

Office of Information Technology (OIT)
Strategic Goals FY 2006
Annual Review of Accomplishments

The Office of Information Technology provides university-wide leadership in Information Technology and quality Information Technology services in support of the university's strategic goals, which are to:

- Improve the quality of Rutgers' academic programs, especially in areas where there are comparative advantages and opportunities.
- Enhance the effectiveness of student services, the livability of our residence halls, and the attractiveness and accessibility of our campuses.
- Improve Rutgers' service to and reputation among all the relevant internal and external constituencies.
- Increase Rutgers' resources to the levels of peer AAU public universities and manage those resources more strategically and efficiently.
- Continue to develop an administration that will provide leadership for achieving Rutgers' strategic goals.

OIT accomplishes its mission in a fiscally sound manner, striving to meet the increasing IT needs of Rutgers students, faculty, and staff. OIT's long-term strategic goals and areas of emphasis for FY 2006 follow:

1. Strategic Goal: Provide IT services that improve the quality of Rutgers' academic programs and administrative services.

Initiatives and Areas of Emphasis for 2005-06

- **Pilot the Sakai Collaborative Learning and present results to the university community**
Sakai was successfully piloted in the fall of 2005, with 60 faculty and 7,000 students. Although Sakai's development is still in progress and certain features are not yet present; there are a number of faculty that prefer it over the commercial systems. Most faculty from the pilot are going to continue using Sakai, and several departments want to start using it. We are currently in the process of shifting to a production approach, and meetings have been held with a group of faculty to recommend an approach for continuing support of Sakai. A white paper will be issued shortly.
- **Coordinate with the Office of the Senior Vice President for Administration and Chief Financial Officer, the implementation of PCI (Payment Card Industry) Compliance**
In the fall of 2005, activities were completed in order to bring the Web Online Payment (WOLP) application in compliance with the PCI Data Security Standards. Activities included movement of the WOLP application to a firewall-protected, dedicated and secure environment.

Through meetings, support was provided for the sessions facilitated by the University Controller's office regarding the PCI compliance. To comply with the VISA PCI requirements, a distinct network with a firewall has been put into production.

- **Complete the following projects prioritized by the IT Project Governance Committee as of the start of FY05/06:**
 1. Develop a roadmap for integrated administrative financial and human resources applications:
Planning for the implementation of the Oracle General Ledger module and comprehensive data warehouse and reporting environment was completed in early 2006. Staffing and budget

models were prepared, and a request for proposal (RFP) for consulting services was sent to multiple vendors.

2. Degree Audit and Online Catalog Implementation:
Online catalogues were implemented in the summer of 2005. Rollout of Degree Audit to Advisors occurred in late 2005/early 2006 and a phased rollout to students began in the spring. In support of this application, three new servers (2 Production and 1 Test) have been added.
3. Wolffpack Financier Implementation:
Planning, analysis and requirements for the implementation of the web-based Financier package have been completed. Product installation and training have been completed. Assessment of potential customizations is underway. Three servers have been purchased to support the application. Target date to go-live is early/mid 2007.
4. Direct Deposit of Student Refund Checks:
Project deferred by Student Financial Services Office
5. Book Orders with Online Registration:
The web based registration system was enhanced in June to allow students to order text books online at the time of registration. Students will find that this is an easy and convenient way to obtain text books. They can order books online and have the books mailed, thus avoiding long lines at the bookstore.
6. Online Payment of Financial Holds:
After completing analysis, requirements, design and development for the Online Payment of Financial Holds, this went live in April, 2006. This will allow students to pay financial holds online via WOLP.
7. Electronic Check Payment for Student Term Bills:
Project deferred by Student Financial Services Office.
8. Photos on Rosters:
In May, the roster download functionality was enhanced to include student photos from RUConnection. Making photos available to instructor along with the roster allows the instructors to better engage with students during classes and office hours, and provides additional safeguards against violations of academic integrity.
9. Online Class Schedule Enhancement:
The online schedule of classes was enhanced late this year to include the same academic textual information that was available in the printed schedules. This change provides consistency between the printed and online version providing the students and departmental information about courses needed to meet various program requirements.
10. Automated Letters of Recommendation and Processing of Electronic Transcripts:
Electronic transcripts were implemented in the summer of 2005, with automated letters are targeted for August 2006. This will provide the ability for prospective students to electronically submit letters and transcripts to the Rutgers Admissions office. Previously the application was submitted online and the transcripts and letters were provided in paper and matched-up manually. This new functionality is more secure and makes the process easier to administer since everything can be kept together electronically.

- **Replace SSN with Rutgers University Identification Number (RUID) as the Primary Student Identifier**

The Student ID conversion from SSN to RUID was completed in February, 2006. All administrative student applications and data feeds were converted to use the new RUID. Students were able to retrieve their new RUID via the myRutgers portal or the new “profile” webpage. The RUID/SNN master conversion file was provided to various central departments to support internal processing. To assist smaller departments with their internal system conversions, an automated process that generates a file of select RUID’s based on a “batch” of select SSNs was developed. A separate testing environment was created and provides extensive on-going support for the RUID conversion project.

- **Investigate the feasibility of establishing a grid computing cluster and the necessity of becoming a node on the National Lambda Rail (NLR).**

As recommended in the IT Strategic Plan, a small centrally located grid computing cluster has been ordered. The research cluster will be used to support testing and training. Meetings have been held with a number of researchers involved in high performance computing to set goals for this project.

The results of an informal survey of faculty interested in high performance networking indicated there was no immediate need for NLR, although in time this may change as needs evolve. As such it is recommended that we continue to develop both internal and external networking designs which support the possibility of connecting to NLR in the future.

- **In collaboration with the Office of the Vice President for Academic Affairs, continue the CDIGIX pilot coordinating all IT aspects of providing a legal music/video downloading service for students.**

CDIGIX has been in operation throughout the year although it is not actively used by students. OIT in collaboration with Student Affairs has investigated other competitive services as a possible replacement, an RFP was issued and a contract signed with RUCKUS, giving students access to free movies and music. The new Ruckus service will be implemented and promoted for the Fall 06 semester.

2. Strategic Goal: Design, develop, operate, and maintain secure IT infrastructures that support research, teaching and learning, outreach, student services, and administration.

Initiatives and Areas of Emphasis for 2005-06

- **Upgrade the ASB Data Center including the HVAC system and the installation of a generator**
Four new HVAC systems have been installed in the ASB Data Center. The systems went live at the end of November, 2005. The older piping under the floor did not meet code and has been removed. The installation of an emergency generator for ASB has also been completed.
- **Develop a Foundation Architecture for Authentication, Authorization and Data Provisioning**
A major upgrade to the Central Authentication Service (CAS) was completed in November, 2005. CAS 3.0 provides more robust and stable web single sign-on and web services authentication.

Oracle Connection manager (OCMAN) implementation was completed in January, 2006 providing enhanced security for online data access by providing network isolation for the production data environment.

Planning and strategy for evolution of an identity management and core middleware solution was completed. Considerations include a reengineering of the LDAP solution, enhancement of credential management, evolution of the PDB to a more complete person registry and enhancement

of the account management process. Planning a strategy for the evolution of the Data Management environment and process was also completed.

- **Implement HP OpenView, thus enhancing proactive management of the network**
The initial implementation phase of HP OpenView was completed in December 2005, providing an enhanced enterprise-monitoring solution for support of the network infrastructure and online services; and additional features, such as the use of OVIS to monitor applications are being turned on. In January the HP OpenView Network Node Manager (HPOV NNM) was adopted as the primary monitoring platform, and staff were given onsite training. Remaining work includes additional policy and procedure modifications, adding notifications, automated inventory management, integrating other tool sets, and adding web application monitoring.

- **Assess and plan for the implementation of the next mainframe upgrade for Administrative Systems**

A new IBM Series Z/890 processor has been acquired for the mainframe, as well as new storage which was placed into the existing EMC DMX/1000 unit. This will consolidate the storage for the mainframe and UNIX applications into a single Storage Area Network (SAN). This consolidation will avoid the costs associated with upcoming maintenance charges on the IBM Shark storage unit. The new processor was delivered in February and has been installed and configured in the Data Center. The new mainframe went into production on March 26, 2006.

- **Implement the RIAS Procure-to-Pay Application and Data Base Upgrades**

The Procure-to-Pay application upgrade was successfully implemented in summer, 2005. A database upgrade is targeted for September, 2006.

- **Provide training seminars, events, and tools that enhance the University's IT security posture and raise awareness**

Seminars on operating system hardening and SANS mentoring programs were offered to the university community for General IT Security (GIAC) and Incident Handling (GCIH). Classes were created and presented for the IT certification program in which university IT staff have participated. Classes have also been provided on Identity Theft and Security Awareness.

Coordinated university support for October's National Cyber Security Awareness month. IT Security events took place on all three campuses to raise community awareness.

A web site was established (<http://nppi.rutgers.edu>) focusing on the importance of and departmental responsibilities of securing *Non-Public Personal Information*. The issue of privacy and confidentiality of personal information has brought about federal and state laws, as well as complex business regulations. Departments maintaining non-public personal information are responsible for that information and any disclosure of it.

3. Strategic Goal: Communicate about and promote opportunities for the application of IT in teaching, learning, research, and administration.

Initiatives and Areas of Emphasis for 2005-06

- **Conduct personal meetings with University leaders at all levels to gather information on their needs and inform them of OIT services.**

Meetings have been conducted frequently, with University leaders from the administrative and academic area regarding various application implementation initiatives.

Regular meetings are being held with Deans and heads of major projects, as well as with ongoing consulting with faculty. In addition, a group of departmental liaisons has been developed in order to obtain information from departments and to get feedback.

- **Document and develop support plans for a base set of video services**
Plans have been developed for providing more complete support of video equipment, which are reflected in the IT Strategic Plan. In addition to this longer term effort, work has also been done to document standards for setting up video equipment, and new equipment and technologies have been evaluated. Several meetings have also taken place with departmental staff to provide information and training.
- **Continue to review and upgrade the OIT Website**
Suggestions have been provided regarding modifications to the OIT websites, and many have been reviewed and updated.
- **Finalize and distribute the Academic and Administrative Unit Guide to Information Technology**
The Guide to Information Technology for Academic and Administrative Units' was completed and distributed to the university community in October, 2005. The guide's purpose is to assist university departments and units in planning for the use of IT. It will help departments manage IT resources to optimize the payback on investment, protect information technology assets, and ensure that all staff members understand and fulfill their obligations for IT support and use.

The guide includes a sample IT plan, a list of OIT-provided support resources, and description of IT services at the university, including information about OIT services and services that are the responsibility of departments and units.
- **Conduct a review of major IT systems and their replacement/evergreening requirements including funding needs and potential funding sources**
A spreadsheet has been prepared outlining exposure within RUNet for equipment that will require replacement due to EOL (End of Life) or EOS (End of Support).

4. Strategic Goal: Promote IT planning and foster cooperation within and between academic and administrative departments throughout the university.
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Initiatives and Areas of Emphasis for 2005-06

- **Complete the IT Strategic Planning Process and begin implementation**
After eighteen months of work by the Information Technology Strategic Planning Committee, a draft university-wide IT strategic plan was completed in January. The draft plan is the product of the work of over fifty faculty, staff, and students that represented all three campuses. The Committee took a holistic view and examined all areas of information technology. The plan is being circulated throughout the various constituency groups and the university community for comments and recommendations. This input will be reviewed by the committee and the plan finalized over the summer.
- **Continue to evolve the IT Project Governance Process and integrate with the IT Strategic Plan**
The Student Services and Business/Financial Subcommittees of the ITPGC have met periodically throughout the year to review progress and prioritize administrative requests. Once the IT Strategic

Plan is finalized and the IT Governance recommendation is implemented, the ITPGC will be incorporated into this new model.

- **Assist academic and administrative departments in leveraging central services to their fullest, thus conserving departmental resources**

As contact is made with deans and departments, units are encouraged to take full advantage of central services rather than duplicating efforts. For example, early in the year the School of Communication and Library Science transitioned from a locally supported email system to utilize central services. Email servers were eliminated and 627 email accounts were moved to the central system. Similarly the College of Nursing transitioned from a locally supported and maintained email system to central services.

- **Develop a plan for the next generation of instructional computing services to be implemented for Fall of 2006**

Sakai will be at the forefront of the effort for the next generation of instructional computing. The current plans for fall, 2006 are to provide a production-quality version of Sakai, with several new tools, which are still being evaluated. In addition, work is currently being started with other services, such as Podcasting

- **Develop a structure for funding site licenses for key academic software**

A meeting was held in March, 2006 with Deans from all three campuses to review the process for software site licensing funded by the Deans. Several areas are prepared to commit significant resources and have several good candidates for software to be included

- **Work with academic departments to develop an understanding of advanced IT services such as Internet 2 and incorporate it into their instruction and research.**

Regular meetings are being held with Deans and heads of major projects, as well as consulting with faculty. In addition, a group of academic departmental liaisons has been developed to communicate information and gather feedback from departments.

A major event was held in April to present national directions in Cyberinfrastructure and talk with faculty about how to proceed at Rutgers. This event had several speakers from outside Rutgers, particularly from the funding agencies that are interested in seeing researchers use Cyberinfrastructure in their projects.

- **Assess Distributed Administrative and Business Systems working with University Business Managers and recommend efficiencies**

Participated in user-initiated discussions on fundamental technology needs of business managers. Surveyed business administrators from across the institution to better understand their use of technology for business processes and their requirements for the future. Meetings have been held with business administrators who regularly use technology services to more clearly define their needs. This effort continues in an effort to develop a formal communications strategy in conjunction with the various offices and business managers in the planning, development, and implementation phases of administrative technology services.

- **Implement a Project Planning and Implementation Methodology in Campus Computing Services**

A project tracking/communications product recommended by the three campus systems associate directors is being piloted. This will facilitate better intercampus communications and project management.

5. Strategic Goal: Continue to develop staff members who will provide IT leadership in support of the achievement of Rutgers' strategic goals.

Initiatives and Areas of Emphasis for 2005-06

- **Develop and support the IT Certification Training Program sponsored by UHR**
OIT has provided the course content and delivery of the majority of courses that are included in the IT certification program. This is a new very successful program that was rolled out in the fall.
- **Encourage and support diversity in the work place**
Diversity has been a theme in OIT throughout the year. At the OIT Annual staff meeting this topic was discussed and it is routinely stressed in our recruitment efforts.
- **Assist departments in their hiring of IT professionals**
Advise and counsel are provided to departments seeking to hire IT professionals. Resumes are shared, advice on job descriptions is provided and staff personnel have assisted departments with interviewing.
- **Support the University's IT personnel review committee**
OIT senior staff have participated on the UHR IT Committee, which meets monthly to review various IT staff recommendations submitted to UHR.
- **Actively participate in regional and national events, thus increasing Rutgers recognition among peer AAU institutions.**
OIT staff are actively involved locally and nationally in both the IT professional and the higher education community. Examples of this year's activities include:
 1. Two OIT Directors serve as members of the NJ Edge.Net Network Advisory Board
 2. OIT is hosting the Spring 2006 uPortal developers meeting which draws Application developers from across higher education. Past meetings have been held at MIT, ASU, and Cornell. UPortal is the foundation of the myRutgers portal.
 3. OIT staff have served on program committees for the EDUCAUSE Annual Conference, EDUCAUSE 2006 Mid-Atlantic Conference, the JA-SIG 2005 Winter and Summer conferences, NJEdge, and the NJ Digital Government conference.
 4. Staff have presented on various topics and at numerous conferences such as: Lessons Learned in the Sakai Pilot at the Sakai winter conference, Designing a Course in Sakai at the NJEdge Conference, 7 Core Tensions between Games and School at the SeriousGames Summit, ruQueue and the ResNet Registration systems at the ResNet Conference, and Transformation of the HelpDesk at the EDUCAUSE Conference.
 5. The Vice President for Information Technology/CIO serves as the co-chair of a state-wide group of CIO's from higher education. The purpose of this group is to meet regularly and to share ideas, solutions, and approaches to IT management.

Additional OIT Accomplishments Not Captured in the Above Goals:

Degree Certification Requests

Analysis, requirements and design are completed and development is underway for degree certification. The target go-live date is August, 2006. This will allow students to submit online requests for verification, for degrees for prospective employers and/or graduate schools.

Undergraduate College Closing Functionality

This was completed in the summer, 2005, and provides prospective students information on the status of their desired college choice and whether that college has openings remaining.

University Units Online Search

Implemented in January, 2006, this application allows users to search for official (UHR maintained) and non-official university organizations. For official organizations, authenticated users have the ability to drill down into a list of employees associated with that organization. Administrative functionality allows Campus Information Services (CIS) and University Human Resources (UHR) to update the source data.

Time Reporting System (TRS)

A new release of TRS was implemented in November, 2005. This new release provides additional functionality to support sub-days and pay for Tradesman.

Absence Reporting System (Release 4)

Features for enhanced processing of calculated fields, control and reporting of accrual data, handling of off-role employees and other data screen usability enhancements were implemented.

Expansion of Employee Types in P2P

System changes were implemented to allow employee type 9's (post docs) and type 7's (part time lecturers) to be interfaced weekly from the legacy payroll system to the P2P Human Resource module. This allows these employees to be designated as preparers in the system and eliminate the need for manual setup by UHR.

Course Change Notification

Analysis, requirements and development are completed, and Course Change Notification went live in June, 2006. This will provide students email notification of course cancellations and room/time changes.

Transcript Requests Application

This was completed in the fall, 2005, and provides students with the ability to request official transcripts online.

University Calendar of Events

The University Calendar of Events application was upgraded in summer 2005 with new features, including an enhanced user interface, the ability for designation of special criteria for events and additional sorting and data display capabilities.

Escheat Monitoring and Reporting to the State of New Jersey

Development of an escheat monitoring and reporting process to meet the State of New Jersey requirements, mandating funds from uncashed disbursements to be submitted to the State annually if the funds are outstanding for three years has been completed.

State Commission of Investigation

Reports and data files from both Procure to Pay and the Financial Accounting System were created to support the State Commission of Investigation's (SCI) requests for information submitted to the University Controller's Office and the Purchasing Department.

Web Server Proof of Concept

A proof of concept for replacement of the existing mainframe web-server solution (NEON-Shadow Web Server) was initiated and the ongoing pilot is underway through the end of the calendar year, 2006. This will provide enhanced real time integration between the web tier and the core mainframe enterprise systems.

HRInfo

The HRInfo reporting application was converted from client-server technology to web-based technology in the summer, 2005.

Rosters

The new Rosters & Electronic Grading Information System (REGIS) went live in December, 2005 in preparation for the fall grading. This application is a reengineering of the "legacy" Rosters web application utilizing JAVA enterprise technologies.

SEVIS Support

In continued support of international student tracking, an fsaATLAS application upgrade was implemented in summer, 2005. This upgrade ensures compliance with the latest version of the INS Student and Exchange Visitor Information System (SEVIS).

myRutgers Portal

Multiple myRutgers releases based on student needs and feedback have been implemented. Features include email channel enhancements, layout changes to improve usability, a calendar view of schedule of classes, a new Scarlet Knights News Channel, RUID lookup channel, new Library channels, SAKAI course management channel, Student Notes channel, NJ Transit Discount channel, and upgrades to the Dining Channel to display daily menus. Additional technical upgrades were made to enhance performance, stability, response time, and usability and security vulnerabilities, including enhanced email security with implementation of SMTP (Simple Mail Transport Protocol) authentication.

Financial Data Warehouse

Various updates to the Financial Data Warehouse (FDW) environment were made to address existing limitations. Upgrades included development of new reports, enhancements to existing reports, data consolidation for ease of reporting, partitioning and indexing of various tables for enhanced response time, and enhancements to P2P and OFIS data linkages. Discussions have taken place for an assessment of expanding the FDW capability in sync with the Oracle GL implementation.

Payroll Data Warehouse

The new Payroll Data Warehouse was implemented in summer, 2005. Historical data loads consisting of weekly payrolls from July 1, 2003 have been completed.

Application Infrastructure

A consolidation of the JAVA production environment targeting all applications to one J2EE production platform was recently completed.

Improvements to the application development environment and process were completed, resulting in an improved development and maintenance cycle. Examples include the introduction of test-driven development and domain driven application design, creation of a library of common software components and definition of an overall strategy for Java application deployment, including JVM isolation to ensure a robust execution environment and standard process for JVM and Tomcat version upgrades, support and ongoing evolution.

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