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Tech

Talk

University and local experts discuss the digital technology we encounter in our daily lives on Tech Talk, which started its third season on January 9, 2005.

Tech Talk airs Sunday nights at 9 p.m on Twin Cities Public TV channel 17. Details at:

<http://techtalk.umn.edu>

The shows in the February schedule are:

- Viruses • Global Positioning Systems
- Communication Convergence • and Digital Music

Information Technology

The Next Big Thing

Internet2

Every so often, you'll hear it whispered surreptitiously, perhaps even subversively in the hallways outside of computer labs, or mentioned obliquely in a listserv thread: "Internet2." The words seem to echo through the unconsciousness of campus computer users like a dream, the great promise of the mid 1990s to reclaim a vast territory of fiber-optic connections for academic research. But where is this mythical network? More importantly, how can we use it?

In fact, Internet2 is the name of a consortium of more than 200 universities working to develop a high-speed network to run the next generation of research applications.

Soon after the National Science Foundation opened its network (NSFNet) to commercial use (thus creating the Internet), researchers realized they needed a dedicated network for their work. The Internet was quickly becoming crowded with bandwidth-hogging commercial traffic. So in 1996 Internet2 was formed, originally with just 34 member universities. The actual networks used by Internet2 can vary; but here at the University of Minnesota, we're most likely to use the Abilene network, which is named after a 19th century railroad project that it resembles both in ambition and layout.

Internet 2 is the name of a consortium of more than 200 universities working to develop a high-speed network to run the next generation of research applications.

Internet2 at the University

By having a high-speed network dedicated to research, scientists around the country can share resources. For example, scientists at the Multi-Axial Subassemblage Testing Laboratory (the MAST Lab) on the East Bank of the Twin Cities campus use Abilene to move huge amounts of data back and forth across the country with each experiment they perform. Civil Engineering Professor Jerome Hajjar says researchers use the MAST Lab to test components of buildings, bridges, and other structures — how new materials and structures will behave under stress, how to improve existing structures, and how to repair structures that have been damaged in earthquakes or other extreme events.

The MAST Lab is part of a 15-lab network of testing facilities (the Network for Earthquake Engineering Simulation, or NEES). By using Abilene, researchers from around the country can develop, control, and observe experiments taking place here at the University of Minnesota. All of the streaming video and data from the 10- to 50-hour-long experiments is also archived at a supercomputer site in San Diego. Hajjar says a typical MAST Lab experiment means moving between 100 and 500 gigabytes of data to multiple sites on the Abilene network. For more information about the MAST lab and NEES, go to <http://nees.umn.edu/>.

How fast is it?

The Abilene network is thousands of times faster than your broadband connection at home. On Internet2 networks, speed records are moving targets. New milestones are being set every few months. Last November, researchers sent 2,881 gigabytes 26,950 kilometers in approximately one hour. That's 6.86 gigabits per second, which is pretty fast, almost seven times faster than the Gopher GigaNet. For more on that story, go to <http://lsr.internet2.edu/history.html>.

Does that mean that researchers at the University of Minnesota can transfer data that fast? Actually, no. Right now the Twin Cities campus is connected to Abilene at 622 megabits per second, which is still 600 times faster than you are likely to be able to move data from home — if you have a broadband connection. However Network and Telecommunications Services (NTS) will soon have a one gigabit connection to Abilene set up, and plans are in the works for 10 gig connections to access points in Chicago and

Kansas City. Dave Farmer, a network engineer at NTS, says those connections, combined with the Gopher GigaNet, will create a resource vacuum, which will soon be filled by cutting-edge applications. Like most other highways, this stretch of very high-speed network pavement will eventually get bogged down with traffic; applications will clamor for more bandwidth, and the cycle of development will start all over again.

So how do I connect?

All of this high-tech giga-macallit connectivity must require forms and authorizations and special boxes with lights and switches right? Nope. Traffic going between Internet2 institutions is automatically directed to take the Abilene network, whether it's plain text e-mail or streaming video to Stanford. How does it know? Through the magic of IP address-based destination forwarding. Simply put, the routers here on campus look at where your information is going; and tell it to use the Abilene network if it can. Of course, the flip side is that anything you send to or receive from non-member sites goes over the commercial Internet, where it might have to deal with creep-and-beep traffic and avoid the Amazon road rage of shoppers headed to the mall.

It's not a separate network

People often think that Internet2 is a separate network designed to eventually replace the current Internet. But it's more accurate to think of the Abilene network as the bus lane on the highway — regular traffic is kept out to make room for high-occupancy vehicles. It's also unlikely that Abilene will eventually be opened up to commercial traffic the way the NSFNet was. Instead, technologies developed on Abilene and other Internet2 networks will eventually make their way into the commercial sector and be made available to home users.

So the next time you overhear the whispers about Internet2 being the private peer-to-peer network the shadow government uses to swap bootlegged DVDs, just nod your head and bite your tongue. You know better, but *they* are listening. *Shhh.*

■ Joshua Welsh, Networking and Telecommunications Services

Using the myU Portal

Each month, Digital Media Center (DMC) consultants publish information on our web site about a current educational technology issue discussed at sessions of the Technology-Enhanced Learning (TEL) Seminar Series, in our classes, or at our program or project meetings.

Imagine you are a first-year student moving into your dorm room at the University, and your resident assistant tells you to put your boxes and suitcases back in your car, because everything that you need is already in your room.

When you get to your room the furniture is already there, bolted to the floor. All of the clothes you are supposed to wear are in the closet (size medium, although you are wear a small). The walls are covered with athletic posters (although you aren't very interested in sports). A hidden stereo is playing pop music (but you prefer jazz or silence when you are studying). You come to realize that all of the dorm rooms are exactly the same as yours. Some committee decided to do you a favor and tell you how you will live, what you will see, and who you will be, and there are no choices left for you to make.

Traditional web sites

A traditional web site offers a similar experience. It presents the same content to everyone, regardless of who you are or what you want to see. But a portal web site gives you the power to make choices for yourself. You can use powerful tools to create customized content, select news channels, and join online discussions that interest you. With a portal, different organizations also can present customized information to different groups of people to help them succeed in their work or studies. As a result, no two portal views are exactly alike. They are personalized by the publisher and customized by members to meet specific needs.

Features of the myU Portal

The University of Minnesota publishes a public portal called myU, available at <http://myu.umn.edu>.

University students and faculty and staff members can sign in to it with their University Internet IDs and passwords, and members of the public can create guest accounts. When logged in, they can use the portal to organize and navigate through the 1.6 million pages of electronic resources available from the University. They also can get personalized information, interact with friends and colleagues, and create and distribute dynamic web content.

The portal offers four key features:

- It is secure.
- It is personalized.
- Members can control their own level of privacy.
- Members can customize many of the items that they see.

For example, people who sign in can utilize the portal's powerful web page development toolkit to easily create and publish bulletin board discussions, interactive forms, instant polls, shared calendars, and many other kinds of web-based materials and interactions. They also can view and interact with the materials and interactions created by others in the community, as well as view a variety of news channels from around the world. In addition, users of myU can access important information from dozens of databases around the University in one convenient location.

March 2 seminar

At the next TEL seminar, moderator Scott Wilson-Barnard, DMC/OSVPP, and the panelists below will discuss how they have used the portal as an intranet for extension educators, to build community for the class of 2008, to deliver programming in greater Minnesota, and to support faculty teaching and research.

Panelists:

- Andy Howe, Orientation and First-Year Programs
- Rae Montgomery, UM Extension Community Vitality
- Bob Rubinyi, UM Extension Community and Educational Technical Services
- Matt Sumera, University Relations/OSVPP

Please join the discussion:

March 2, 2005, noon to 1:30 p.m.
 402 Walter Library, East Bank,
 Twin Cities campus

Bibliography

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First year student's view of myU

The screenshot shows the myU website interface with the following sections:

- Navigation:** myU Home, my News, my Toolkit, Message Boards
- MY SERVICES:** E-MAIL, OFYP, IDEA, ANNOUNCEMENTS
- HEADLINE:** My resolutions:
 - *Attend Jan. 27th Will Keim event
 - *Join an intramural team
 - *Apply to be a New Student Weekend Leader
 - *Seek out service-learning options
- MY COLLEGE:** The College of Agricultural, Food and Environmental Sciences. Knowledge for a changing world. The College of Agricultural, Food & Environmental Sciences welcomes you to the U. Below are a few links that you might find useful:
 - [Career Planning](#)
 - [New First-year Students](#)
 - [The New Student FAQ](#)
 - [Student Life](#)
 - [Scholarships, Honors & UROP](#)
 - [The Student News](#)
- CAMPUS LIFE:**
 - [Campus maps](#)
 - [Career Services](#)
 - [Computing Help](#)
 - [Dining services](#)
 - [Employment](#)
 - [Financial aid](#)
 - [Health services](#)
 - [International Students](#)
 - [First-Year Programs](#)
 - [Multicultural offices](#)
 - [On-campus housing](#)
- END OF SEMESTER:** Bookstore
- OPPORTUNITIES:** RideShare
- myHOUSING:** Specific information on events, housing news, ...

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- Zazelenchuk, Todd W., and Elizabeth Boling. "Considering User Satisfaction in Designing Web-Based Portals." *Educause Quarterly* 1 (2003): 35–40. <http://www.educause.edu/ir/library/pdf/eqm0315.pdf>.

Campus resources

The following may help you use the myU portal for teaching and learning.

- See our "Using the myU Portal" Spotlight Issues page a few weeks after the seminar for a Breeze audio of the discussion: <http://dmc.umn.edu/spotlight/myu.shtml>.
- Meet with our consultants to discuss how to teach with the portal. See <http://dmc.umn.edu/consultations/>.
- Learn more about the myU portal in University Technology Training Center short courses: Portal Orientation and the Portal Staff and Faculty Workshop. See <http://uttc.umn.edu/training/courses/alphabetical.jsp#P>.
- See Scott Wilson-Barnard's documents on the portal for more information about how to use it, especially for teaching and learning, at <https://www.myu.umn.edu/metadot/index.pl?iid=375612&isa=Category>.

■ Scott Wilson-Barnard, DMC/OSVPP and Christina Goodland, Digital Media Center

Extension educator's view of myU

myU Home	my News	my Toolkit	Message Boards						
<p>Home > Extension</p> <p>Help Message Boards</p> <hr/> <p style="text-align: center;">UNIVERSITY OF MINNESOTA Extension SERVICE</p> <hr/> <p>Quick Links: Extension Public Site Staff Directory Master Calendar Distribution Center Catalog Extension Financial Forms Extension Policies Extension Weekly Manage Your Internet Account Your Pay and Benefits</p> <hr/> <p>What's Inside Capacity Areas & Program Resources Dean's Office & Internal Communications</p>	<p>Preview front page content below:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;">Capacity Areas & Program Resources</td> <td style="text-align: center; padding: 5px;">Dean's Office & Internal Communication</td> <td style="text-align: center; padding: 5px;">External Relations</td> </tr> <tr> <td style="padding: 5px;"> <p>CA/Prog Home Page</p> <p>NEW! Federal Reports Due Feb 4, 2005 - find out more</p> <p>NEW! Resources and Programs for Minnesota Brochure</p> <p>Planning a new program? Check this out</p> </td> <td style="padding: 5px;"> <p>Dean's Home Page</p> <p>NEW! Martin Luther King, Jr. Holiday Read Dean Casey's Message to Extension</p> <p>Extension 2004-05 Compact Final Version January 2005</p> <p>2005 Administrative Meetings View meeting schedule for Dean's Cabinet, ELC, CAL & DFO Meetings</p> </td> <td style="padding: 5px;"> <p>ER Home Page</p> <p>Library of News Articles and MP3s Click here to check out the library</p> <p>Order forms Find order forms for letterhead, business cards, etc. at this site</p> <p>Wordmark and Partnership Graphics Downloadable Extension wordmark can be found here</p> </td> </tr> </table>			Capacity Areas & Program Resources	Dean's Office & Internal Communication	External Relations	<p>CA/Prog Home Page</p> <p>NEW! Federal Reports Due Feb 4, 2005 - find out more</p> <p>NEW! Resources and Programs for Minnesota Brochure</p> <p>Planning a new program? Check this out</p>	<p>Dean's Home Page</p> <p>NEW! Martin Luther King, Jr. Holiday Read Dean Casey's Message to Extension</p> <p>Extension 2004-05 Compact Final Version January 2005</p> <p>2005 Administrative Meetings View meeting schedule for Dean's Cabinet, ELC, CAL & DFO Meetings</p>	<p>ER Home Page</p> <p>Library of News Articles and MP3s Click here to check out the library</p> <p>Order forms Find order forms for letterhead, business cards, etc. at this site</p> <p>Wordmark and Partnership Graphics Downloadable Extension wordmark can be found here</p>
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<p>Finance & Planning</p> <hr/> <p>Fin/Plan Home Page</p> <p>NEW! 2005 Mileage Allowance Rate Change</p>	<p>Human Resources</p> <hr/> <p>HR Home Page</p> <p>NEW! University Employee New Hire Process</p>	<p>Information & Learning Technology</p> <hr/> <p>ILT Home Page</p> <p>NEW! Extension's New Website</p>							

They know. Who you visited. What you did. Beware spyware.

■ <http://safecomputing.umn.edu/safepactices/spyware.html>

Privacy is as important in the online world as it is in the real world. Just as you'd like to know if someone were sitting in your living room recording what television shows you were watching, you have a right to know what information is being collected on you electronically.

Programs installed on your computer that collect information about you are called spyware or adware. Most often, the information being recorded is details on your buying or web browsing habits. Generally, sharing this information is not dangerous but is a violation of your privacy, unless you have consented. Spyware and adware can do much more invasive things, however. More malicious programs can record what you type, can look for information on your hard drive, give away your e-mail address, or read encrypted communications.

The bottom line is that it's hard for you to verify if a piece of spyware is as benign as it claims. Often, it is difficult to understand from the license agreement exactly what information they are collecting. For example, Marketscore is a program that offers to speed up your web browsing in return for your permission to monitor the sites you visit. It doesn't make clear that its method of monitoring the sites you visit allows it to read encrypted communications with secure websites, such as your bank's website or OneStop.

Marketscore proxy software is of high concern because it installs a certificate in the web browser that allows outside access to encrypted data, such as passwords and other secure transactions, a breach of University security.

What is spyware?

Spyware, also called adware, is a name used for programs that collect information on you or your computer. These programs do a variety of things. Some simply sit in the background while they collect data and send this information to marketing companies. It is also common for spyware to display unwanted pop-up ads on your computer. Other types of spyware will redirect your web browser to unwanted web sites or add toolbars and icons to your web browser.

Spyware is often bundled with free programs, such as file-sharing programs or programs that offer services to display weather information in your toolbar. The program may even tell you what information it is collecting and how the information is being used when you install it.

For more information on Marketscore, read OIT Security's article here: <http://www.umn.edu/oit/security/marketscore.html>.

How can I avoid getting spyware?

Be careful what software you install on your computer. This includes free screensavers, weather bugs, games, and file-sharing programs. Do not download software from websites you don't trust. If you have questions about whether or not to trust a website, ask for help. For department computers, ask the technical people in your department, or call 1-HELP if they are not available. For personal computers and students, call 1-HELP.

Do not click on links inside pop-up windows or ads, including buttons that say 'Close'. Even ads that offer anti-spyware products may install spyware.

While most spyware requires you to download or click something before it can be installed, some programs take advantage of security holes in the software on your computer. Keep all software updated with the latest patches available from the vendor.

The Firefox web browser is a good alternative to Internet Explorer. If you must use Internet Explorer, follow the directions from CERT to adjust your browser preferences to limit pop-ups and cookies.

- Cyber Security Tip ST04-016 from the U.S. Computer Emergency Readiness Team (CERT): <http://www.us-cert.gov/cas/tips/ST04-016.html>
- Firefox: <http://www.mozilla.org/products/firefox/>

Using a personal firewall can also help. A firewall is a program that watches how your computer connects to the Internet and what other computers are trying to connect to your computer. One may be installed by default with your system; Mac OS X and Windows XP come with a built-in firewall. Commercial and non-commercial products are also available.

How do I know if I have spyware on my computer?

Common symptoms of spyware are: a computer running slowly, a barrage of pop-up ads, new toolbars or icons in your web browser, your web browser visiting sites you didn't select, or changes in the homepage you set in your browser. Even if you haven't noticed any of these symptoms, it is a good idea to scan your computer for spyware on a regular basis.

There are a number of tools that can be used to scan your computer for spyware. Products like Ad-Aware,

released by Lavasoft, have a version that is free for personal use. SpyBot Search & Destroy is another available product. For Macintosh computers, a product called MacScan is available. As with all software,

Do not click on links inside pop-up windows or ads, including buttons that say 'Close'. Even ads that offer anti-spyware products may install spyware.

download only from trusted sites. Northwestern University also has a useful website.

- Ad-Aware: <http://www.lavasoftusa.com/>
- SpyBot Search & Destroy: <http://www.safer-networking.org/en/index.html>
- MacScan (at press time download was disabled while a new version is being enabled): <http://macscan.securemac.com/about.html>
- Spyware Prevention & Treatment <http://www.it.northwestern.edu/security/spyware/index.html>

What should I do if I have spyware on my computer?

The products mentioned above that scan for spyware will also remove as much as they can. Some spyware programs install themselves so deeply that removing them will prevent your computer from accessing the Internet. If this happens or there is a piece of spyware that you can't remove from your personal computer, call 1-HELP. If you have technical people within your department, call them before calling 1-HELP.

■ Vidya Neni, Larry Tierney, N. Alex Rupp, and other 1-HELP staff

Visit safecomputing.umn.edu/

