



CAMDEN COMPUTING SERVICES

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CAMDEN COMPUTING SERVICES

Camden Computing Services provides campus leadership and quality services in Information Technology to support data networking services, campus central computing platforms, and instructional computing resources in support of Rutgers' threefold mission of instruction, research, and public service. The staff maintains a centralized data center that provides general-purpose academic computing systems and software support on the Camden campus as well as operating and maintaining student computing labs. We serve as the first point of contact on the Camden campus for most computing issues that may require action by the other divisions of Computing Services (Administrative, Telecommunication and New Brunswick divisions).

This report summarizes the highlights and accomplishments of the Camden Computing Services (RUCS-Camden) for fiscal year 2003 and presents the goals for fiscal year 2004. The Appendices contain detailed information that was collected and summarized for this report.

Highlights

Security measures taken to protect systems and customers – In April, RUCS-Camden turned on spam filtering (i.e., unsolicited Email) on the two campus email servers using the MAPS real time black hole list. We have been monitoring the amount of spam blocked and are working with the other divisions to compare results and success of this software along with other products being piloted. Our initial impression is that this particular product cuts back around 50% of the spam. Further investigation and testing is planned.

To complement the firewall installed last year for the student server (clam), a firewall was installed on the faculty/staff server (crab) for the campus. The firewall will assist in the protection of the RUCS' systems against network attacks either by internal or external hackers. This permits RUCS to provide a more secure and stable computing environment for the community.

The following central security improvements were completed at the start of the spring semester increasing network and computer security in Camden: home directory mounting in the public labs over Stunnel (secure tunnel that encrypts data packets sent over RUNet); redesigning the firewalls to protect central systems; Bluesocket server to support the wireless access in the Campus Center; final kerberization (moving NetIDs and passwords into the Kerberos server that provides a more secure password record) of the remaining accounts in Camden; and redesign/movement of equipment in operation/equipment rooms in the Business & Science building.

RUNet 2000 transition completed in Camden – Fine Arts, Campus Center, Science Building, Law building, and Robeson Library were all transitioned this fiscal year from the legacy network to the new RUNet infrastructure installed with the RUNet 2000 project. Improvements in network speed and dependability was clearly evident to all occupants of each of these buildings.

Wireless Access activated in the Campus Center - Wireless/open data jack access was introduced/expanded over last summer to provide a wider range of access to the Rutgers network by faculty, students and staff. RUCS-Camden installed a wireless pilot project in the Campus Center that allows students, faculty, and staff with laptops to connect to the Internet while eating lunch or just relaxing in the lounge chairs. Results from the pilot will be used to evaluate the future expansion of wireless technology to other buildings and areas on the Camden campus. For those with ethernet jacks on their laptops, there are now locations in Robeson Library, Campus Center, Law School and the Business & Science building to plug in their ethernet wire for high-speed access.

Upgrade of test scanner (hardware and software upgrade) - The test/survey scanner was upgraded, tested and made ready for production processing starting on September 3, 2002. Training sessions had been advertised to assist faculty and staff in using the new equipment (Scantron Scanmark ES2800). Besides providing the equivalent service of the previous scanner/software, new software was purchased that may be used to grade tests and maintain a grade book from any faculty member's office. In order to provide a smooth conversion, RUCS recommended everyone convert in the fall, but the old scanner remained available until January 15, 2003.

Upgrade email servers and web servers (Netapp, new tape drive solutions) - Central servers had equipment upgraded this year to provide the quality, speed and space required to meet the continuing increase in demand from the campus. Sun Microsystem Sunfire Servers were upgraded for the campus web server and both email servers (i.e., the faculty/staff and student systems). Memory and disk space on both primary unix servers were increased this summer with combined funds from the Equipment Leasing Fund (ELF) and Student Computing Fees that permitted the increase of quotas (amount of disk space for an individual) on all students' accounts to 100 Meg from 50 Meg; and, on all faculty/staff accounts to 250 Meg from 50 Meg. This resulted in additional space to store email, web pages, and any PC/Mac files to an individual's H: drive (Home Directory space). To keep current in the PC environment, two of the central PC servers were also upgraded to new hardware.

User Services – RUCS offered an orientation program to all new and former student consultants to be trained in customer service, telephone etiquette, correct responses to "help" email, consultant of the month program, bonus programs, and WebCT chat/bulletin board. Although the second day had to be canceled, this program prepares our student staff for providing quality service and support to the campus for computing issues.

User Services staff has completely redesigned the main web page and secondary web pages for RUCS-Camden with "tabs" for each of our primary customers ('students' and 'faculty/staff') along with a tab for general 'support'. This design should facilitate access to the RUCS-Camden web pages for information and support. RUCS-Camden worked with the IT staff of the College of Arts & Sciences on developing a sequence of seminars to educate faculty and staff in developing web pages and preparing MS Powerpoint presentations for the classroom. Additionally, a new series on MS Access applications that should benefit faculty in classroom enhancement were prepared and introduced in the spring. Higher attendance at these new seminars indicated a need for such sessions that will be offered next fiscal year.

Public lab upgrades/improvements – RUCS continued the 3-year public computing lab replacement cycle to keep systems current – Law School labs and Robeson Library labs were completely upgraded with new Dell PCs, Sun Workstations, Macintoshes, and lab servers. Software and printing solutions were maintained to provide quality services to the students utilizing the labs for completing their academic work.

Secure services development - The first stage of moving to secure services took place in Camden on July 1, 2003, with the elimination of telnet access from the central servers. Monthly email messages had been sent to faculty, students and staff who were actively using telnet service informing them that they must be moved to SSH by July 1 along with information on where to get the application and how to perform the installation. Coordination and cooperation of UCS staff, RUCS Help Desk staff and system administrators made the removal of this first insecure service a smooth transition. The remaining insecure services (IMAP, POP, ftp) will be removed and our customers transitioned to secure services (IMAPS, POPS, sftp, webdrive) over the next fiscal year.

Campus Support Services - The RUCS-Camden Help Desks continued to provide support to the campus by responding quickly and effectively to problems encountered in the labs, problems/questions about our services (webmail, netscape, access from home/dorms), updated the online FAQ (Frequently Asked Questions) data base to assist customers with self-service, email questions answered in a timely fashion (generally under an hour), new RUCS brochures designed to assist three distinct communities (Faculty/staff, students and residential students), and extra staff on duty during the fall dorm move-in to assist students in getting connected to RUNet from their room.

The RUCS-Camden main web page was reformatted and redesigned highlighting the two main supported communities as the "tabs" (faculty/staff and students) along with a general support "tab". RUCS called upon a student group to evaluate and recommend the elements that should be on the page to most likely be of assistance to our student population. A handful of faculty and staff were consulted on the layout of the faculty/staff web page in order to organize it in a way they would find most useful. Lastly, a 'Support' web page was designed to highlight the wide range of support offered by RUCS and to assist in the navigation through our pages. This top level web page was completed and ready for production in late April. However, it was not put into production until the start of the Summer Session in order to not disrupt and confuse our community who were experienced in navigating the RUCS-Camden web pages. Throughout the year, many second level web pages were redesigned and updated to provide a more even look, feel and access to our services and support.

Regular meetings were held with the campus IT support staff to share knowledge, distribute plans, obtain feedback and to keep the continuing interdepartmental activities coordinated for an effective and efficient campus IT structure. Various staff attended these campus meetings to discuss and promote aspects of Computing Services (not only the Camden services, but also Central New Brunswick based services such as Admission improvements,

Registration improvements, RIAS support, RUNet 2000 support, etc.). Additionally, we continued to provide regular communications of activities to the campus through a variety of vehicles available to us, such as, REACT email, direct emails to Deans/Provost, Announcements on the RUCS-Camden web page, and a series of Gleaner articles.

Summary of Major Services

Email and Web Services

RUCS-Camden continued to support the basic infrastructure for electronic mail, web and directory services for the campus. Webmail use continued to increase this year, particularly by the students. Camden servers continue to process an increasing number of email messages for the campus (479,074 per week this year as compared to 363,000 email messages per week last year), which is approximately a 32% per week jump. REACT mailing lists continued to be maintained and used on the two main campus servers (one for faculty/staff and one for students) to send regular (minimally weekly) announcements to the campus. With the successful implementation of the new university-wide RAMS (Rutgers Automated Mass-mailing System) in January 2003, plans are in the works to move the REACT mailings over to the campus “all students” and “all faculty and staff” lists for the upcoming fiscal year. The web server (shad) and the faculty/staff server (crab) support over 98,000 web pages that were accessed over 81 million times this year (as compared to 68 million times last year).

Academic Instructional Computing Support

Instructors wanting to provide hands-on computer training to students can reserve the Instructional microcomputer labs. Usage of these labs during FY 2002/2003 was at a slightly increased level from FY 2001/2002. Although the reservation for the labs is still handled by RUCS, this year through cooperation with the FAS Dean’s office, faculty were permitted to reserve BSB 117 as their assigned classroom for the entire semester without being displaced by conflicts. This change had minimal impact on others reserving the room for instruction. In Camden, the labs were used 7 times during the summer terms for a total of 144 hours, 27 times during the fall term for a total of 522 hours, 1 time during the winterim term for 42 hours, and 30 times during the spring term for a total of 566 hours. Community summer programs no longer utilize the Campus Center lab for computer simulation courses. In Camden, there were 7,015 student accounts, 1,186 Alumni accounts, 1,244 faculty/staff/guest accounts and 110 departmental accounts.

Future plans for the Business & Science Building have included the move of RUCS Instructional Lab from room 117 to room 134, budgets permitting; the remodeling of BSB 134 was completed as part of the renovations within the building. This room now supports a computer system, DVD/VHS player and a projection system for classroom use if and when the room is reassigned to RUCS.

RUCS-Camden now schedules all events via the Rutgers on-line Central Mail and Calendar System, RULink. Anyone wishing to reserve a RUCS-Camden facility may check availability of a specific lab at the following web address: <http://rucs.camden.rutgers.edu/reservations/>

There are two SGI servers, one that supports the Fine Arts department's Animation Lab and its fourteen Iris-based clients, and a second that supports Computer Science, Math, Chemistry, Psychology, and Physics clients that are part of the Science Vision Labs. A Dell PowerEdge 2550 server running RedHat Linux 8 was added that provides services to the sixteen new Windows 2000-based clients. Students still use the SGI server to render animation sequences too large to process on a client.

RUCS-Camden purchased a Scanmark ES2800 Optical Scanner with ELF funding to replace the old NCS OpScan 7000. The ES2800 is capable of simple grading of tests using the Quickscore Software, setting up faculty grade books using ParScore Software, and running/evaluating surveys. The current policy regarding the operation of the new scanner encourages faculty, staff and administration to attend a RUCS Seminar demonstrating the operation and many uses of this new equipment. Starting in August 2002 (a few weeks before the start of the Fall 2002 Semester) and continuing into the month of October, seminars were offered for anyone who wished to learn the new system before having a need to grade tests or run surveys. Ten seminars were offered and nine were conducted with a total of 36 attendees. Once again, before the start of the Spring ‘03 Semester and for several weeks into the semester, another series of seminars were offered. Thirteen seminar sessions were offered and 6 were conducted for a total of 17 attendees. RUCS-Camden will continue to offer seminars on the operation of the Scanmark ES2800 Optical Scanner prior to and during the beginning of each semester.

Help Services and Resources

On the Camden campus, staff handled 3,187 walk-in questions, 2,796 email questions and 529 telephone questions from students, faculty, and staff. Public computing labs provided a broad range of services to students during the fiscal year. In Camden, public computing labs were open for about 40,250 hours. During this time there were 343,761 PC/Mac logins from the public labs to the server covering 92,333 hours of system usage. Short hands-on workshops, lecture/demonstration type seminars and in-class presentations on various supported software applications and systems are presented every semester. This year we provided instruction to twice as many participants (800) as last year. The new Microsoft seminars (Excel, Access and Powerpoint) were well received.

The main RUCS-Camden web pages were redesigned and re-published this year based upon a “tabbed” format where the key tabs are Support, Students, Faculty/staff and RUCS-Staff to direct common groups to services of most interest to them. We are committed to maintaining and increasing the number and content of the documentation describing the services and applications offered to the community in Camden. The Camden Computing Services website is updated regularly while the entire set of documentation is stored online. Of particular value to our customers are the online weekly announcements, the HELP section, and the New User section. Fall and Spring News publications were produced and distributed widely across the Camden campus to inform the community about changes, new services, service improvements and other computing activities of interest. A series of articles were written for publication in the Gleaner this year. All articles include web addresses for further information. With the change to policy in content for the weekly REACT emails for most of the academic year, RUCS had limited messages included this year. The change back at the end of the year to the previous policy to include general announcements to the community should enable RUCS to again send important updates to students, faculty and staff.

RUCS staff participated in the various student and faculty orientations held at the start of each semester as well as providing lectures upon request covering specific services provided by RUCS.

RUCS-Camden received no special requests for computer accommodations to disabled students during the Academic Year 2002/2003. As always, RUCS-Camden is willing to meet the needs of students with special disabilities. No campus meetings were held this year regarding special needs. RUCS workstations assigned specifically to handicapped students remain in existence in labs on campus with a private room available in the Robeson Library, lower level. Anyone seeking information regarding ADA Information from RUCS-Camden may refer to the following web page: <http://rucs.camden.rutgers.edu/ada/adasvcs.html>

Infrastructure

Campus Computing Facilities

RUCS directors from all three campuses continued the practice to coordinate one large purchase order for new computers in instructional labs. For Camden, this resulted in both a saving and an improved system over what would have been purchased independently on the systems ordered through the Rutgers Computer Store. Additionally, we take advantage of the latest discounts on Sun equipment through their timely matching grant program to save resources.

As work was completed on the RUNet 2000 project across the Camden campus (August 2002 was the official “end” date), the following are the highlights for the year: Fine Arts, Campus Center, Science Building, Law building, and Robeson Library all transitioned this fiscal year from the legacy network to the new RUNet infrastructure.

The laptop plugin service has been utilized by an increasing number of faculty, students and staff. This service is useful for classroom presentations where you need a computer that has to be connected to RUNet and the Internet. All classrooms in Armitage Hall, Business & Science, Fine Arts, Law, and Science buildings have connectivity. Open data jacks for general Rutgers community access to RUNet may be found in the Robeson Library stack area, Armitage Hall Lobby, Law stack area, BSB Lab Room 110, BSB classroom 116, and the Campus Center Lab. A system must be registered and configured properly to connect to the network.

Security

Security continued to be a high priority this year again as the dangers of viruses, worms and Trojan horses remains. Staff spent a great deal of time keeping up to date with regards to security issues (meetings, mailing lists,

and newsgroups). Security patches and fixes are applied on servers and clients as soon as they are released in order to reduce the possibility of a successful hacker attack. Various security checks and audits are performed throughout the year on the systems. Security software and tools (tripwire, tcpwrappers, SAINT, Satan, and others) are installed and used to minimize security risks. RUCS-Camden participates in various pro-active scanning of systems across the campus. The scans continued to be performed both locally and from the security group on the New Brunswick campus (IPS) in order to find and close potential security holes. RUCS regularly performs full security audits on all of the major Unix servers under our administration.

The McAfee antivirus software continues to run on the Sun unix email servers to reduce the threat of virus infected emails successfully reaching our community through the campus servers. Over 140,000 emails with viruses were rejected this year.

A firewall was installed on the faculty/staff server subnet to protect the system from intruders. It has proven to be an effective protection against a wide range of attacks from outside our community.

RUCS announced our plan to move all central services to a secure environment starting this fiscal year. Working with the campus IT staff, a workable timeline was developed that enabled time for converting faculty and staff desktop systems to the new services. On July 1, 2003, the first service was removed from the servers (telnet) and replaced by the equivalent secure service called SSH. Other services will be removed and converted during the upcoming fiscal year.

Organization – Management and Staffing

Quality Improvement Initiative (Commitment to Excellence)

Staff members are reminded regularly about the commitment to working efficiently and effectively with all of our coworkers and constituents to deliver a quality service to all. The Help Desk process continues to be evaluated and improved, communications are regularly reviewed for accuracy, students are surveyed each semester for their input into our services, and faculty and staff focus groups are held to gather input for improvements and to foster cooperation. RUCS brochures were updated and published again this year: Student's Guide to Computing at Rutgers and Faculty/Staff Guide to Computing Resources at Rutgers. Information in the third guide produced last year (Your Guide to Computer Networking at Rutgers) was included in the Student's Guide this year. There were 426 students who registered systems in the residence halls in Camden to access RUNet.

Staffing – Promotions, New Hires

At the conclusion of Fiscal Year 2002/2003, Camden had 9 Full time, 5 Auxiliary, 2 Type 4 and 23 Type 5 staff. (additionally, there is one TD staff member in Camden). These full-time employees worked in the following areas:

<u>Area</u>	<u># of Employees</u>
Administration and Clerical	1
Applications Development/ Maintenance	0
Management	2
Network Engineer	0
Network Technician	1
Operations/Production	0
Systems	6
User Services and Support	4

One Systems position continued servicing three different sets of clients, working 40% of the time is for RUCS, 40% for FAS, and 20% for the Rutgers research station in southern NJ.

No new hires were made this year.

Human Resources Development

Seven (7) employees from Camden received outside training during the fiscal year as part of their professional development.

Camden Divisional Goals 2003/2004

1. General University/Campus Support

- Develop and implement plans for Windows (NT/2000/XP), UNIX, Novell (decommissioning) and other operating system improvements (remove Novell service completely; additional Microsoft server support offered)
- Provide leadership to campus departments in developing their Information Technology (IT) needs and plans (work with FAS – IT committee and UCSs)
- Provide networking leadership for the campus to improve backbone services, assist in building design, communicate standards and assist in transitional networking plans. Prepare and assist building occupants for a smooth transition from the remaining legacy network connections to the latest RUNet service (Cooper Street buildings, Gym)
- Consultation support for the successful installation and activation of the campus PBX system over the campus RUNet wire infrastructure
- Promote continued collaboration and cooperation with the Library, FAS, SBC and Law School staff in supporting computing components of the technology-based classrooms.
- Evaluate the Educational Series and other training for improvements. Coordinate with other departments to expand/contract courses.(Account tools/spam filtering/continue MS sessions)
- Improve security measures for the community through education, firewalls and virus protection software (continue scanning systems; SSL; remove POP & IMAP; spam filtering)
- Improve email support on the campus – (update documentation; update webmail; continue coordination with the RUCS wide Email/Calendar service)
- Continued support of Science Vision project and Fine Arts systems (coordinate new support for FA Mac lab; define model and level of support for FA labs)
- Upgrade the networking electronics (fiber, router, switches) in the resident halls to bring them up to the latest RUNet standard. (results in higher speed and more capability)
- Install, test and move into production the new design and programs supporting the Camden main web pages developed under contract (work closely with M. Sepanic and the campus web committee)

2. Instructional Support

- Provide IT leadership to the campus in the development and implementation of plans for public computing facilities on the campus (upgrade 1/3 of public lab equipment; develop new images; upgrade software; coordinate purchases)
- Encourage and assist faculty in developing web-based instructional materials for classroom presentations (seminars; departmental presentations upon request)

3. Research Support

- Encourage and support faculty requiring links for information technology
- Participate in the integration and support for departmental outreach programs including distance learning and off campus instruction

4. Outreach Support

- Gain knowledge of and assist in video distribution for distance learning programs.
- Collaborate with other departments planning for off campus programs.
- Support campus and university programs that extend into the community (provide consultation for building networking design; attach LEAP trailers to network)

5. Administrative Support

- Collaborate with administrative departments on campus to improve office workflow and assist in planning for their systems and software upgrades (Help to develop support model for Administrative support following devolution in Camden; participate in Enrollment Management development)
- Work with RUCS-ACS to provide training guidance on the Camden campus for new and upgraded services (uploading Excel grades, myPortal, course/room scheduling)

6. Operational Goals

- Continue improvement of front line service through continued student consultant training, coaching, evaluations and support (training sessions 2 times per year; mentoring)
- Maintain communications to faculty, students and staff through an online newsletter once per semester posted (replacing the paper mailings), E-mail through the campus REACT, student newspaper, online web announcements and other modes as they may be determined effective.
- Continue staff participation on RUCS teams to improve Rutgers University Computing Services and to foster the RUCS values.
- Continue to align services with the campus and institutional needs through participation on Camden committees, such as the FAS Information Sciences committee, and communications with administrative offices, academic departments, and advisory councils.
- Insure staff professional development to enhance their skills appropriately for their job function and growth (Full day program taught by UHR; encourage attendance at university lead professional development seminars in Camden and New Brunswick)
- Continue the implementation of the customer satisfaction evaluation plan (survey students each term; focus group meetings with faculty/staff/administration)
- Continue to work closely and regularly with the campus Information Technology staff (Unit Computing Specialists) to improve the support to all constituents in Camden (regularly scheduled meetings throughout the year)
- Continue our communications improvement plan to keep the campus informed and educated about computing at Rutgers and RUCS (Improve the RUCS-Camden web pages – 2nd level pages modified to follow a new, standard format and updated content)
- Install and activate the Wireless project in the Robeson Library (communicate & educate the campus members on availability & usage)
- Update the Disaster Recovery and Evacuation plans
- Finalize the RUCS-Camden Security Plan