

Essentials

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CSS Mission

To provide a secure, reliable, and innovative computer environment that facilitates, supports and enhances the mission of the College of Engineering.

Hours

Elder and Hering computer labs are open 24 hours/day, 7 days/week except for cleaning. With an access card, you can enter the building and the labs after the Seamans Center closes.

Consulting, 1253 SC, M-Th 8am-9pm; F 8am-5pm; Sun 2-9pm

CSS Main Office, 1256 SC, M-F 8am-noon; 1-5pm

Additional Computer Lab

The Engineering Student Council noticed that the Elder and Hering labs were getting more crowded earlier in the semester and requested additional computer lab space. That is what is being built in 2301 SC. See construction photos below if you cannot visit 2301 in person.

Go to 2301 SC

Soon there will be another computer lab open for students. The new 2nd floor computer lab in 2301 SC will open with about 20 Windows computers and Linux workstations and one laser printer. Over time 18 more Windows computers and 2 more single-user Linux workstations will be added (1/4 Linux, 3/4 Windows), for an additional 40 computers.

The doors to the 2301 lab will be magnetically held open during the day. To get into the lab at night, students will use their access card, which will have 2301 added automatically as soon as the lab is open.

Over spring break, a window like those in the east walls of the Elder lab, was installed in the west wall of 2301, looking out to the 100 hallway. CSS and the Electronics Shop staff assembled the tables and monitor arms during that week as well. Chairs were delivered soon after. Putting the lab together required mounting the monitor arms on the tables, mounting the monitor on the arms, configuring the security system and cameras, and loading software on the computers.

The Engineering Student Council noticed that the Elder and Hering lab were filling up earlier in the semester than previously. They asked if another lab could be opened some place in the Seamans Center. This new lab is the result of that request.



Engin & Vista

New Environment

As announced in the December 2008 *Essentials*, CSS is preparing to launch a new Windows computing environment which includes a switch from Windows XP to Vista. Some of the changes will be obvious – a new OS – and some subtle – a new domain called “engin”. From a CSS-administered machine, you will likely not see “ENGIN” except when you login or when you have to know your computer’s name.

The Scope of Engin

Windows computers in the 1245, Elder, and Hering labs will move to **engin** and get Vista beginning 18 May. Windows computers that are administered for the Engineering College by CSS will be moved to the new **engin** domain beginning with the 24 May regular Sunday reboots. Self-administered computers will remain in the ECN domain and will have the option of joining the **engin** domain. Part of the work of creating the new domain is creating new containers so that CSS can refine what services are delivered to each machine and when they are delivered.

One of the benefits of **engin** is that files stored in shares will now have previous versions. Previous versions of documents have been available for home directory files since last summer (see article in August 08 *Essentials*). Previous version means that, in many cases, you don’t need to ask CSS to restore an older version of a file. This file access becomes available to shared files because all the shares will be moved to the NetApp file storage system as part of the new environment.

Why Vista

The Vista operating system provides an opportunity for a more secure computing environment. Microsoft no longer supports Windows XP and software developers have been putting their energies into Vista programs. ITS has already deployed Vista in the ITCs across campus. New computers come with Vista, not XP. You can use the power management options to put your computer to sleep when not using it. So there are plenty of reasons to move to Vista.

Vista has a different look than Windows XP, but it is quite similar to the look of the Office 2007 applications that have been running here since June 2007.

There are many on-line resources to help you use Vista as soon as it arrives. Of course Microsoft has lots of documentation. Look at [Getting Started with Vista](#), especially the information on [personalizing your desktop](#). [Working with Files and Folders](#) illustrates and describes file management, how to understand the file folder window, and more. See also Da Costa’s excellent [Vista Quick Start Guide](#).

Questions? Concerns? Help?

If you have questions about engin or Vista, start by asking the consultant in 1253 SC, or calling them at 335-5055.

/Diana Harris



Essentials is a publication of [Computer Systems Support \(CSS\)](#) in the College of Engineering at the University of Iowa. *Essentials* is published during the year whenever there is sufficient news to report to the user community.

Back issues of *Essentials* are [on-line](#).

Quota Reminder

In December 2008, CSS increased home directory quotas.

Students - 3.5GB

Faculty/staff - 7GB



UI Wireless in the Seamans Center

The new (to the Seamans Center) UI wireless server has been in place since early March and is working well. ITS was very supportive and did a great job installing the wireless service. They pulled in over five miles of new network cable and installed 66 wireless access points (APs) that cover the entire Seamans Center building. Each access point cost \$1,600 to install. ITS paid for 21 of the access points that covered general student areas and the College paid for the remaining 45. ITS will pay for the cost of support including annual maintenance and hardware upgrades. The wireless access points are from [Meru networks](#).

How the APs Work

[Editor's note: This is the technical part of the article. If you read it, I'm sure you can imagine how much Doug's inner engineer was delighted to learn about how these APs work.]

The Meru wireless network uses a central controller to manage a large set of thinly provisioned APs. There are two types of these access point radios in the Seamans Center. Where there was a 2' X 2' ceiling grid you will see them in the halls replacing the normal tile. They have two antennas on the bottom of the AP. The other type is mounted on the walls in classrooms and halls that did not have a ceiling grid. These have the dual antennas inside the case. In both housings the antennas are vertical, which direct most energy in a horizontal pattern. The Meru APs use the two antennas in each AP to shape the energy pattern of the wireless signal to improve communication with your detected wireless device.

All of the APs in the Seamans Center are set to use the same wireless channel. The central controller via the AP tracks your device as you move past the AP. It identifies your wireless device by its [MAC \(Media Access Control\) address](#) and sets up the multiple APs such that only one AP at a time is seen as available to your wireless device. Thus even though there are 66 APs in the Seamans Center, you will only ever see one virtual AP offering UIWireless-wpa2 service. When your wireless device connects to a Meru AP it uses the MAC address of the AP to address the network packets. As your wireless device moves away from one AP and closer to another, the central controller tells the second AP to pick up the communications link to your wireless device. Not only that but the central controller passes the Meru MAC address that your wireless device first used to connect to the first Meru AP to the second AP so that your wireless device does not have to reestablish the entire connection.

The Meru APs in the Seamans Center are all on the same subnet and you also maintain your assigned IP address as you move through the building. If, however, you were to move to



What is left of engr-wireless: unplugged APs

a different Meru antenna set on campus it would also maintain your IP address. In effect the entire Meru wireless campus network presents itself to your wireless device as one large single virtual access point.

A final note: the new APs use less energy than the older ones. They go into a low power state when they are not connecting a device and because there are more APs — 66 now — each needs to use less power until a device connects through it.

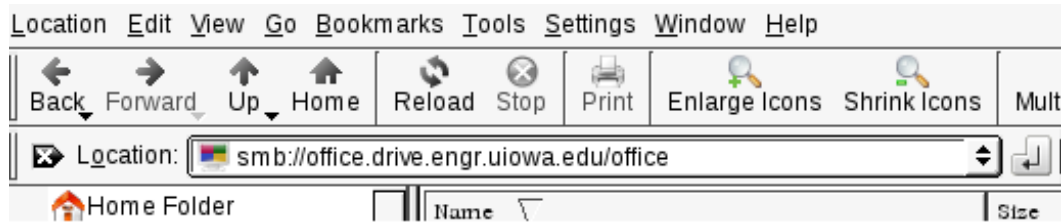
Need Help with UI Wireless?

Support for the wireless network is now provided by the ITS help desk, across the street from the Seamans Center in UCC.

/Doug Eltoft

Map Drive in Linux

Although there is no button on the toolbar in Konqueror (Linux) to map a drive, there is a way to do that task. Using Konqueror, start by opening the file browser. In the location box, use the samba (smb) interface as shown below.



When you map a network drive, use this form:

smb://**name**.drive.engr.uiowa.edu/**name**

where **name** is your login ID or share name.

If you are then prompted to authorize your connection, enter your engineering account ID (Username) and password.

After you have correctly named the share and authenticated, you will have access to files in the named share.

Changes to Linux Workstations in Labs

In Labs and Available Remotely

Because of a request by the Engineering Student Council, CSS replaced the 16 Linux workstations in the Elder and Hering labs with single-user Linux machines. To emphasize that those workstations can be used only by the person sitting at and logged into the machine in the lab, we named them L-LNX-100 through L-LNX-115. The /var/tmp directory is available locally on each machine. Because there is no remote login for L-LNX-100--015 via ssh, if you store files in /var/tmp, you must sit at the same computer to use files stored there. Alternatively you can put files you want access to from any other computer in your home directory.

Also during spring break the Linux workstations in the Elder and Hering labs were moved to the CSS machine room. They continue to be multi-user machines available via ssh, and they are named L-LNX-000 through L-LNX-015. You can ssh to the specific machine you want to use, perhaps because you have stored files in /var/tmp. Because no one can actually sit in front of those machines, the USB drives and CD/DVD drives are not available.

Help

If you have questions about using the Linux workstations, come to the consulting office, 1253 SC. You can connect to a Linux environment from a Windows workstation using NOMACHINE.

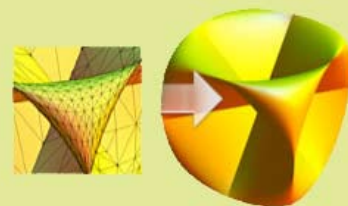
Hands-on Start to Mathematica

Part 2 Now Available

Wolfram, the Mathematica people, wrote: The most popular video for education has been our “Hands-On Start to Mathematica.” The response has been so good that we have put together another video based on the topics you requested most that were not covered in Part 1. These two videos work together to get students up to speed in less than one lecture.

View “[Hands-on Start to Mathematica--Part 2](#)”.

Just in case you haven't seen Part 1, you can watch the original “[Hands-on Start to Mathematica](#)”.



Power Down

What Can You Do?



The UI is participating in the [Power Down for the Planet](http://www.powerdownfortheplanet.org/) campaign and urged all employees and students to pledge to be active participants. The

effort to get people to pledge to Power Down resulted in the UI having the most pledges by participating universities, and being third based on percentage of campus pledged. Those 6,013 pledges could result in saving over \$157,000 per year and nearly 1/5 million kilowatt hours per year. (For details about the UI pledges, see <http://www.powerdownfortheplanet.org/our-impacts/iowa/>).

For some, turning off our computers when not sitting at the keyboard is not reasonable. If your computer is off: 1) you cannot use remote desktop to login to your office computer; 2) operating system patches cannot be installed; 3) new Symantec anti-virus files cannot be installed and scans done. In addition, if you turn off your computer at the end of the week, when you turn it on again the next work day, it can take as long as hours for all the deferred patching and scanning to be accomplished.

But there are things you can do that will not interfere with your normal computing life.

- Turn off the monitor when you leave for the day.
- Log out at the end of the day so that any patches CSS might need to apply to your computer can be accomplished when you are not using the computer.
- Turn off your computer if you won't be using it for several days.

Saving Power Now and Soon

However, CSS is working on making services available that will allow you to sleep or hibernate your computer, thus saving energy. In the next issue there will be an article about the Connect2 VPN, use of which will allow you to turn off your computer at the end of the day and use Connect2 to your home directory and share files.

The power options in Vista will allow you to safely put your computer in sleep mode when you are not using it. Microsoft Vista will be installed on CSS-managed Windows computers in late May.



NOMACHINE at Home

Download and Go

Save some time. If you want to connect from home to a Linux machine on the Engineering Computer Network, install NOMACHINE on your home computer. Details on downloading, installing, and running NOMACHINE are on the CSS web site at <http://css.engineering.uiowa.edu/tools/etudes/linux-nomachine.php>

Start by going to nomachine.com/download.php to download the appropriate version. Then following the information on the web page noted above to install.

Once installed on your home computer, rather than using Remote Desktop to connect to the computer in your office or lab and then starting NOMACHINE, you can start NOMACHINE directly from your computer.

New Email Quotas

At the end of the spring 2009 semester, CSS will increase email quotas.

Students will have 500MB (from 120MB)

Staff/Faculty will have 1GB (from 500MB)