

2018

ANNUAL REVIEW

2019



Rutgers IT

Information
Technology
Advancing the
University Mission

RUTGERS





Michele L. Norin
Senior Vice President and
Chief Information Officer

Message from the Senior Vice President and Chief Information Officer

Technology professionals have a reputation for toiling in solitude. That's the stereotype, at least—the lone coder hunched in front of a glowing monitor. And though there's certainly a place for solitary stretches in IT work—I got my start, after all, as a COBOL programmer—the fact is today's IT world is highly collaborative. You can't really accomplish much if you don't emerge from your cubicle or office. When I arrived at Rutgers four years ago, one of my priorities was to foster a more integrated, aligned, and collaborative IT community across the university. That's not because we wanted an IT community just for the sake of having one. It was because it was clear we would need vibrant, effective partnerships and relationships to make significant progress in providing a comprehensive, cost-effective IT environment for Rutgers.

The projects and initiatives highlighted in this publication are a testament to how far we have come. Behind just about every accomplishment is a collaboration—sometimes with faculty (as in the transition to the Canvas learning management system), sometimes with Rutgers business units (for Cornerstone initiatives), and often between staff from the Office of Information Technology (OIT) and “distributed” IT at Rutgers schools, departments, and other units. Information technology professionals from across Rutgers have been working diligently to cultivate these collaborations. Their work in doing this is thoughtful, it is intentional, and it is making a real difference to the university.

Consider the Information Technology Leadership Council (ITLC), a group of nearly 60 IT leaders from every corner of Rutgers. Our first meeting was held more than three years ago. This was something new—an effort to bring together leaders from OIT and distributed units. Our initial discussions were sometimes contentious, but they were also respectful, and over time we have developed a vibrant, innovative community that's vital to advancing IT initiatives at Rutgers. Hundreds of IT staff members from across Rutgers now serve on committees and working groups associated with the ITLC. More than 110 IT staff members have attended a specialized program for IT leaders, encouraging a common language for collaboration among IT staff. Our ability to work together has led to the successes in evidence throughout this publication. That's our standard now—a collaborative approach to advance Rutgers' missions of teaching, research, and service.

Sincerely,

A handwritten signature in blue ink that reads "Michele L. Norin". The signature is fluid and cursive.

Michele L. Norin

Tech Support for Ever-Expanding Services

90,030

phone calls answered



9,650

walk-in support sessions



You've got questions?

We've got answers.

The OIT Help Desks and Computer Labs can assist with everything from printing to resetting your password. Wondering about Box file storage, Webex videoconferencing, or the DocuSign e-signature tool?

We're here to help.

39,923

emails answered



99.83%

satisfaction rating



400+

Rutgers students hired and trained to work alongside full-time IT staff at the OIT Help Desks and Computer Labs



24 x 7 x 365

call us, email help@oit.rutgers.edu, or visit it.rutgers.edu



833-OIT-HELP

one toll-free number, for all of Rutgers,
to get your questions answered

Education Enhanced by Technology



Upgrading to LinkedIn Learning

Looking to supplement coursework with video tutorials? Seeking staff training in time management or creating PowerPoints? Find this and more at LinkedIn Learning (formerly Lynda.com)—a free service for Rutgers faculty, staff, and students.

- 38,782 logins
- 126,645 videos viewed
- 14,036 hours of video viewed

Progress in the transition to Canvas

Canvas is Rutgers' choice for its official learning management system. The Canvas project team is now transitioning courses from Blackboard, Moodle, and Sakai to ensure a cohesive learning experience for Rutgers students. Other steps include:

- a revamped Canvas website for Rutgers, devoted exclusively to Canvas resources for the Rutgers community
- an Executive Steering Committee and working groups to provide oversight and guidance for the transition
- technical improvements, like the ability to submit grades directly from Canvas



Looking to the future of learning technology

Rutgers became a member of Unizin, a leading nonprofit higher education consortium. Unizin is comprised of 27 institutions with a shared mission of delivering innovative learning technology to faculty and students, sharing knowledge and resources, and designing solutions for the future of higher education.

First-day-of-class access to course materials

First Day from Barnes & Noble College provides students with discounted first-day-of-class access to their required course materials. It's convenient, affordable, and easy to use. The average savings per student participating is estimated to be \$75.

Sharing reading lists with students

Leganto, a new course reserves system from Rutgers University Libraries, makes it easy for instructors to create and share "reading lists" for all types of materials, from books to journal articles to videos.

Integrating technology into the classroom

Technology is advancing rapidly, and Rutgers IT staff are on it, bringing new innovations to the classroom:

- Nearly 100 Apple TVs at Rutgers-Camden allow for seamless presentations in classrooms and conference spaces.
- A new distance-learning computer lab at Rutgers-Newark seats 44 students.
- Five learning spaces with state-of-the-art digital podiums and two active learning classrooms are part of the new engineering and chemistry buildings at Rutgers-New Brunswick.

Computer Labs

28

computer labs across Rutgers locations

2.1 million

hours logged on computers in OIT computer labs

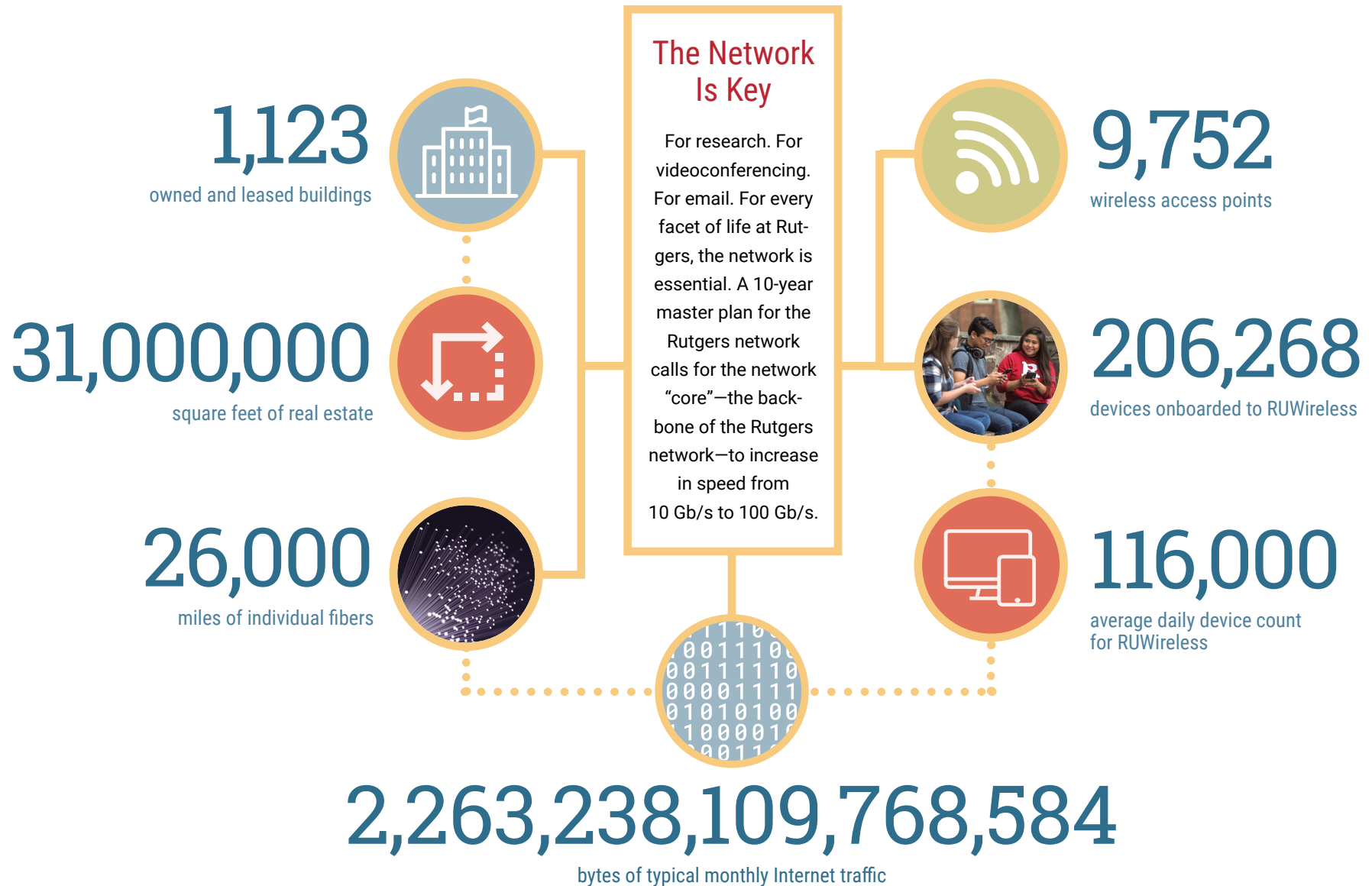
1.7 million

logins at computer labs

25,845,729

sheets of paper printed in computer labs

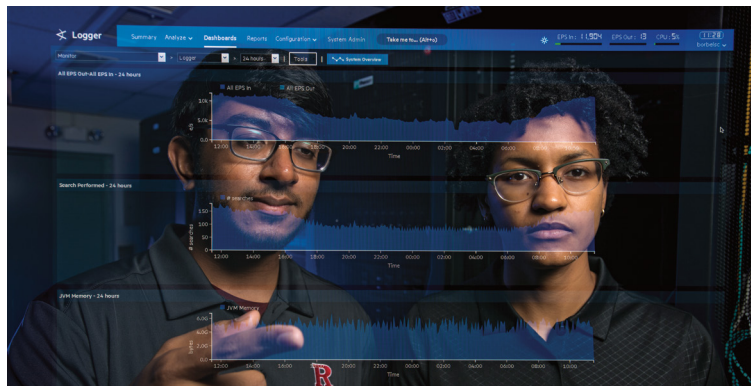
Vast Network, Fast Internet



Securing, Protecting, and Managing Rutgers Data

Rutgers students learn cybersecurity at Big Ten internship

Hunting down viruses, thwarting hackers, and protecting organizations from cyber-threats were just a few things Rutgers students got to do during an internship program with other Big Ten universities and OmniSOC, a cybersecurity operations center cofounded by Rutgers.



Password + Proof = Secure Access

Secure your Rutgers information by signing up for two-step login at twostep.rutgers.edu to

- protect your identity
- avoid compromised accounts
- gain extra security for your information

Reliability and security with virtual infrastructure

You can have powerful IT without purchasing equipment on your own. Use virtual infrastructure, from OIT, to get powerful servers with these benefits:

- scale securely
- load-balancing
- backup and restore capabilities
- network monitoring and security
- savings from economies of scale and reduced power consumption

41,000

That's the number of electrical sensors used to monitor the status of the power and cooling services across OIT-managed data centers. These sensors are essential to providing reliable data center hosting for university IT services.



Data centers to power Rutgers

Business systems and scholarship often require massive amounts of data storage and data-crunching. At Rutgers, six geographically dispersed data centers provide physical and virtual support for Rutgers' academic, clinical, research, and administrative communities.



Data and Security

20,658

new devices migrated to Cisco Advanced Malware Protection (AMP)

604,000+

malicious network attacks blocked

70,847

security alerts triaged for investigation

99.98%

data center availability

The New World of Work



Streamlined Tools for Workplace Evolution



Ring, ring! Hello, you have a new Cisco telephone

The university's new telephone system, from Cisco, is being rolled out across Rutgers, which means a unified directory, better overall call experience, and enhanced support for the entire community. More than 24,000 phones are being replaced across the university.



Salesforce selected as CRM

A customer relationship management solution is essential to connecting and engaging with constituents, from prospective students to alumni, and Rutgers now has an enterprise CRM with the selection of Salesforce.

Cloud-based emergency notifications

An enhanced Emergency Notification System (ENS), powered by RAVE Mobile Safety, is used to send emergency text messages to subscribed users' cell phones.



Integrated student data—and an improved student experience

Shorter turnaround times. Fewer handoffs between departments. Better interactions with students. Those are just some of the goals of integrating data from multiple student information systems into one, Oracle's Student Cloud. Students will benefit, and so will the staff members who work with them, by reducing manual processes and providing departments with a more complete view of student information, such as admissions status, financial aid records, term bills, and more.

Sites@Rutgers

Need an easy-to-use, feature-rich website for a research project, department, or student group? With 260 sites requested and 20,000 unique visitors per month, Sites@Rutgers is gaining traction as the go-to tool for building a website at Rutgers.

Cloud-Based Email and Calendaring

900+ TB

ScarletApps storage for Google Drive, email, and photos



200,000+

files updated, created, or read per day on OneDrive



We've got email—lots of email

Rutgers' official email systems, Rutgers Connect and ScarletMail, help you stay connected, with key features—like Connect's OneDrive, for file storage—turning them into must-have tools for learning and productivity.

46,000

Rutgers Connect accounts



120+ TB

email storage in Rutgers Connect



200,000+

ScarletMail accounts



1,000,000+

Rutgers Connect email messages handled per day



4,000,000+

ScarletMail messages handled per week



Advanced Computing, Revolutionary Research



The Amarel computing cluster is named after Saul Amarel, a renowned Rutgers professor and pioneer in artificial intelligence. Amarel's work bridged computer science and fields from ecology to medicine.

Test-bed for research technologies

Rutgers investigators now have access to the Cyberinfrastructure Core Network (CICNet), a project funded, in part, by the National Science Foundation and jointly supported by the Office of Advanced Research Computing (OARC) and OIT:

- advanced computing and file access services
- high-speed connections to other academic institutions and commercial domains
- Software-Defined Networking (SDN) model for agility and flexibility



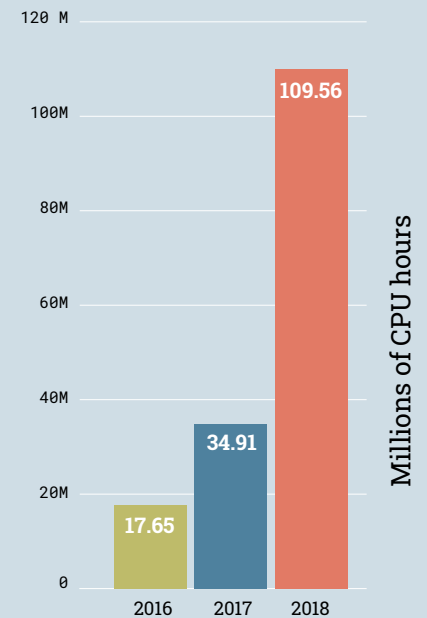
Breaking down barriers to innovation

An OARC-led initiative for research collaboration, the Eastern Regional Network (ERN), continues to grow, with new partners including the New Jersey Institute of Technology, the University of New Hampshire, and Penn State. ERN brings together universities, network providers, industry partners, and the Internet2 community to break down barriers between universities and simplify multicampus collaborations with transparent access to shared data and computing facilities.

Powerful, computing-intensive, and in demand

Climate change. Cancer treatments. The neurobiology of autism. Demand for Amarel, Rutgers' high-performance computing cluster for research computing, continues to grow dramatically.

- 579 nodes
- 15,340 cores
- 120 NVIDIA GPUs
- Over 2,000 students, researchers, and faculty work and learn on Amarel
- Equipment at Rutgers locations in Piscataway, Newark, and Camden



Research Stats

600 trillion

mathematical operations per second, peak performance

300+

Rutgers units performing research on systems maintained by the Office of Advanced Research Computing (OARC)

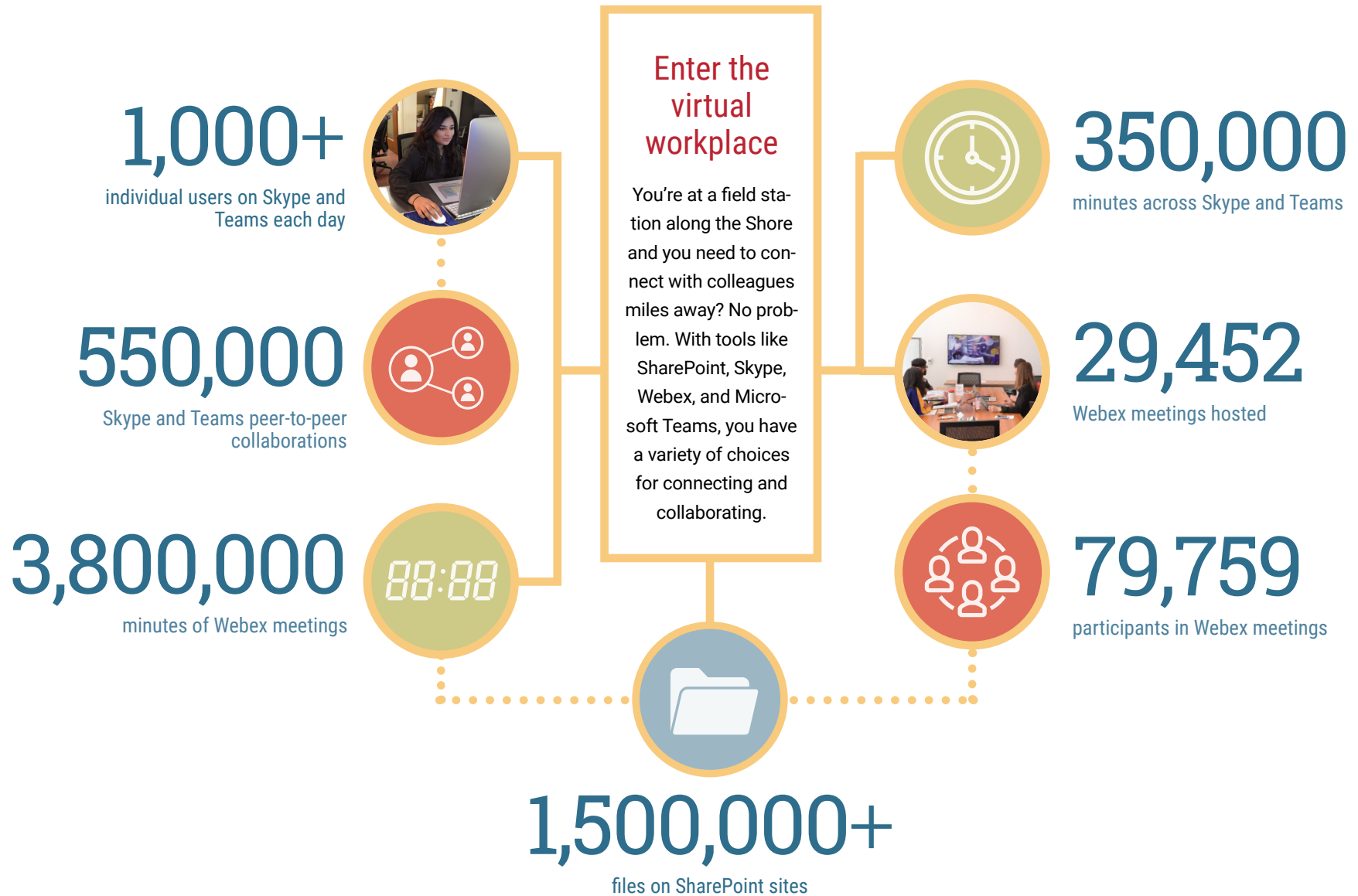
400+

faculty, staff, and students from 130 Rutgers departments attended high-performance computing training since 2017 inception

\$54 million

new research awards for Amarel-partnered projects since March 2016

Next-Gen Meetings and Collaboration



Working Together as Rutgers IT

1,200+

That's the number of IT staff at Rutgers, working in roles as diverse as application developers to information security compliance analysts.

This figure includes hours for part-time student staff members.

Studies of IT costs and services result in recommendations

Facilitating collaboration, encouraging the adoption of common solutions, and addressing staffing gaps are among the key goals of a pair of recent IT cost studies by outside experts in higher education IT. The studies involved hundreds of on-site interviews and web sessions with IT staff from OIT and distributed units and resulted in valuable data about costs, services, and staffing. Among the recommendations are:

- finding opportunities for greater coordination of distributed IT resources
- increasing the adoption of centrally managed tools for end user support
- developing university standards for user systems
- identifying potential application consolidation
- consolidating servers and storage in university data centers
- establishing a web environment advisory group and consolidating web hosting



Banding together to simplify IT services

IT Service Management is here, with a growing Rutgers Service Management team and the selection of ServiceNow as the platform for service management—all with the aim of streamlining the coordination of IT services and simplifying IT for the Rutgers community. That means a self-service portal and catalog of IT services, a searchable knowledge base, and easier ways to contact IT units for support.

Five years of developing IT leaders

More than 110 IT staff members have participated in the IT Leaders program from MOR Associates—an intensive professional development initiative credited with breaking down silos among IT units and developing a culture of collaboration, innovation, and leadership within Rutgers IT.

Key hub for IT collaboration

With monthly meetings and an annual retreat, the IT Leadership Council has become a vital group for advancing IT initiatives at Rutgers. The group is composed of nearly 60 IT leaders, but the group's committees bring together people throughout Rutgers IT on topics like

- cloud strategy
- IT communications
- project and portfolio management
- synchronous communication



Forging connections in the Big Ten

The Big Ten Academic Alliance (BTAA) is a hub for collaboration among research universities, and Rutgers IT professionals are involved in BTAA groups focused on these topics, among others:

- administrative information systems
- data governance
- identity management
- IT customer support
- IT service management
- network
- operations and infrastructure
- security
- voice services
- wireless
- women in IT

Self-Service Portals

“

What students are saying about the new myRutgers

I love how you can view everything in one spot.

Everything is so much simpler to get to.

You can see your grades for the semester, cumulative GPA, and have resources to assist you with financial help.

Fantastic.

Really improves the experience.

So intuitive.

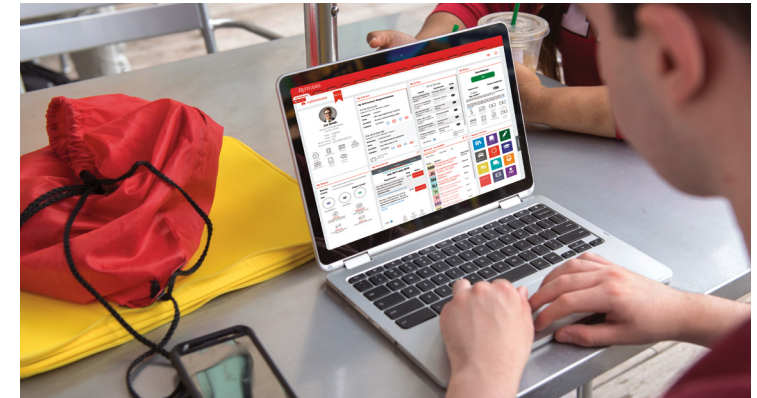
Easy-to-use, customizable, personalized, and at your fingertips

Self-service technology is the future, and a variety of new portals are providing quick access to must-have resources, whether you're a faculty member, staff member, or student.



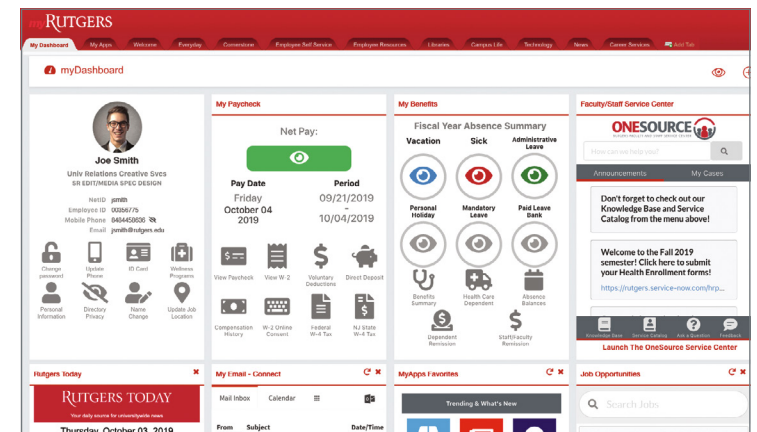
One point of contact = OneSource

The new OneSource Faculty and Staff Service Center, from University Human Resources, provides a single point of contact for faculty and staff to resolve HR and payroll needs through online, phone, and in-person support.



99%

of students accessed the new myRutgers portal's student dashboard, which received 7.7 million hits in its first year.



A myRutgers dashboard, just for you

The university introduced a myRutgers portal dashboard for faculty and staff—an intuitive, self-service, and mobile-friendly portal with must-have information.

Ocean surface current predictions on Amarel

The Amarel high-performance computing cluster processes ocean surface prediction data for the Department of Marine and Coastal Sciences. The data collected supports offshore wind development and the broader regional knowledge of the Mid-Atlantic marine environment.

E-911 Communications Center

Emergency police and fire dispatch services for the City of New Brunswick now go through the Rutgers 9-1-1 Communications Center, creating a more efficient emergency communications center for the city and Rutgers.

450 clinical operatories at Rutgers School of Dental Medicine

Each clinical operatory at Rutgers is wired to allow chairside access to technology showcasing digital images in support of patient care.

New package notification system

Looking for your package? Rutgers' Mail Services system automatically sends a notification via email and/or through its mobile app telling you when your package is available and where to pick it up.

Robotic gliders tracking hurricanes in world's oceans

The Rutgers Center for Ocean Observing Leadership (RUCOOL) collaborated with the Navy and other partners to deploy over 60 robotic ocean gliders, coordinating real-time data delivery to develop operational ocean models for hurricane forecasting. RUCOOL recently celebrated the 500th glider deployment.

Check out those signs

Digital signage in student lounges, academic buildings, computer labs, and elsewhere across Rutgers are used to inform the community about news and upcoming events. Some of the signs, like those in Newark, even have interactive campus maps on a cloud-based system.

2.1 million patient visits

Electronic health records and other technologies aid in patient care at Rutgers faculty practices, clinics, and centers.

900 nursing simulations

At the School of Nursing-Camden, IT provides the technology to record and evaluate over 900 nursing simulations each academic year.

Did You Know?

Information technology's cloud file storage and V...
the world's oceans? D...
serving patients w...
All of these, an...
rely o...

You Now?

reach extends far beyond
Wi-Fi. Robotic gliders in
dental chairs at clinics
with special needs?
and many others,
on IT.

From cybersecurity to manufacturing

Research related to advanced manufacturing, cybersecurity, and health sciences at the School of Engineering relies on large sets of data and powerful computational hardware for statistical analysis by researchers.

Rutgers police get a tech lift

The Rutgers University Police Department upgraded the police fleet with state-of-the-art technology. Now each marked vehicle is equipped with laptops to conduct vehicle lookups and facilitate non-voice interactions with the 9-1-1 Communications Center, as well as dashboard cameras to record all vehicle interactions.

Innovating with 3D printing and medical prototypes

At Rutgers New Jersey Medical School, a student-run Technology-in-Medicine organization is powering medical students with a 3D printing lab to bring anatomic models to life and prototype medical equipment.

Fostering digital skills with a Newark high school

A program with East Side High School in Newark provided technology training and internships, with students learning 3D printing, content management systems, and web development with Python, HTML, and JavaScript.

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Teaming up with RWJBarnabas

Teams from various Rutgers IT units are working with colleagues at RWJBarnabas Health to ensure a seamless transition, for everything from network infrastructure to technical support, as Rutgers and RWJBarnabas embark on a public-private partnership to jointly operate a world-class academic health system.

Partnership for HIV care and prevention

Rutgers hosts IT systems in a partnership between the New Jersey Department of Health and the Edward J. Bloustein School of Planning and Public Policy to help prevent HIV and care for those who are HIV+.

Produced by the Office of Information Technology communications and marketing team

Data refers to fiscal year 2019, unless otherwise noted

For comments and questions, contact itcomm@rutgers.edu

Photography: Roy Groething, Nick Romanenko

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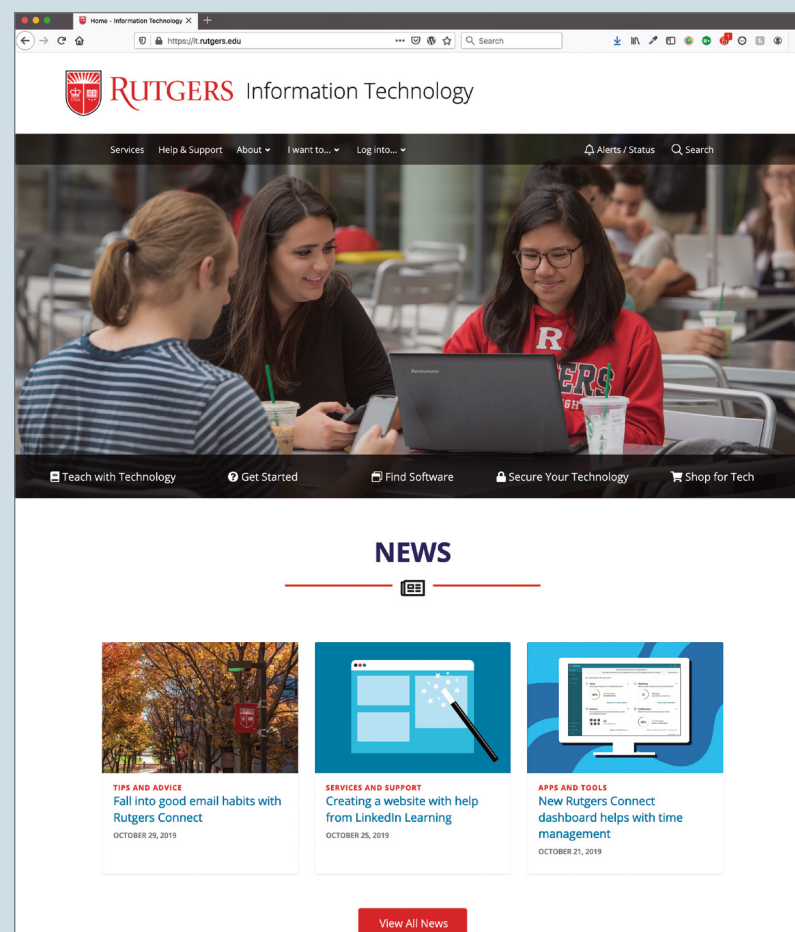
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Wondering what services are provided by Rutgers IT? We've got lots of them. Here's a partial list.

- Adobe software discounts
- Amarel high-performance computing cluster
- Antivirus software
- Box file storage
- Canvas learning management system
- Cellular services and support
- Cloud services with Amazon, Google, and Microsoft
- Computer labs
- Computer standards purchasing program
- DocuSign electronic signature tool
- Eduroam worldwide Wi-Fi service
- go.rutgers.edu URL shortener
- Help Desk tech support
- Hosting services (virtual and data centers)
- Identity management
- Instructional technologies
- IT accessibility resources
- IT project management
- IT service management
- Kite+Key tech store
- LinkedIn Learning video training and tutorials
- Mailman email lists
- Microsoft Office
- My Dashboard
- myRutgers university portal
- NetID
- Oracle Cloud expense and finance management
- PeopleSoft system for human resources
- Printing with PaperCut
- Qualtrics surveys
- Research computing resources
- RAMS mass email system
- Rutgers Connect
- RUWireless network
- ScarletApps
- Sites@Rutgers website-in-a-box solution
- Software Portal
- Student information systems
- Tableau business intelligence and data visualization
- Technology-enabled classrooms
- Two-step login with Duo
- Virtual private network (VPN)
- Voice telephone services and support
- Webex videoconferencing and collaboration

Want to learn more?

it.rutgers.edu/services



Are you looking for answers to your tech questions?
Wondering what's happening with IT at Rutgers?
We have a website just for you.

it.rutgers.edu



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