



# Unified Communications

Virginia Tech is planning a transition from the existing campus telephone and voice mail service to a new system that will enable the university community to access new and emerging technologies. The planned communications model is often referred to as “unified communications.” The unified communications (UC) system will provide a foundation for the integration of real-time communications services like telephony, instant messaging, chat, and desktop video conferencing with other non-real-time communications services such as e-mail, voicemail, and fax.

Network Infrastructure and Services, a department within Information Technology, has received proposals from industry-leading telecommunications vendors and system integrators in response to a request for proposal. The evaluation committee is working closely with the university’s Purchasing Department to identify solutions best suited to meet the communications, messaging, mobility, and collaboration needs of the university community. A UC exhibition was held in

February to allow members of the university community to familiarize themselves with the capabilities of UC solutions from candidate vendors.

Installed in 1988, the existing telephone system provides telephone service to about 15,000 university affiliates. Initially, the data switching capabilities of the digital system provided data networking service to most buildings on the campus—a major leap forward at the time. The campus telephone system has continued to provide reliable, quality telephone service for more than 20 years. Given the age of the system’s core components and the limited availability of replacement parts and qualified technical support resources, it will be a challenge to provide reliable, quality service in the future. Ethernet-based Internet protocol service has for some time superseded the telephone system’s data networking capabilities.

The unified communications system will deliver applications and services designed to meet the communications, messaging, mobility, and collaboration requirements of the university.

# Discovery Commons


Discovery Commons is a new information technology initiative in support of research. Managed through Digital Imaging and Archiving, this repository (<https://dcr.emd.vt.edu>) provides research collections online and coordinated support for digitizing, developing images, and developing the site. Director Gary Worley notes, "More than just a storage location, the repository provides an online environment with easy navigation through the content, allowing researchers to find information readily and make connections through the material." Availability on the Web means that anyone can access the information, while centralized computing support means that many people can access the content simultaneously, using a variety of computing platforms.

Digital repositories also offer archival advantages for the research material itself. Online access reduces the need for researchers to handle original material, extending the life of the originals. Being in an on-going repository with planned upgrades over time helps avoid technological obsolescence—recall material stored on floppy drives! Finally, during the process of preparing material for the repository, several stages of work are backed up, ensuring re-creation of the information, should the need arise.

The first project developed for the repository is sponsored by the Center for Civil War Studies at Virginia Tech and establishes a collection of Civil War-era newspapers in the commons. The first newspaper is the Macon (Georgia) Telegraph. The newspapers were scanned from microfilm and prepared for online viewing. An image of each extant page of the newspaper from the war era can be seen on the website, and each column can be read in full. The Discovery Commons interface allows viewers to explore the newspaper either by browsing or through searching via the index. The indexing, created under the

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direction of Professor William C. Davis of the Virginia Center for Civil War Studies, makes possible sorting by dates or events; searching for keywords; or browsing the contents. This indexing of the content allows cross-referencing and the ability to find content related to important concepts—for example, content may be tied to “slavery” or “diplomacy” even though those particular words are not used in the content.

With several additional projects underway, the repository is well positioned to increase access to significant collections of resource material. Digital Imaging and Archiving welcomes proposals for new repository projects. The group is committed to ensuring that the preservation, access, and navigation of the content are of high quality and consistent with the scholarship needs of each project.



# Technology and the Arts at Virginia Tech

As the Center for the Arts (CFA) takes shape on the east edge of main campus, the role of information technology may not be obvious. However, from the earliest stages of design, the technology infrastructure to support the center's programs has also been taking shape.



*Architect's CAD rendering of the new Center for the Arts at Virginia Tech, opening in 2013.*

The CFA is scheduled to open in 2013 with a 1,260-seat performance hall, two art galleries, and additional spaces for intimate and informal arts activities. The center will also house the Institute for Creativity, Arts, and Technology (ICAT), a unique, trans-disciplinary, applied research collaborative with a focus on integrating the arts and technology with math, science, social studies, and language arts for both PK-12 and higher education learning environments.

With technical infrastructure well beyond the norm, the new facility will support technology and equipment directly for the arts, even as it uses that same infrastructure and technology to collaborate with the commonwealth's schools in innovative research and learning opportunities.

In support of these efforts, the new Office of Technology for the Arts (OTA) is a joint initiative of the Senior Fellow for Resource Development and Information Technology. OTA's current focus is to ensure collaboration between the design team for the new facility and the university's own Information Technology units responsible for campus infrastructure. In addition, and in close collaboration with other stakeholders, OTA will help facilitate support for the technological aspects of pilot projects and seed programs consistent with the goals of both the CFA and the ICAT.

# Password Maintenance



Forgotten your password? Newer technologies and technical options provide both greater convenience and greater security in having PID passwords reset. These new technologies become available this summer.

One new method uses phones and one-time passwords. The process would work in the following way. First, before you forget a password, log in to My VT and establish your "account recovery" options. If you enter a phone number, you can request that a text (if a cell phone) or voice message be sent to that phone with a one-time password. Later, if you forget your password, you can use the online application to establish a new password. You would then enter your university ID number and PID, and then, while you sit in front of the online application, request that a one-time password be sent to your phone number. Quickly, the one-time password message arrives and you enter it in the online form. From that step, you proceed to create a new PID password.

Other technical options are in place for people who share phones, who want multiple options, or who choose not to use them in this way. Remote authentication is offered by other organizations using the established, standard protocol called OpenID. With OpenID, an individual logs into a non-Virginia Tech website where he or she has previously registered to verify that the site may confirm Virginia Tech's identity request.

University-issued e-tokens can also be used to reset a forgotten password. E-tokens are available to university employees and graduate students through Student Network Services (see [www.pki.vt.edu](http://www.pki.vt.edu)).

All of these methods add an item that only you have—your phone, an outside account for remote authentication, or an e-token—to "what do you know about yourself." In the past, "what do you know about yourself" had to match information that the university had retained about you, and could feel intrusive. You still need to provide some "what do you know" information, the ID number and PID, but you'll answer fewer questions while adding the security of pre-established "things you have."