, the effort information provided in this report is for the whole of FY10. However, it should be noted that the historical project information available was incomplete, and adoption and optimal use of PUP-E was not instantaneous across OIT. This has likely resulted, this first year, in skewing the data – i.e., there were more project hours worked than reported in FY10.

The FY10 data from PUP-E shows OIT’s efforts consisted of 30% project time, with the remaining 70% in non-project activities such as support, maintenance, and administration. But a quick examination of the last 6 months of FY10 shows a 40%-60% split, supporting the hypothesis that the mid-year launch and the stops and starts of the initial rollout have affected results by artificially lowering project time for this first-half of the fiscal year.

Nevertheless the information below reflects a good faith effort to provide the best information available regarding overall OIT effort in FY10. Continuing process reviews and updates should result in greater accuracy as reporting and tracking efforts move forward.
**Table 1**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>EFFORT (hrs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADMINISTRATION*</td>
<td>35,402</td>
</tr>
<tr>
<td>APP &amp; WEB MAINTENANCE</td>
<td>59,763</td>
</tr>
<tr>
<td>CUSTOMER SUPPORT &amp; OUTREACH</td>
<td>53,739</td>
</tr>
<tr>
<td>NETWORK &amp; TELEPHONE MAINTENANCE</td>
<td>39,335</td>
</tr>
<tr>
<td>SECURITY</td>
<td>7,467</td>
</tr>
<tr>
<td>SYSTEMS &amp; STORAGE MAINTENANCE</td>
<td>24,550</td>
</tr>
<tr>
<td>PROJECT**</td>
<td>103,734</td>
</tr>
<tr>
<td>TRACKED APP &amp; SYSTEM MAINTENANCE</td>
<td>18,933</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>342,922</strong></td>
</tr>
</tbody>
</table>

220,255 hrs. **122,667 hrs.**

**Note:**

*Budget, HR, Portfolio Mgmt, Procurement, Executive duties, Strategy & Planning, Governance, etc.

**Projects are defined as efforts with a defined scope and start & end dates. An effort will be entered in PUP-E as a project if effort estimates are at least 100 hrs. OR the effort is determined to be of high impact or high visibility (or otherwise in need of the reporting and tracking available in PUP-E).

The pie chart above provides an overall view of OIT effort hours expended in FY10. The blue areas represent time that was tracked in PUP-E: Project time and select Application & System Maintenance time (some OIT areas are using PUP-E to track ongoing maintenance). The yellow areas represent the remaining time – i.e., non-project time which is not tracked in PUP-E. The hours have been determined by determining capacity in various OIT areas, then subtracting the reported time from the capacity. (NOTE: Vacation, sick time, and the like were removed from capacity figures.)
As efficiencies are gained in underlying systems through the use of improved processes and technologies, a maturing IT organization will spend less time in maintenance and support, and have more time available for value-added projects. In higher education IT, no clear benchmarking data is easily available. In 2008, Georgia State University, a higher education institution in Atlanta which is similar in size to OHIO, reported 14% project time, though the term “project” was more narrowly defined. Also affecting any reported data is the overall makeup and structure of the IT organization and what is defined as IT work.

Anecdotal evidence from a longtime higher education Portfolio Management consultant suggests that university IT offices devote an average of between 25% and 40% of their time to projects, suggesting that OIT’s 30% in FY10 is within the current norm.

In a breakdown which was structured significantly differently from the one above, Georgia State’s IT Office reported, in 2008, approximately 35% Administrative time, and 65% of IT time spent on everything else: General customer support, and applications, systems, and networking projects, support, and maintenance. Administrative time was defined as “HR & Finance functions,” and for all IT employees, “time spent answering daily emails.” This makes a comparison difficult, and no other higher education data was available for comparison.
The Effort Disbursement pie chart (Figure 2) breaks down the blue areas from Figure 1, to show how that effort was disbursed across the University. Because the yellow area in Figure 1 represents general support, maintenance, and administrative efforts that are not tracked per Planning Unit, it is not represented above. There are current efforts being made to restructure OITs ticket tracking system (FootPrints) to allow more granular reporting in the future.
An objective for Effort Disbursement reporting is to align disbursement with group sizes, needs, and overall university goals and objectives. As OIT’s reporting tools and abilities mature, the goal for effort disbursement reporting will be to ensure that resources are aligned to provide the most value.

The current pie chart though it takes into account only 30% of OIT’s overall FY10 effort, does suggest that a large percentage (67%) of the tracked effort serves, as it should, vital University-wide systems and those units devoted to the University’s central mission (Provost & Academic Units). The 14% time devoted to internal OIT projects include, for the most part, projects devoted to replacing aging processes and technology, and gaining efficiency - in the long run, they too serve the University as a whole.

PERFORMANCE

Figure 3

In FY10, OIT completed 70 projects. The pie charts above show the percentages: The percentage of projects completed early, on time, or late, and the percentage completed with the effort originally estimated, under the effort, or over the effort.

From a customer service perspective, the 46% delivered late (defined as over 7 days past the original estimated end date) suggests the need for better initial estimates and improved tracking and follow-through.

From an OIT resource management perspective, the 26% over, plus the 47%, means that 73% of the projects completed with initial resource effort-hour estimates incorrect by 10% or greater. Bad estimates lead to bad planning, and this result suggests initial estimation procedures need improvement.
Prior to PUP-E, formal estimates were not gathered and tracked, and feedback could not be provided to those making estimates. The ON_TARGET percentage should improve as OIT staff members improve their ability to make estimates, using the feedback provided. The PMO has also made efforts to provide some standards and tools for effort estimation, and this effort will continue.

The project picture at the end of FY10 is shown above. Remaining project hours, at end of FY10 were 231,800. This is more than double the number of project hours completed in FY10 (103,734 hrs. – see Table 1). However, project hours reported in FY10 are likely low, due to PUP-E’s midyear implementation, and some projects represented in the remaining hours are expected to extend past FY 11.

Projects with end dates greater than June 30, 2011 represent 138,490 hrs. of the 221,039 remaining hours shown. Of those 138,490 hours, approximately 74,100 hrs. are to be completed in the years
following FY11. Therefore, the remaining project hours which must be completed in the coming fiscal year (FY11) are approximately 231,737 – 74,100, or 157,637 hours.

This suggests a strong need to find greater efficiencies in support and maintenance areas (to allow more time for projects), and it further suggests that current resources will be entirely consumed, or over-extended in FY11.

### Academic Technology

#### Academic Technology Accomplishments for FY 2009-10

Academic Technology provides support for the technology aspects of teaching and learning at OHIO University. By taking an innovative approach to leveraging technology, the AT team offers assistance with learning management systems, course design, and major project delivery.

#### Overview

- **Faculty Outreach Activities**
  - Conducted a one-week Course Design Studio for 15 faculty members in the Faculty Commons during winter intersession, 2009. AT staff delivered a multi-dimensional program with the purpose of providing one-on-one assistance to faculty regarding the complete redesign of their courses, and included pedagogy, new technologies, and instructional design.
  - Planned and organized a collaborative mini conference for OHIO and Hocking College faculty, with guest speakers from both OHIO and Hocking ("Enhancing Teaching and Learning with Technology").
  - Participated in the New Faculty Welcome and provided workshops on Blackboard.

- **Administrative Support Activities**
  - Supported the Online Seminar Registration System.
  - Supported Workforce; completed conversion/migration/training of Facilities and OUPD to Workforce.

- **Student Enrichment Activities**
  - Wrote and submitted ten proposals for PACE student funding, of which six were approved for eight student positions.
Blackboard

- Assisted in bringing all faculty, student users, courses, and organizations off Blackboard 6 and into Blackboard 7.
- Worked with Systems and Operations and Blackboard to resolve Blackboard 7 issues in the hosted environment (including the environment not being sized correctly for OHIO’s number of users).
- Conducted a successful pilot of Blackboard 9 Hosted across winter and spring, 2009-10.
- Assisted in bringing up, testing, and configuring Blackboard 9 Pilot in-house. Also assisted in bringing up, testing, and configuring Blackboard 9 production in-house.
- Collaborated with Hocking College on the Blackboard 9 Hosted pilot during winter and spring quarters 2010.
- Conducted a successful pilot of Blackboard 9 in-house during summer, 2010.
- Set up data load schedule for Blackboard 9 Pilot and Production.
- Worked extensively with Global Synergies on Blackboard building blocks for Bb.
- Assisted in bringing all faculty, student users, courses, and organizations off Blackboard 7 Hosted and onto Blackboard 9 Production. Blackboard 9 Production is live as of fall quarter 2010.
- Offered weekly Blackboard training workshops for faculty and students.
- Provided Level 2 Blackboard support.
- Developed a new Blackboard support website (http://bbsupport.ohio.edu/).
- Provided Blackboard training to the regional campuses via the Tandberg and regional campus visits.
- With the assistance of a consultant, developed over 20 pieces of step-by-step documentation for faculty and students (shared with Hocking College)
- Provided walk-in assistance and individualized support.

Computer Labs

- Passed the $500,000 revenue mark (2004-2010) for student print charges using the central OIT/Bursar system (PCounter) throughout OIT labs, HHS labs, Education labs, and Alden Library; this represents approximately $10,000 per year for OIT (~ $60,000 since 2004). This inexpensive, highly reliable, and scalable system has been programmed and set up by OIT (AT staff, programmers, and database administrators, in collaboration with the Bursar’s office) to accommodate additional colleges if they are interested in utilizing the system. The system has been approved by the University Fees Committee and the Board of Trustees for all colleges.
- Closed the CSC computer lab at the end of winter quarter 2010.
Educational Testing Center
- Provided 1,298 academic and professional tests to students and professionals from Ohio University, the surrounding community, the state, and nearby states during 2009-10.
- Generated $42,562 in revenue during this time period.
- The Educational Testing Center was transferred to Customer Support Services within OIT at the beginning of August 2010.

Exchange and Entourage
- The delivery team developed and assisted with on-site, desktop training support for Exchange for approximately 1,300, including the University Leadership group (approximately 500).
- Developed and provided online documentation and instructor-led training for Outlook (for PC’s) and Entourage (for Macs).
- Created a new IT newsletter for the purpose of project updates – Transitions.

Rufus (PeopleSoft) SIS
- PeopleSoft Admissions Module: Facilitator-led training (Introduction to Rufus; Basic Navigation; Adding an Application; Hands-On Exercises) developed and delivered in multiple sessions to Undergraduate Admissions, LDDL, and Regional campus staff. (Evaluation scores were above average for a first-time implementation, according to the consultant.) Created “parking lot” notes during all training sessions, and investigated answers after each session to disseminate to all training attendees.
- Hosted additional PeopleSoft training sessions to meet demand for Graduate College, Student Records (prior to validation sessions), and the OIT SIS group.
- Development of Training Plan for additional SIS modules: Ongoing meetings and communications with Student Records, Financial Aid, and Student Financials regarding upcoming training needs, definition of roles and responsibilities, content development, training schedules, registration/communications, script development.
- Sending weekly self-service “assignments” to Financial Aid staff (coordinating with Financial Aid functional lead) as a pre-requisite to upcoming facilitator-led training sessions.
- UPK Development/Training Documentation/QA: Creation of UPK content (working with the functional leads) and creating and printing documentation (training guides and job aids) for the various training sessions. (Many of the UPKs will be published as online tutorials as an additional training and support resource, as well as pre-requisites to facilitator-led training sessions for some modules.) We regularly perform quality assurance sessions to edit and test UPKs, making sure they are accurate and consistent (and do not include real personal sensitive data). We’re also working on creation of visual aids (posters) for the computer lab.
- Assisted other areas of the Rufus Initiative project with various validation and QA sessions.
- Creation of the Rufus Introduction video; the Admissions Overview video for stakeholders is a work-in-progress.
- Rufus Training Website (working with Sean O’Malley)
- Support: Provided Rufus in-person support (SWAT) the week after training sessions as a proactive follow-up to those who attended training the previous week, and to answer questions and alleviate anxiety among staff using PeopleSoft; Rufus training team also assisted with setting up support lines and Presidium knowledge base.
• Security: The Rufus training team is working with the security team to set up more secure user accounts for training. We implemented new pre-training policies so that all participants of Rufus training and/or validation/QA sessions are required to read and sign new FERPA agreements; we also verbally emphasize and reiterate the importance of properly handling the sensitive data they have access to viewing in the PeopleSoft TRN environment.
• Additional PeopleSoft training sessions are scheduled next week for Graduate Admissions. (Various training sessions will be held in October for Student Records/Schedule of Classes, as well as Financial Aid.)
• Coordination of computer lab facilities for training purposes, and regular communication with the Rufus Initiative team regarding upcoming reservation dates for HDL 175 to avoid conflicts.

SciQuest
• The Sciquest (or better known as BobcatBUY) Project Team conducted three focus group sessions to gain input from the wider campus community. Nine open forums were conducted in September and October to provide an overview and open discussion of the project and the solution.
• The Sciquest Team hopes to conduct the first live pilot in late November.
• The Sciquest Training Team which includes one OIT staff member and two Finance staff members are ramping up to tackle learning the system, developing training curriculum, writing training documents, planning for and scheduling training sessions, etc. Since the system is currently still in the design phase the Sciquest project team will use the help of consultants for some of the tasks.

Information Security Office

Information Security Accomplishments for FY 2009-10

Architecture and Response
Through the year the Information Security Office has been broadening its visibility into critical assets at the University through 4 distinct methods.

• Sensitive Data Scanning – The Security Office has been providing a manual tool to departments to reduce the amount of sensitive information they may be maintaining that is no longer useful. The Security Office has also begun to deploy an automated tool to high risk areas to enhance its effectiveness and improve reporting on the effort.
• Intrusion Detection/Prevention (IDS) – The Security Office has deployed several more IDS sensors in key places throughout the University network to gain better visibility into the threats that exist both inside and outside our network. It has already helped the University gain a faster response time to dealing with infected computers across campus.
• Vulnerability Assessments – The Security Office began scanning the DataCenter as part of the standard practice, in order to reduce the amount of vulnerabilities that exist. In addition, with Systems, the Security Office has established a practice of remediating all critical vulnerabilities on any system prior to it being brought into “production”
• **Security Information and Event Management (SIEM)** – The SIEM allows the Security Office to analyze large amounts of data and determine in relatively short order if there are any actionable items that require attention. There are currently 191 devices reporting to the SIEM, with just fewer than 17 billion logs being reported in the past 12 months.

![](image1)

**Awareness, BCP and Assessments**

The second annual Information Technology Security Seminar took place during October 2009. It provided training on Sensitive Data Handling, Vulnerability Scanning, Log Review, Data Classification, and Identity Management to Members of the University community as well as colleagues from across the state.

Information Security Assessments were performed for the following areas of the University. These included assessments of the business practices, technology infrastructure, and the storage of sensitive information. In addition, it provides sensitive data handling training to all faculty and staff in these areas:

- Russ College of Engineering and Technology
- E. W. Scripps College of Communication
- Voinovich School of Leadership and Public Affairs
- College of Education
- Finance and Administration
- University Libraries
- University Human Resources
- Regional – Zanesville

**Identity and Access Management**

The Information Security Office also expanded this year to include Identity and Access Management as part of its scope. The Office hired an IAM Administrator in January to run the program, and work with
other areas of the University to develop a comprehensive IAM strategy for role provisioning and access control. This year’s efforts have been focused on overhauling our IAM infrastructure to provide more robust capabilities as the University matures its capabilities in the years to come.

**Other Assistance as Required**

The Information Security Office also played a key role in the President’s Directive One *Distributed IT Server Consolidation*, by providing a process through which all servers that must remain in place are secure, as well as providing the necessary expertise to secure systems as they were moved into the Data Center. In addition, team members provided assistance during the Active Directory joins and Exchange migrations.

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**Student Information Systems**

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**Student Information Systems Accomplishments for FY 2009-10**

Ohio University Student Information Systems work to successfully maintain and update current systems to ensure sustained availability, while limiting changes to the existing environments.

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**Current Student Systems**

**Monitoring, Updating, and Installation**

- Student Financial Aid Sigma SAM upgrades
- Quarterly disbursement of multi-million dollars of financial aid funds
- Scholarship systems upgrades
- The Gateway scholarship process upgrades
- Installation of freshman and upper-class packaging
- SAM component installation of OGA/SAM/SIS for 2010-11 academic year
• Installation of the College of Medicine to SIS processing of Direct Loans for the 2010-11 year
• Significant changes were made to LLDL programs specific to Community College Partners, Higher Education Holdings, Embanet, and Compass
• Contact Manager upgrades for Graduate admission needs
• Adirondack Housing and Judiciais installation and upgrades
• fsaAtlas SEVIS International Student Tracking
• AdAstra classroom scheduling upgrade (some still in process)

Design and Development
• Successfully designed, developed and installed SIS changes necessary to accommodate academic restructuring changes. Due to the reorganization of College of Health and Human Services to the College of Health Sciences and Professions, this Academic restructuring of HHS which moved Programs to different departments and required changes to the school codes and department codes of these colleges. Required several hundred hours of effort.

New Student Systems

PeopleSoft Implementation
• Successfully converted cleansed person records into PeopleSoft Campus Community, and went live with PeopleSoft Admissions for undergraduate admissions. This implementation includes real-time web service calls, workflow automation, and the ability to establish a relationship (account) with the University at the point of application. This is a much-improved method over the current process of creating accounts after the admission decision, which is months after an application was received.
• Installed and developed in JBoss the Enterprise Application Platform (JBoss EAP). EAP is the market-leading, open source enterprise Java platform for developing and deploying innovative and scalable Java applications.
• Designed and implemented software development standards, initiating from business case functional requirements through to the delivery of fully testing applications.
• Installed and are managing multiple complex PeopleSoft environments (DEMO, DEV, SAND, CONFIG, CONVERSION, TRAIN, TEST, QA, PROD). All environments are being upgraded per the standard Oracle upgrade path and are all managed locally at OHIO.
• Installed and deployed the new student recruiting software, Talisma Constituent Relationship Management (CRM). This replaced the Recruitment Plus solution used at the Athens and Zanesville campuses. The new CRM is becoming the new standard to be used for all recruiting efforts on campus.
• Initiated and executed the PeopleSoft security plan.
• With credit given to the Faculty Policy Advisory Group, and Faculty Senate, the Provost approved senate resolutions which allowed the team to minimize some critical system modifications:
• Full-Time Enrollment Status for Undergraduate Students
• Academic Standing (Probation) Policy for Undergraduate Students
• Undergraduate Retakeable/Repeatable Courses

• Overcame some major delays in training and support by:
  o Assigning Training Administrator and Training Content Designer
  o Extending Consultant Agreement to ensure training plan execution and effective delivery
  o Implementing Service Desk strategies to provide for online knowledgebase, and began including support staff in Rufus training
  o Utilizing swat team approach to assist new trainees immediately after training

• Continuing to provide for regular ongoing communications and status updates to all stakeholder groups.

Infrastructure

Infrastructure Accomplishments for FY 2009-10

NextGen Network Upgrade
The NextGen Network Upgrade project is a data network renovation designed to support the technology-oriented education environments and business functions anticipated over the next 7 to 10 years. This project will replace approximately 650 switches, 1,200 wireless access points (APs) and approximately 17,000 connections in approximately 200 buildings on the Athens Campus and Regional Campuses. With a requested budget of $17,000,000.00 this project plan completion spans through April 2014.

As of Fall 2010 the Infrastructure team completed the network upgrade in 55 buildings including all of the residence halls. Building upgrade work was consistently several weeks ahead of schedule. Other components of the project completed as scheduled are: the installation of a campus VPN solution which provides secure access to Ohio University data for remote users, and the installation of several network management tools used for the configuration and operation of the new network equipment.

OIT will submit the second bond proposal to secure funding for the remaining balance of the requested budget in 2011. The infrastructure team will continue to make progress during the 2011 fiscal year.
Voicemail Upgrade
The OIT Infrastructure Team selected and installed a new state of the art voicemail system to replace an aging but critical part of the University communication services. The new voicemail system offers many enhanced features not available in the previous system last updated in 2001. For example, users can now listen to, delete, forward, and reply to voicemail messages from a web page accessible from any Internet connection.

Midway through the project, the team migrated 3000+ users from the old system to the new. With approximately 60% of the users remaining in October 2010, the migration is expected to progress through February 2011.

Distributed IT Server Consolidation
The OIT infrastructure group played a vital part in the completion of the President’s Directive I Distributed IT Server Consolidation effort. This project fulfilled a directive to centralize the management and operation of all servers within Ohio University. The Infrastructure role in this initiative was to provide cabling, network ports, IP addresses, firewall rules, etc. for each server that was relocated. Additionally, network ports, IP addresses, DNS names, etc. were removed from the old location for each server as they were moved. In all there were an estimated 240 servers relocated.

Major Building Construction and Renovations
The University Office of Design and Construction is responsible for managing new building construction and space renovation projects for all of Ohio University. In addition to many small renovations, they completed several major projects including ARC/ILRF construction and the Shively Hall and Bromley Hall renovations. The Infrastructure group plays a key role in all of these projects. After a lengthy design process, the Infrastructure team meets with the Office of Design and Construction, the building occupants, and the project architect to develop a comprehensive design to provide a complete communication package that meets the occupants’ needs. When developing these plans the design team must also meet the budget and the schedule determined by the Office of Design and Construction. The schedule must be flexible and must be coordinated with various contractors in order to avoid interfering with other work and to avoid delaying building occupancy.

This work includes cabling for voice, data and cable television services; telephone, voicemail and automated attendant as well as wired and wireless data services. Each of these projects was completed on time within the IT budget allocation for each project.
Retirement of Cabletron Switches in the Data Center

The Data Center Network was built in 1996 using the state of the art equipment for the time. This was a pair of Cabletron switches providing 10/100 Mbps connections to approximately 95 servers. The manufacturer no longer supports this equipment. Also, the port density for this hardware could not support the number of servers that are now in the data center. The Infrastructure group has been migrating servers from this hardware to newer Cisco 6513 chassis that were purchased in 2006 and installed in the Data Center in 2008. Initially the Cisco gear was installed to provide firewall protection to critical and sensitive data on existing servers and to accommodate new server installations. In 2010 the team initiated efforts to migrate all existing servers from the Cabletron equipment.

Major Network Designs

The OIT Infrastructure group completed several critical network designs including the OU Border Network, OU Data Center and the Disaster Recovery Site Networks.

The OU Border Network is intended to make use of an expected network upgrade by our ISP (OARnet). OARnet has announced plans to upgrade the Ohio University Internet service from a one-gigabit per second service to a 10 gigabit per second service. While OARnet indicated there would be no cost to Ohio University for the service upgrade, the existing network equipment will not support this connection and therefore must be replaced. This design will allow I1, I2 and Intra-Ohio network traffic to be provisioned to make use of the additional bandwidth.

The Data Center Network design replaces the existing network infrastructure purchased on 2006. With the distributed IT Server consolidation completion, the need for additional ports, bandwidth and security has changed dramatically. The new design options will assure sufficient resources to meet the updated needs for the foreseeable future.

In order to assure business continuity, OIT is in the first stages of developing a Disaster Recover Site at Wright State University. In the event of a catastrophic event with the potential to disrupt critical services and/or destroy vital data in Athens, OIT would be able to restore the most critical services/data and resume business quickly. A reciprocal agreement is under development so that Wright State will have similar services at Ohio University. In order to accomplish this, a secure, reliable network connection with sufficient bandwidth will need to be built between Ohio University and Wright State in Dayton. The OIT Infrastructure team has developed a secure network design to transport and protect the data while in transit and to provide sufficient bandwidth to provide a reliable disaster recovery service for both Ohio University and Wright State.
Systems and Operations

Systems & Operations Accomplishments for FY 2009-10

Storage
- The Exchange Computing and Storage environment was implemented
- The Blackboard Computing and Storage environment was implemented – enabled the in-sourcing of Blackboard
- The PeopleSoft Computing and Storage environment was implemented
- The Identity Management Computing and Storage environment was implemented
Server Management

- Under the President’s Directive I Distributed IT Server Consolidation, all Administrative (non-academic, non-research) servers consolidated to central IT (600 servers were consolidated or eliminated)
- Reduction in consumption of approximately 1million KWH/year through virtualization of 400 servers and elimination of 200 physical computers

Directive One Project Timeline

- 8/11/2009 - Presidential memorandum distributed to campus
- 8/26/2009 - President approves list and CIO meets with affected Planning Unit Heads
- 10/23/2009 - Deadline for main campus server questionnaires
- 11/28/2009 - Finalize Server realignment strategy
- 11/30/2009 - Deadline for regional campus questionnaires
- 12/15/2009 - Detailed server realignment program completed
- 1/14-15/2010 - Mid-Project update to Board of Trustees
- 6/30/2010 - Directive #1 transition complete

Web Services & Departmental Applications

Web Services/Departmental Solutions Accomplishments for FY 2009-10

Departmental Applications

- Moved Blackboard in house and upgrade to version 9 from version 7
  - Saved the University several hundred thousand a year and improved the reliability at the same time. OHIO now has 5 application servers and a stand-alone snapshot server that are load-balanced and running modern (64 bit, 2 JVMs per server) architecture. There is a test and development environment.
- Installed new advancement application
  - New web-based advancement application for VP Advancement. Replaces an old client/server application and makes it easier for development officers to have real-time information. This will be used extensively for the campaign.
- Implemented U-Portal
  - U-Portal will be rolled out in 2011 as an enterprise portal. Four servers support production, with two for testing and two for development. The architecture and software is in place to continue to add functionality in the future.
Web Services

- Major Website Creation
  - Compass - the new news site (UCM)
  - Promise - Admissions recruitment site (Enrollment Services)
  - Campus Recreation - the largest site in new CommonSpot
  - Graduate College - VP Research
  - Career Services - Student Affairs
  - VP Student Affairs/Dean of Students
  - Political Science - Arts & Science

- Minor Website Creation
  - OUPD
  - Q2S
  - Trustees History
  - Decision Blog for fine Arts

- Built streaming video architecture with a Codec translation server and a Flash Media serve- storage access finalized fall 2010

- Pilot VDI environment with functionality available during fall quarter 2010
Customer Support Services

Customer Support Services Accomplishments for FY 2009-10

Educational Testing Center
• Proctored 1,298 tests during fiscal year 09-10 (an increase of 150 tests over previous fiscal year)

Test Score Office
• Scanned/scored 3,295 test (equates to 185,797 bubble-sheets scored)
• Processed 229 course evaluations (93,429 bubble-sheets evaluated)
• Processed 705 ad-hoc requests
• Mass E-mails – 386

Technology Depot
• Printed over 15,000 IDs academic year 09-10
• Review & bill 600-1000 work order per month for microcomputer hardware billing
• Increased sales by 7% during 3-week Bobcat Orientation
• Personal Sales: total $2,485,527 sales (increase of $475,800 over previous year)
• Departmental Sales: total $2,008,998 (increase of $900,365 over previous year)
• Departmental Savings of $545,553 over academic retail to the departments (i.e. money they saved by purchasing thru OIT instead of directly)
• Tech Guru – 2868 visits for past fiscal year (239 per month avg.)