Mission

University Information Technology Services (UITS), with offices on the IU-Bloomington and IUPUI campuses, is responsible for the continued development of a modern information technology environment throughout the University in support of IU’s vision for excellence in research, teaching, outreach, and lifelong learning. The information technology environment that UITS provides comprises tools and services that support the academic and administrative work of the University. Computing tools include a variety of timesharing computers; hundreds of public-access, Internet-connected workstations, all equipped with current software; and a number of supercomputers. Interconnecting these resources is a high-speed network that links computers of many types and sizes in a complex, interactive web. Under the leadership of the Office of the Vice President for Information Technology, UITS is centrally responsible for implementation of the IU Information Technology Strategic Plan. Activities reported here reflect the goals, objectives, and implementation activities of this plan for the five year period, 1998-2003. The plan itself is available at http://www.indiana.edu/~ovpit/strategic/.

Goals and Objectives

1. Solid Foundation of IT Infrastructure & Sound Fiscal Planning
   (Recommendation 1, IU Information Technology Strategic Plan)

Check: Build a solid foundation of IT infrastructure that will help and enable IU to achieve a position of leadership, and to assure that sound fiscal planning permits the maintenance of this infrastructure at state-of-the-art levels.

   Campus Planning Theme: Best Practices
   Secondary Goals:
   Sub Unit: n/a
   Time Frame: Commencing in 1998 and completed in 2000, this pla

Actions taken for 2001-2002:

After little more than two years of progress, implementation of life-cycle replacement funding of basic desktop technology (computers, printers, servers, and common applications) was completed in August, 2000, for all University campuses and for all 110 schools and service units. More than 10,000 obsolete computers were replaced at a cost of $11M. Faculty and staff desktop computers were upgraded so that all 15,000 computers are now less than three years old. A $6M annual equipment replacement fund has been established for academic and administrative units on all campuses, with the units and UITS sharing management and supervisory responsibility. Oversight from the OVPIT Finance Office and campus budget offices ensures that funds are dedicated toward buying appropriate replacement equipment. Additional detail is provided in the UITS Accomplishments Report for FY 2001-2002, http://www.indiana.edu/~uits/cpo/accomplish02/accomp02.pdf

Evidence of Progress for 2001-2002:

Very substantial savings for the University continue to be realized through aggregating large equipment orders and negotiating volume-pricing agreements with such vendors as Dell, Gateway, Compaq, Apple, and Hewlett-Packard, making computers available at rates well below typical academic costs and resulting in savings estimated at more than $5M over standard educational pricing. The remarkable success of IU’s Microsoft Enterprise License Agreement (MSFLA) has continued. More than 296,500 copies of Microsoft software have been distributed. Along with
Activities planned for 2002-2003:

Life-cycle funding of basic technology equipment will continue on an ongoing basis.

10. Security, Privacy, Intellectual Property
(Recommendation 10 of the IU Information Technology Strategic Plan)

1. The University should develop clear and forceful policies to address the management and protection of information and the security of IT resources.

   **Campus Planning Theme:** Best Practices
   **Secondary Goals:**
   **Sub Unit:** n/a
   **Time Frame:** 1998-2003

Actions taken for 2001-2002:

In November the Office of the Vice President for Information technology and Chief Information Officer appointed Merri Beth Lavagnino as Deputy Information Technology Policy Officer, charged with developing and interpreting policies, supervising incident response and overseeing computing accounts administration for the entire IU community.

The Global Directory Services (GDS) project is designed to replace and/or upgrade all facilities related to identification authentication, authorization, and enterprise directory services. A new University-wide password change facility was implemented (https://password.iu.edu) to align with the implementation of systemwide authentication services (Active Directory Services, Kerberos). A new “super password” facility helps support providers deliver campus-specific help.

The Distributed Account Generation System (DAGS) with which users maintain their accounts, was migrated to new database and hardware platforms, and a new test environment enables technicians to troubleshoot and make service changes more quickly.

Evidence of Progress for 2001-2002:


Activities planned for 2002-2003:

The Information Technology Policy Office (ITPO) develops and implements policies regarding the appropriate use of information technology, educates the campuses about technology policies, and coordinates investigations of reports of abuse. The Office expanded its reach through the appointment of a Deputy Information Technology Policy Officer.
It also moved the Global Directory Services (GDS) project into the next phase of improved password-change security, and planned enhancements to the Distributed Account Generation System (DAGS).

2. UITS, with the Committee on institutional Data and others in the University community, should develop security mechanisms that properly enact institutional policy.

**Campus Planning Theme:** Best Practices

**Secondary Goals:**

- **Sub Unit:** n/a
- **Time Frame:** 1998-2003

**Actions taken for 2001-2002:**

Various technologies that support increased security have been implemented in response to the passage of the Trustees’ May 4, 2001 resolution aimed at improving the security of the University’s information technology infrastructure. These include a move toward Kerberos as a unified University-wide authentication service. As more Active Directory Services-related changes are made, and more users use this method of authentication, password management becomes easier for users and support staff. New password change facilities allow the coincidental change of passwords for most central computer systems.

UITS Telecommunications, in consultation with the Information Technology Security Office (ITSO), developed new network protection services, including IP addresses that allow departments to isolate from Internet computers that are used internally, router-based Access Control Lists that enable departments to allow only required protocols through to a specific computer on campus, a firewall subnet in the IUB and IUPUI machine rooms, and a virtual private network (VPN)-secured authentication and encryption method for off-campus connectivity and wireless networking on campus. Communications among the campuses was improved with the installation of two lists that provide timely information about virus threats to system administrators. Other improvements include upgraded vulnerability scanning services, and advisory subscription service, and security seminars. The IU Policy Officer, in an article in the University-wide newspaper, Home Pages, discussed how IU maintains a secure enterprise computing environment, while preserving an environment in which academic inquiry can flourish. See www.indiana.edu/~ocmhp/092801/text/viewpoint.html

**Evidence of Progress for 2001-2002:**

The elimination of incidents that expose sensitive data is the primary indicator of effectiveness for these measures. Increased certification of IT support staff and an increased awareness among members of the University community are other important measures.

**Activities planned for 2002-2003:**

The Trustees’ resolution, aimed at avoiding future security breaches, calls for OVPIT to develop policies that lessen the likelihood of unauthorized access to the University’s IT environment and to assume leadership and responsibility for responses to such accesses. The VP and CIO delegated the authority to implement these directives to the Information Technology Policy and Security Offices. New measures include:

- Development of a unified University-wide authentication
- New network protection services
- Heightened communication among University campuses on potential virus threats
- Upgrades to vulnerability scanning services
- Increased communications to the campuses on steps IU is taking to increase security.
2. Access to Network Resources
(Recommendation 2, IU Information Technology Strategic Plan)

☐ Provide reliable access to computing and network services, on the campus and off

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: n/a
Time Frame: July 1998 to June 2003

Actions taken for 2001-2002:

With the long-standing problem of inadequate modem access on the IUPUI campus solved, service was constantly monitored for quality and maintained so that busy signals were encountered rarely and modem access is, as a normal operating condition, rapid and straightforward.

Changes to the Indianapolis modem pool reflect changes in usage patterns. The 278-5619 modem line was removed from service because of low use. Outdated dialup menus were also removed. The 278-5620 (up to four-hour connections) and 278-5621 (up to one-hour connections) together can support 989 simultaneous users; peak concurrent use in Fall 2002 was 825.

At IUPUI, some 3,100 new on-campus network connections were activated in 2001, bringing the total to more than 19,000. With IUPUI now converted to Gigabit Ethernet, 26 buildings have been connected. Many new IUnet connections were made in the IU School of Medicine, bringing the total to 3,000.

Evidence of Progress for 2001-2002:

In 2001-2002, UITS dial-up modem pool, comprising 874 one- and four-hour dialup lines, received 4,891,164 calls, with some 88.5% of IUPUI users reporting satisfaction with UITS remote connectivity services. Additional data for 2001-2002 are available through the UITS Finance Office, Cost and Quality of Services Report, http://www.indiana.edu/~uits/business/iupui_report_on_cost_and_quality_of_services.html

Activities planned for 2002-2003:

Commercial offerings and new communication technologies such as digital subscriber line (DSL) service and cable modems continue to enable UITS to move away from a position of providing user dialup services toward facilitating agreements between users and commercial vendors. UITS will continue to leverage the power of IU's 100,000-member community to secure the market's best rates and services. For more detail, see the UITS Accomplishments Document for FY2001-2002, http://www.indiana.edu/~uits/cpo/accomp01/accomp02.pdf and Telecommunications Division Implementation Plan, http://www.indiana.edu/~uits/telecom/stplan.html

3. Institutional Commitment: Faculty and Staff Engagement
(Recommendation 3, IU Information Technology Strategic Plan)

☐ 2. Staff and Faculty Support
(Actions 4, 8, 10, 16, and 23 of the IU Information Strategic Plan)

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: n/a
Actions taken for 2001-2002:

IU’s four-year, University-wide licensing agreement with National Education Training Group, Inc. (NETg) negotiated in 1999, makes some 600 course titles available to the IU community on CD. Courses range from basic to advanced, on topics from basic word processing for beginners, to Microsoft certification training for local support providers, to specialized courses for IT staff. A Web interface to more than 400 NETg courses was launched in June 2000. UITS IT Training and Education (formerly the UITS Education Program) offers instructor-led workshops and self-study resources across the University community. It also partners with departments and individual faculty to meet specific IT support needs of the IU community.

The UITS Education Certification (EdCert) Program at IUPUI provides high-end technical training to departmental support providers. Additionally, the UITS IT Training and Education Program at IUPUI coordinates advanced NETg online training resources for local support providers and technical support staff at IUPUI and the regional campuses.

Evidence of Progress for 2001-2002:

More than 20,932 CDs of NETg courses have been distributed across the University, and 4,522 courses launched from the Web site, with some 90.1% of users reporting high levels of satisfaction. Successful integration with course content with the Knowledge Base (KB) provides KB users with links to NETg topics that relate to their queries. Total launches to NETg from the KB registered 28,799.

Nineteen EdCert sessions were offered at IUPUI to some 360 students, who reported satisfaction levels of 95.8%. Additional IUPUI usage data for 2001-2002 are available through the UITS Finance Office, Cost and Quality of Services Report, http://www.indiana.edu/~uits/business/iusp_report_on_cost_and_quality_of_services.html

UIS IT Training and Education delivered IT training to more than 2,174 students in 199 class sessions at IUPUI, at satisfaction levels of 92.1%.

Activities planned for 2002-2003:

See the TLIT Implementation Plan for these actions, http://www.indiana.edu/~uits/tlt/impl/implplan.html#_Toc490534907.

☐ c/-?eme-- 1. Establish appropriate incentives and support so that faculty and staff are encouraged in the creative use and application of information technology for teaching, research, and service.

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: n/a

Time Frame: Through 2004

Actions taken for 2001-2002:

The Ameritech Fellows Program promotes innovation in teaching and learning as facilitated through the use of information technology. The program provides support for faculty projects in the effective integration of information technology for campus and distance education. The program calls upon innovators to serve as faculty mentors to others in their disciplines through offering workshops or departmental consultations in coordination with the teaching and learning centers on IU campuses. The program also collects the fellows’ findings and draws upon their expertise for the benefit of colleagues throughout IU and beyond. For more about the program, see http://amfellow.iu.edu/
Evidence of Progress for 2001-2002:

The third round of Ameritech Fellows awards resulted in five awards totaling $74,500, and including topics as diverse as human anatomy, Chinese language, and cardiovascular embryology. The first Ameritech Fellows Summer Forum was held in June, providing an opportunity for Fellows to share their projects with faculty colleagues. Abstracts for funded projects appear at http://www.amfellow.iu.edu/abstract3.html

Activities planned for 2002-2003:

Programs will continue through the duration of the current IU Strategic Plan for Information Technology.

4. Teaching and Learning: Content, Access, Distributed Education
(Recommendation 4, IU Strategic Plan for Information Technology)

1. Faculty Support for Teaching and Learning with Technology (Action 11)

   Campus Planning Theme: Teaching and Learning

   Secondary Goals:
   
   Sub Unit: n/a
   

Actions taken for 2001-2002:

At IUPUI, the Center for Teaching and Learning (CTL) hired staff to improve services for faculty and academic units on teaching and learning issues, multimedia, Web applications, and instructional design. Six additional employees contribute to a comprehensive support environment for faculty. Increased staffing allows the Center to expand its activities beyond the Center and into Schools and departments.

Evidence of Progress for 2001-2002:

In 2001, UITS staff within the CTL conducted 735 consultations of one-half hour or more, and 71 workshops, with a total enrollment of 486 faculty. The CTL received requests for service from 24 Schools and 55 departments. Staff also served on 32 committees at IUPUI and across the University. The Center continues its very high satisfaction rates, averaging 96.2%.

Activities planned for 2002-2003:

Action 11 calls for a standard level of baseline support for teaching and learning technology for all IU faculty, increasing the opportunities to explore new applications of information technology. The promotion or introduction of technology in courses and disciplines, previously without access to relevant applications or support, is also an important component of the IT Strategic Plan. The overall objective of supporting faculty in their use of technology is further enhanced by second-tier, professional course development services provided through Actions 7, 13, and 20. Additional implementation details are available at http://www.indiana.edu/~uits/dit/ub/stplan.html#Toc490534906

2. Web-based Course Services and Infrastructure (Actions 12, 18, and 19)

   Campus Planning Theme: Teaching and Learning
Actions taken for 2001-2002:

The Oncourse Steering Committee continues to advise UITS on the future development of Oncourse. By the end of FY 2000-2001, plans were finalized to deploy a robust server environment for Oncourse to ensure redundancy, load balancing, and quicker response to problems. Support, training, documentation, and user communication regarding Oncourse are coordinated among UITS, the Center for Teaching and Learning (CTL) and the Teaching and Learning Technologies Lab (TLTL).

An interface redesign initiative, fueled by input from the instructors, students, and staff who use Oncourse, makes Oncourse more efficient, intuitive, and consistent for users. Direct user involvement in the redesign included voting for the new button bar during Spring ’02 Making IT Happen events on IU campuses. A simpler look and feel aims to ease the woes of load time with less graphics; provides seamless integration from page to page with the use of style sheets; and incorporates a new central, content-sensitive help system, with examples of practices and pedagogical support.

Other enhancements include:
- A new browser requirement. Users must use either Internet Explorer or Netscape Navigator version 5.x or higher.
- A single Domain Name Server (DNS) entry. In order to support Oncourse as a cross-campus, unified application, access to Oncourse is supported through a single Web address, http://oncourse.iu.edu.
- A redesigned front page, and fewer clicks to get to courses.

Evidence of Progress for 2001-2002:

Oncourse has grown to be one of the University’s most-used information systems. Student usage grows by about 8,000 each semester, reaching 82,747 in Spring 2002. Faculty use tops 3,000. The 2001 User Satisfaction Survey reflected a 94.7% satisfaction rate University-wide.

Activities planned for 2002-2003:

Oncourse is updated and enhanced three times a year, in advance of each semester, in accordance with recommendations by the Steering Committee and with consideration and involvement of faculty feedback, via a suggestions form, focus groups, and other means.

3. Digital Media & Web Development (Actions 13, 14, and 20)

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: n/a
Time Frame: 2000-2004

Actions taken for 2001-2002:

Planning for DMS was approved in Fall 2001. The Associate Dean for Teaching and Learning Information technologies, appointed in January 2002, is working with deans of faculties to identify priorities and criteria in awarding DMS service grants. Initial projects include a number of “gateway” courses that have substantial impact on undergraduate students.
Evidence of Progress for 2001-2002:


Activities planned for 2002-2003:

The plan for Digital Media and Web Development Services (DMWDS), renamed Digital Media Services (DMS), calls for creating a single interface or front door to the University’s most highly-skilled practitioners in instructional design, multimedia and digital development, as well as providing enhanced second-tier support for data management and Web technical services. This plan supports teaching and learning in the first phase and provides opportunities to help meet the needs of distributed education and the University’s non-academic units in later phases.

4. Excellence in Classroom Instructional Technology (Actions 21 and 22)
   
   Campus Planning Theme: Teaching and Learning
   Secondary Goals:
   Sub Unit: n/a
   Time Frame: July 1998 to June 2003

Actions taken for 2001-2002:

Technology was installed in the following Type IV classrooms: LD 010, BS 2000, ET 202, and NU 103; and in these Type III classrooms: NU 212, CA 225, CA 435, ES 2106, BS 3018, SL 061, and LD 027. UITS is upgrading instructional technology for use in general inventory classrooms and will provide life-cycle replacement for that equipment. The process of determining classroom candidates for ITSP renovation includes input from the Office of the Registrar, Campus Facility Services, and the IUPUI Learning Environments Committee.

Evidence of Progress for 2001-2002:

IUPUI has increased the number of fixed technology classrooms and acquired additional computers for circulation to meet faculty demand. Fixed technology supported 968 class sessions at IUPUI during the 2001-2002 fiscal year, and mobile technology supported 5,354 sections. Results from the annual UITS user survey suggest that 92% of the users of all classroom technology are satisfied with the quality of service.

Activities planned for 2002-2003:

For 2001-2002, a number of upgrades are planned, which will make available several new Type III and four new Type IV classrooms at IUPUI, including Nursing 103, BS 2000, ET 202 and LD010. Of the ten planned installations, half will be in the Engineering, Technology, and Science buildings (ET, SL, and LD). Facilities for training faculty in the use of Type IV (ATA) classrooms will be made available in the Center for Teaching and Learning (UL 1125M) starting in Summer, 2001. A plan to increase the number of laptops available to faculty through UITS loans will be piloted. Training
5. Cost and Quality Analysis for Classroom Technology

**Campus Planning Theme:** Teaching and Learning

**Secondary Goals:**

**Sub Unit:** n/a

**Time Frame:** This plan commenced during the 2001-2002 plani

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**Actions taken for 2001-2002:**

This objective focuses on analyzing costs and quality for providing and supporting instructional technology at IUPUI.

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**Evidence of Progress for 2001-2002:**

Through standard UITS assessment measures of activity-based costing and user satisfaction, the goal is to see improved satisfaction achieved as well as cost containment. For more detail see http://www.indiana.edu/~uits/business/iupui_report_on_cost_and_quality_of_services.html

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**Activities planned for 2002-2003:**

A redesigned model for supporting instructional technology at IUPUI, which will include reduced costs related to providing mobile technology support in classrooms, will be developed in Phases beginning FY 2003-2004. Maintaining the highest levels of service will guide these plans.

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**6. Evaluation and Assessment**

*(Acts 24, 25, and 26 -- jointly administered by the UITS Teaching and Learning Information Technologies Division and the Office of Distributed Education)*

**Campus Planning Theme:** Teaching and Learning

**Secondary Goals:**

**Sub Unit:** n/a

**Time Frame:** 1998-2003

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**Actions taken for 2001-2002:**

In its first year the TAG program awarded more than $68,000 to 14 winners from IU core and regional campuses. Grant recipients from IUPUI include:

- Ken Barger (Anthropology)
- Henry Merrill (Adult Education)
- Helen J. Schwartz (English)
- Robert Vernon (Social Work)
- Joe Vessley, Rafael Bahamonde, Alan Miksky, Eileen Udry, and Mark Urtel (Physical Education)

User requirements are being defined for an e-Portfolio system.

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**Evidence of Progress for 2001-2002:**
An increase in faculty efforts to assess and document the role and effectiveness of technology in teaching and learning will be among the primary indicators of success.

Activities planned for 2002-2003:

A Technology Assessment Grant (TAG) Program was launched for projects that focus on the use of instructional technology in teaching and learning. The purpose of these grants is to encourage faculty to study the impact of educational technology on their practices and on student, course, or program outcomes. The University focus has shifted to looking for new strategies to support assessment, through exploring the E-Portfolio capabilities of Oncourse.

5. Research: Computation, Communications, Collaboration
(Recommendation 5 of the IU Information Technology Strategic Plan)

1. UITS will provide broad support for basic collaboration technologies and begin implementing more advanced technologies

   Campus Planning Theme: Research, Scholarship and Creative Activity

   Secondary Goals:
   Sub Unit: n/a

Actions taken for 2001-2002:

To raise awareness, classes on the CFS were held, and a workshop on the mass store system was included in the Spring 2001 IT Seminar Series to alert University researchers of the availability of high performance computing and storage resources.

The UITS Telecommunications Division commenced a broad deployment of Polycom Viewstations and ViaVideo desktop videoconferencing system after a testing period in 2000-2001. Telecommunications also is testing a beta release of the software that allows ad hoc multi-point creation, and purchasing additional multi-point bridge capacity. Web collaboration technologies (co-browsing, application sharing) were tested and Polycom WebOffice was chosen to integrate with the University videoconferencing environment. Web chat tools are also being evaluated in a search for one that supports functions ranging from caller queuing to moderated group chat (for use in such applications as Admissions advising sessions). The Advanced Visualization Lab (AVL) supported various collaborative tele-immersive events using the CAVE and ImmersaDesk, including remote education and tele-medicine demos, a week-long, collaborative art exhibit bringing together contributors from the US and Europe, and simultaneous analysis of Positron Emission Tomography (PET) scans by collaborators at IUPUI, IUB, and Purdue.

More details about these and other activities for 2001-2002 are available in the UITS Accomplishments Report, http://www.indiana.edu/~uits/cpo/accomplish02/accomp02.pdf

Evidence of Progress for 2001-2002:

Usage of the CFS climbed from 250 contiguous connections in September 2001, to 1,000 in November. By December there were some 20,000 users. The UITS User Survey for IUPUI reveals high levels of satisfaction with research and academic computing services, ranging from 95% satisfaction with the Unix workstation support services and distributed file storage, to 97% satisfaction with services for high performance computing and the Stat/Math Center, and 100% with the Advanced Visualization Laboratory. See details at http://www.indiana.edu/~uits/business/iupui_report_on_cost_and_quality_of_services.html
Activities planned for 2002-2003:

The UITS Research and Academic Computing Division will continue implementation of strategic plan initiatives outlined in its plan available at http://www.indiana.edu/~rac/stratplan/stplan.html. An important initiative is the establishment of a Common File System (CFS), providing IU faculty, students, and staff universal access to a distributed file storage system. The technical and support infrastructure for the Massive Data Storage project, specifically the DFS (Distributed File System) infrastructure, can be leveraged to provide a more coherent and integrated suite of central file services, and to provide a common interface and interoperability among file systems. One key to development of better central file system services will be to establish a principal of "two campuses, one architecture" between IUPUI and IUB. IUPUI and IUB now have three similar, but subtly and frustratingly different file systems: Bookbags and Lockers, Network Appliance and NFS server, and Jewel and Shakespeare file systems. New deployments will be architecturally identical across campuses to capitalize on economies of scale. UITS will retire Bookbag on January 31, 2003. The University received a $1.8M NSF grant to create the Analysis and Visualization of Instrument Driven Data (AVIDD) Facility, for processing data generated by large scientific instruments. Distributed across the IUPUI, IUB, and IU Northwest campuses, the facility will provide a means of managing and visualizing vast amounts of data and complement IU’s IBM Research SP, distributed across the IUPUI and IUB campuses.

2. UITS will provide advanced data storage and management services to researchers.

Campus Planning Theme: Research, Scholarship and Creative Activity
Secondary Goals:
Sub Unit: n/a

Actions taken for 2001-2002:

IU’s remote High Performance Storage System (HPSS), providing instant access up to the 500 terabyte (TB) capacity, fosters greater collaboration between researchers, faculty, and students on the IUPUI and IUB campuses. Use of the massive data storage facilities expanded with more than 600 users and almost 50 TB of data in use. Additional details are available at http://www.indiana.edu/~uits/cpo/accomplish02/accomp02.pdf. To raise awareness, classes on the CFS were held, and a workshop on the mass store system was included in the Spring 2001 IT Seminar Series to alert University researchers of the availability of high performance computing and storage resources. In December 2001 UITS installed a StorageTek 9310 tape silo at IUPUI, greatly increasing the storage capacity available to IUPUI researchers. Central to this expanded service are the storage needs of Indiana Genomics Initiative (INGEN) researchers. The StorageTek tape library will build IUPUI’s storage capacity to 120 TB (from 28 TB), with the capacity to expand to 360 TB. This will allow INGEN researchers to access massive amounts of data in a near-line fashion. Additional details are available at http://www.indiana.edu/~uits/cpo/accomplish02/accomp02.pdf

Evidence of Progress for 2001-2002:

Usage of the CFS climbed from 250 contiguous connections in September 2001, to 1,000 in November. By December there were some 20,000 users. The UITS User Survey for IUPUI reveals high levels of satisfaction with research and academic computing services, including 92% for mass store and common file systems. See details at http://www.indiana.edu/~uits/business/iupui_report_on_cost_and_quality_of_services.html
Activities planned for 2002-2003:

UITs will continue to enhance central facilities and support for computationally-intensive applications, as well as access to research software. Details about this implementation plan through 2003 are available at http://www.indiana.edu/~rac/stratplan/stplan.html

3. UITS will continue a commitment to high performance computing and computation, so as to contribute to and benefit from initiatives to develop a national computational grid.

Campus Planning Theme: Research, Scholarship and Creative Activity
Secondary Goals:
Sub Unit: n/a

Actions taken for 2001-2002:

In October IU and IBM announced the upgrade of IU's Research SP supercomputer to a peak computational capacity of 1.005 teraFLOPS, achieved through a total of 632 processors. Made possible through funds from the UITS IT Strategic Plan, the INGEN grant from the Lilly Endowment, and IBM Shared University Research grant, this increase provides balanced high performance computing in a range of disciplines including biomedical research, the life sciences, chemistry, economics, and physics. For more details see http://sp-wwww.indiana.edu IU's Sun E10000 was reconfigured to match current user patterns, notably to enhance its utility as a platform for research that depends on high performance databases. New software packages include Matlab, SPSS, Genetic Cartography, GIS software, ArclInfo, and Oracle. See www.indiana.edu/~rats/research/solar/solar.shtml The University is among a consortium of 15 universities to whom the NSF awarded $13.65M to build the International Virtual Data Grid Laboratory, or iVDSL, comprising a seamless network of thousands of computers at 40 locations in the US, Europe, and Asia, able to handle petabytes of data (one petabyte is 1024 terabytes). IUPUI will host a prototype Tier-2 Data Center for the ATLAS high energy physics experiment, along with the International Grid Operations Center, or iGOC. The latter will be co-located with IU's Global Network Operations Center (NOC).

Evidence of Progress for 2001-2002:

The UITS User Survey for IUPUI reveals high levels of satisfaction with research and academic computing services, including a 97% satisfaction rating for high performance computing services. See details at http://www.indiana.edu/~uits/business/iupui_report_on_cost_and_quality_of_services.html

Activities planned for 2002-2003:

UITs will continue to enhance central facilities and support for high performance computing. Details about this implementation plan are available at http://www.indiana.edu/~rac/stratplan/stplan.html

6. Information Systems: Managing IU's Information Assets
(Recommendation 6 of the IU Information Strategic Plan)

UITs should implement as soon as possible a new Student Information System in a way that integrates identified best practices in providing services to students and is adaptable to future changes. This objective is further divided to encompass Student Information Systems, Human Resources Management System, Library Information Systems, Fiscal and Procurement Systems,
Campus Planning Theme: Best Practices
Secondary Goals:
Sub Unit: n/a

Actions taken for 2001-2002:

The second phase of Admissions functionality for the new Student Information System (SIS) was put in place in October 2001. Common applications were developed for undergraduate, graduate, international, and departmental applications for admissions, allowing prospective students to apply to any campus via the Web. A new Web-based service for requesting materials from IU was also developed. Content was developed for the IU Information Environment to support operational reporting and data extraction for this phase of the SIS.

The Human Resource Management System (HRMS) project continues to move ahead in preparation for the December 2002 implementation of core PeopleSoft functions: Human Resources (staff and academic), including tenure, titles, and service tracking; Benefits; and Payroll. The Electronic Document initiative will replace paper forms and support data collection, routing, and updating the HRMS database for Personnel Action Form (PAF), Payroll Voucher, Position Management, and Additional/supplemental pay. HRMS information environment development is complete and work on data conversion is underway.

The new Unicorn-based Library System (from Sirsi Corporation) allows users of all IU libraries to navigate the Web-based catalog and databases, search library resources on all campuses, and link to e-journals and indexes. UITS Support Centers and Library staff together established user support structures, implemented on all campuses. A December 2001 software upgrade enables the deployment of patron self-service functionality in Summer 2002, including e-mail delivery of Library notices and online renewals and holds.

Release 2 of the Electronic Research Administration (ERA) system, which focuses on budget preparation, was completed in the spring of 2001. Release 3, which focuses on biosafety protocols, will follow. ERA is the first in-house, Web-based system developed with Uniface and running under the Universal Request Broker Architecture on the Enterprise Unix Environment with Oracle as the database engine.

The Time Information Management Environment (TIME) is an enterprise-wide computing application that tracks hours worked by hourly employees, and provides for supervisor approval of those hours. Some 6,000 employees on the IUPUI and IUB campuses use the TIME system.

Details on other activities during 2001-2002 for University Information Systems are available at http://www.indiana.edu/~uits/cpo/accomp02/accomp02.pdf

Evidence of Progress for 2001-2002:

The UITS User Survey for 2001 suggests that more than 90% of IUPUI students, faculty, and staff use systems developed and maintained by the University Information Systems division of UITS. Approximately 96% of these users report satisfaction with these systems. IUPUI usage data for these systems for 2001-2002 will be available through the UITS Finance Office, Cost and Quality of Services Report, http://www.indiana.edu/~uits/business/iupui_report_on_cost_and_quality_of_services.html

Activities planned for 2002-2003:

The implementation of systemwide re-engineering of university information systems is proceeding in accordance with the implementation plan detailed at http://www.indiana.edu/~uis/admin/stratplan.html Timelines for implementation activities are available at http://www.indiana.edu/~uis/admin/timeline.html
7. Telecommunications: Applications, Infrastructure, Convergence
(Recommendation 7 of the IU Information Technology Strategic Plan)

1. UITS should accelerate planning for a converged telecommunications infrastructure that aims to maximize the benefits to IU of this emerging technology direction. It should be accompanied by an aggressive program of testing and trialing of new "converged" technologies.

   **Campus Planning Theme:** Best Practices
   **Secondary Goals:**
   **Sub Unit:** n/a
   **Time Frame:** 1998-2003

   **Actions taken for 2001-2002:**

   In 2001 the Advanced Network Management Lab was established, where technologies will be developed to help manage the convergence of data, voice, and video over the Internet. Virtually all video services are “converged,” now running on the IP data network. A pilot project is underway within UITS to study Voice over IP. Research and development work is underway on converging voice mail with e-mail. This may move into production in 2003. Details on other activities during 2001-2002 are available at http://www.indiana.edu/~uits/cpo/accomplish02/accomp02.pdf

   **Evidence of Progress for 2001-2002:**


   **Activities planned for 2002-2003:**

   null

2. A uniform base level of telecommunications connectivity and standards should be defined, communicated, and where necessary, implemented for all campuses.

   **Campus Planning Theme:** Best Practices
   **Secondary Goals:**
   **Sub Unit:** n/a
   **Time Frame:** 1998-2003

   **Actions taken for 2001-2002:**

   As the key infrastructure component in IU’s IT environment, telecommunications standards are required to ensure interoperability and high quality network services. Leveraging the solid relationship built between the core campus IT organization and regional campus CIOs, University-wide telecommunications principles and standards were defined and implemented across the institution. These standards had their first (and largest) practical impact as the IUPUI campus network backbone was redesigned from an ATM structure to a topology featuring the now-standard Gigabit Ethernet technology. The IUPUI campus network upgrade was completed in March 2001. While the upgrade (which has increased overall throughput capacity by an order of magnitude) is part of operational activities in the Telecommunications Division (and not a part of the IT Strategic Plan), the very nature of the project was impacted by the existence of standards that ensure interoperability and high quality network service.
Evidence of Progress for 2001-2002:


Activities planned for 2002-2003:

The implementation of additional enhancements of the university’s telecommunications infrastructure will proceed in accordance with the implementation plan detailed at http://www.indiana.edu/~uits/telecom/stplan.html.

☑ 3. The University should consider implementing a network architecture that separately supports production and advanced network applications.

Campus Planning Theme: Research, Scholarship and Creative Activity

Secondary Goals:

Sub Unit: n/a


Actions taken for 2001-2002:

IU has maintained its position as a leader in advanced networking through a variety of endeavors. These advanced networks separate advanced research activities from those of the commodity production Internet, providing IU researchers with separate high-speed links to other researchers across the nation and around the world. Highlights of progress on various initiatives follow. Construction of the optical fiber network connecting the IUPUI, IUB, and Purdue campuses, began in Spring 2001. On December 11, 2001, Governor Frank O’Bannon activated I-Light at a lighting ceremony at IUPUI, marking the completion of the two-year, $5.3M project.

The Abilene/Internet2 network, managed at IUPUI, continues to provide high performance network services for advanced applications and to serve as a testbed for advanced network capabilities, such as Quality of Service (QoS) standards. In December 2001, Qwest Communications and Internet2 reached agreement to quadruple the capacity of the Abilene Internet2 Network, increasing capacity to 10 Gigabits per second via optical networking technologies.

The international TransPAC Network, also managed in the US by the Global Network Operations Center (Global NOC) at IUPUI, increased bandwidth available for researchers to 1.244 Gbps (Gigabits per second) through agreements between IU and two international circuit providers.

The Global NOC itself continues to play a key role in ensuring the reliable and constant provision of the advanced networking infrastructure that supports the work of researchers at IUPUI and collaborators around the world. Along with operations for TransPAC, the Global NOC also manages Euro-Link (connecting the Netherlands, France, the Nordic countries, Israel, and CERN), AMPATH (connecting education and research networks in Latin America), and STAR TAP (which provides the infrastructure at which many international connections link various US research and education networks).

Evidence of Progress for 2001-2002:

Measures of progress and effectiveness can be found in the growth in application and use by faculty of the university’s advanced networking capability and also in the growth of collaborative activity among researchers in the State. Data for 2001-2002 are available through the UITS Finance Office, Cost and Quality of Services Report,
Activities planned for 2002-2003:

The planned optical fiber network connecting the IUPUI, IUB, and Purdue campuses is designed to support research applications, at the same time as it supports voice communications, e-mail, and videoconferencing among the IUPUI, IUB, and Purdue campuses. I-Light will increase the data access speed from 30M to 1 billion bits per second, and will be expandable to hundreds of billions of bits per second.

A second phase of network expansion will connect Indiana’s I-Light to key regional fiber infrastructures such as the Illinois I-Wire initiative, Michigan’s Merit network, and Ohio’s OARNet, creating an optical fiber network that interconnects these institutions and allowing IUPUI researchers to engage in computing grids and share resources, positioning them more competitively for federal research grants and other opportunities. It is believed that through building regional fiber infrastructures by colleges and universities, and linking these networks across state lines, that a dedicated advanced Internet will develop over the next decade.

☐ 4. Implementation should begin for a University-wide wireless network.

**Campus Planning Theme:** Teaching and Learning

**Secondary Goals:**

Sub Unit: n/a

**Time Frame:** 2000-2003

Actions taken for 2001-2002:

Several wireless pilot projects were funded in 2001 and are now in place at several locations at IUPUI, IUB, and IUE. Secure wireless Ethernet access to the IUPUI campus network is being implemented, and includes UITS offices in the Kelley School of Business/SPEA Building (BS), the Engineering and Technology Building (ET), and the Education and Social Work Building (ES). This VPN-secured wireless network, in production since July 2001, provides solid encryption for the wireless link and requires authentication with an IU Network ID before use may commence. IT-Policy 20 has been reviewed by the Telecommunications Advisory Committee en route to final approval. It requires that most wireless deployments on the core campuses use the VPN-secured system, with exceptions for mobile and temporary setups.

Evidence of Progress for 2001-2002:


Activities planned for 2002-2003:

Wireless is becoming an increasingly important element in telecommunications across the university. Although IU has some of the best wired campuses in the nation, mobile, wireless computing technology will play an increasing role in the lives of students and faculty on IU campuses in the next decade. Wireless networks will not replace the need for wiring plant infrastructure and the life-cycle modernization of that infrastructure as it ages and new technologies are available for use. Wireless will, however, play a role in augmenting the campus networks, removing the boundaries of buildings and wire-jacks for the IU technology-using community.
Installation of each wireless access point requires an intensive site visit to determine the areas that need coverage and to determine possible installation locations to cover those areas. New data jacks and power receptacles are often required. Hence, successful deployment requires robust support services, including advising on user-held technology (wireless access cards in PCs), standardized laptop configurations, and user training, as well as a fully secure environment. The Telecommunications and Teaching and Learning Information Technologies Divisions and the IT Security Office continue to work closely to ensure that the technology deployed in the pilots is functional, supportable, and secure. Following review of the pilot deployments, a full implementation plan will be developed for each campus and funding from existing resources detailed.

8. Support for Student Computing
(Recommendation 8 of the IU Information Technology Strategic Plan)

- UITS, with the departments, schools and campuses, should develop a model for student technology support that provides:
  - A basic level of support and technology infrastructure to all students;
  - Advanced support, typically for advanced degree students in graduate and professional programs, that is discipline-specific and may be integrated with the teaching or research activities of a school or department; and
  - Advanced support to undergraduate students, as needed, especially for students in disciplines which do not provide such specialized support.

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: n/a

Actions taken for 2001-2002:

Front-line support services at IUPUI were extended in the evenings and weekends to improve student access to IT help. Current hours are: Monday-Thursday, 8am-9pm; Friday, 8am-5pm; Saturday, 9am-3pm; and Sunday, 12pm-4pm. Consultants answer Support Center phone lines (317/274-4357) 24 hours a day, seven days a week. Problems that cannot be solved after hours roll over to the next business day. These extended hours make support services available virtually around the clock. Additional detail regarding these accomplishments is available at http://www.indiana.edu/~uits/cpo/accomplish02/accomp02.pdf

Enhancing support for students behind the front lines is the UITS Falcon project. Falcon is an enterprise trouble-ticket system, developed by Support Centers at IUPUI and IUB. By providing management for all areas of technology support, including help desk inquiries, service requests, network and change management, telecommunications services, and requests for instructional technology resources, Falcon helps streamline the delivery of support services to IUPUI students, faculty, and staff.

Evidence of Progress for 2001-2002:

Phone consulting at IUPUI logged 54,000 contacts for the period, with a user satisfaction rate of 93.8%. Walk-in consulting services logged 16,892 contacts for the period, with satisfaction rates of 96.8%. The Knowledge Base received some 6,500,000 accesses, across all campuses, with user satisfaction rates of 87%. Additional data for 2001-2002 will be available through the UITS Finance Office, Cost and Quality of Services Report, http://www.indiana.edu/~uits/business/iupui_report_on_cost_and_quality_of_services.html

Activities planned for 2002-2003:
Access to support for students, faculty, and staff will be enhanced when UITS moves into its new facility, the Informatics and Communications Technology Complex (ICTC) in early 2004. This facility will place in close proximity the UITS Support Center, technology classrooms for user education, and a new 24-hour Student Technology Center.

9. Digital Libraries and the Scholarly Record
(Recommendation 9 of the IU Information Technology Strategic Plan)

The University Libraries, with UITS, should provide students, faculty, and staff at all campuses with convenient and reliable access to a comprehensive and coordinated collection of electronic information resources, on the campuses and off.

Campus Planning Theme: Best Practices
Secondary Goals:
Sub Unit: n/a

Actions taken for 2001-2002:

The IU Digital Library Program is a collaborative effort of the Indiana University Libraries, the OVPIT, and the University research faculty with leadership from the School of Library and Information Science. The IUPUI University Library and the Indianapolis Museum of Art Community Project, funded in part by a National Leadership Grant from the Institute of Museum and Library Services (IMLS), offers audiences access to digital art-related resources for use in educational programs. Collaborating partners include The Indianapolis Museum of Art [primary participant]; The Eiteljorg Museum of American Indians and Western Art; The Indiana State Museum; The Indiana Historical Society; The Children's Museum. See http://www.ulib.iupui.edu/ilmis/home.html

Electronic Atlas of Central Indiana: This project of the IUPUI University Libraries is a Web-based repository of maps and Geographic Information Systems (GIS) data covering central Indiana. Partners include The Polis Center, the IUPUI Center for Earth and Environmental Science, and the Indiana Geographic Information Systems Initiative. The project is funded in part by a grant from the Library Fund of the Indianapolis Foundation. The IUPUI University Libraries, an active supporter of GIS initiatives within the state, created and supports the Indiana Geographic Information Catalog (metadata clearinghouse node, http://atlas.ulib.iupui.edu/fgdc_node/). IU is the first organization in the United States to use the technology running behind this clearinghouse. (http://atlas.ulib.iupui.edu/)

In Fall 2001, the University received an award from the Institute for Museum and Library Services that is helping to find the multidisciplinary CLIOH project (Cultural Digital Library Indexing Our Heritage). CLIOH will digitally preserve endangered archaeological sites, compiling vast amounts of data from still photos to virtual-reality tours that can be accessed via the Internet. See www.cs.iupui.edu/~cli oh

Evidence of Progress for 2001-2002:

The number, variety, and extent of digital library projects proposed and funded will be an important measure of progress and effectiveness.

Activities planned for 2002-2003:

The Digital Libraries Project will continue to leverage IT Strategic Plan resources as matching contributions for future digital library research funding proposals. Additional implementation details for this strategic area are available in the Research and Academic Computing Strategic Plan, http://www.indiana.edu/~rac/stratplan/stplan.html
Fiscal Health

A. FY 02-03 Budget

UIITS is operating within the funding provided by the campus and the IT Strategic Plan and income from directly-billed services.

UIITS continually reviews its organizational and service delivery models in search of ways to improve services and gain efficiencies. As part of this on-going initiative, the Finance Office implemented organizational changes effective July 1, 2002. The Telecommunications and Teaching and Learning Information Technologies divisions have recently begun implementing organizational changes. Less formal, minor re-alignments are taking place periodically in the various offices and divisions.

B. New and Continuing Fiscal Challenges

1. Communications Technology Complex Building (CTC). Construction of the CAB/CTC is in progress. However, the funding appropriated by the State for the CTC is not sufficient to build a fully functional computer room nor fund any of the furniture for the CTC. Through its Development Office, UIITS intends to raise funds from private donations to help offset these funding shortages.

2. Wire Plant Infrastructure. The IUPUI campus wire plant will need to be modernized in order to be compatible with new technology and to support new application requirements. Initial estimates indicate that the total cost of this project will be approximately $8M and will take about 2 to 3 years to complete. UIITS has initiated the process of obtaining all the necessary campus and university approvals to issue a Request for Proposal (RFP) in order to obtain a firm price and timeline quotation for this project. The RFP is intended to be issued in combination with the parallel wire plant modernization for the IUB campus in order to obtain more favorable pricing. As well, UIITS is working with the Treasurer’s Office to investigate potential loan options to fund this initiative and will do everything possible to accomplish this without increasing the voice and data line rates, which we have held flat for several years.

3. High Performance Computing. This is a service that continues to be under-funded on the IUPUI campus. Although there has been some relief from the Indiana Genomics Initiative grant, UIITS requests an additional $500K annually to provide life cycle funding for the computing capacity required on this campus.

C. FY 02-03 Yearend Forecast

Current UIITS financial forecasts indicate that UIITS will stay within budget this year. There will be accumulated cash resulting from intentional accumulations for life cycle funding or from delays in the implementation of IT strategic plan initiatives.

Reallocation Plan

Not applicable.

Other Question(s)