

```
#ifdef __KERNEL__
extern unsigned long simple_strtoul(const char *,char **,unsi
extern long simple_strtol(const char *,char **,unsigned int);
extern unsigned long simple_strtoul(const char *,char **,unsi
extern long simple_strtoul(const char *,char **,unsi
extern int sprintf(char *buf, const char *fmt, ...);
#endif /* __KERNEL__ */
```

# The Kernel

Vol. 2, Issue 07 [http://www.rose-hulman.edu/TSC/publications/the\\_kernel/](http://www.rose-hulman.edu/TSC/publications/the_kernel/)

May 2003

## Info for Graduating Seniors

Graduating seniors' accounts are scheduled to be deactivated on July 7<sup>th</sup>, 2003. At that time, access to those accounts, including email, web pages, and other data on AFS, will be disabled. These accounts will be removed and all data deleted after the beginning of classes in the fall. Graduating seniors need to copy their data off AFS and remove web pages before that date. After the account is disabled, web pages will still be publicly viewable until the data is deleted.

Extensions for seniors still looking for a job will be granted on a case by case basis. Account extensions will have to be renewed every two months by calling the Help Desk; otherwise they will be automatically disabled. If you are a senior who will not be graduating this spring, you should contact the Help Desk to ensure your account is not disabled. Graduating graduate students will have their accounts disabled a reasonable time after graduation.

Graduating seniors also need to sign the Microsoft license agreement for the Microsoft software on their laptops, including the OS, Office, and Visual Studio. This license will allow you to continue to use the Microsoft software on your laptop after graduation. IAIT recommends purchasing the media at the bookstore before graduation so that you have access to it after graduation. You can find a copy of the form at [http://www.rose-hulman.edu/TSC/about\\_iait/licenses/mslicense.pdf](http://www.rose-hulman.edu/TSC/about_iait/licenses/mslicense.pdf). Fill out the top of the form, sign it, and bring it to the Help Desk.

Maple and Working Model are purchased on a per-student basis and both are yours to keep after graduation. You do not need to do anything to keep using this software.

All other software is licensed for campus use only and should be removed from your laptop before graduation. This includes, but is not limited to, McAfee, SecureCRT, SecureFx, WinRAR, the VPN client, and AutoCAD. Software that uses a license server, including Matlab and Ansys, should be removed because once your account is disabled you

### Also in this Issue:

- Summer Access Reminders
- New Laptop Selected
- Wireless Security Reminder
- HP Mobility Grant
- IAIT Summer Upgrade Plans
- Laptop Battery Tips
- Selecting Memory for Laptops
- Laptop Maintenance Tips
- Using Wake with the CS AFS Cell

will no longer be able to access the license server necessary for that software to operate.

Graduating seniors' laptops will not be serviced after graduation. Laptops for 5<sup>th</sup> year seniors will still be serviced, but major repairs will be limited by available parts.

## Help Desk Summer Hours

The Help Desk is open all summer long between the hours of 8AM and 5PM Monday through Friday. The Help Desk will be closed on May 26 for Memorial Day and July 4<sup>th</sup>.

Because Memorial Day falls during finals week, the Help Desk will not be open on that Monday. If you need your laptop serviced before the start of finals on Tuesday, you must bring it to the Help Desk no later than 2PM on Friday the 23<sup>rd</sup>. This is to ensure that service can be completed and the laptop returned before 5PM.

All summer work on laptops for students will be conducted on a time available basis beginning in June. Students should call the Help Desk in advance to check for an available time to have their machine serviced. If you will be away from the Terre Haute area for the summer and need a major repair, contact the Help Desk. IAIT will not be storing student laptops for the summer.

## Summer Access Reminders

With summer fast approaching, many people will want to access services while away from campus. Email and other services can be accessed from off-campus by following the instructions below.

In order to use an email client from off campus during the summer, you will need to ensure that your client is set up to use a secure connection. Instructions can be found at <http://www.rose-hulman.edu/TSC/services/email/>. Furthermore, IAIT will be disabling the POP and IMAP services on email.rose-hulman.edu this summer. If you have not yet moved to im-server.rose-hulman.edu, it is highly recommended that you do so before leaving for the summer. Instructions for changing your email account setup in both Netscape and Outlook can be found at [http://www.rose-hulman.edu/TSC/services/email/new\\_email\\_server\\_setup/](http://www.rose-hulman.edu/TSC/services/email/new_email_server_setup/).

The Webmail service can also be used to access your email and does not require additional configuration. You can access Webmail at <https://webmail.rose-hulman.edu/>.

The email vacation program can be used to automatically reply to email while you are on vacation. Instructions for setting up the email vacation program can be found at [http://www.rose-hulman.edu/TSC/services/email/vacation\\_program/](http://www.rose-hulman.edu/TSC/services/email/vacation_program/).

The Rose-Hulman VPN can be used to access services that are only available to on-campus users from off-campus. This includes MATLAB, AFS, Tibia, and Banner. In order to use the VPN, the client must be downloaded and installed. Instructions can be found at <https://dna.rose-hulman.edu/vpn/>.

## New Laptop Selected

The laptop for next year's freshman class has been selected. The new laptop, a Compaq Evo N800w, is similar to last year's laptop.

- Intel Mobile Pentium 4, 2.2GHz
- ATI Mobility Fire GL 9000, 64MB DDR
- 15 inch UXGA (1600x1400) display
- 512MB 266MHz DDR memory standard, maximum 2GB in 2 SODIMM sockets
- 60GB 5400 RPM Smart Hard Drive
- 8x/8x/24x CD-RW/DVD-ROM Combo Drive
- Modem, 10/100 NIC, Multiport 802.11b
- USB 2.0, S-Video, 1 Type II Cardbus socket
- Premier Sound, Stereo Speakers, Microphone
- Full Size Keyboard
- Touch Pad with 4-way scroll

## Wireless Security Reminder

Recent data has shown that very few users use the VPN client when using network services from a wireless device. IAIT highly recommends that you do so. Wireless security is notoriously vulnerable to attack and any passwords that traverse the wireless network without the encryption the VPN provides can be captured and used to compromise other services. Instructions for installing and using the VPN client can be found at <https://dna.rose-hulman.edu/vpn/>.

## HP Mobility Grant

Rose-Hulman has been awarded a \$200,000 grant from HP for the purchase of 70 TC1000 Tablet PCs and 85 iPAQ 5450 Pocket PCs. HP will also provide \$20,500 for implementing the educational programs and travel to an HP grant forum, one HP digital camera, consulting expertise, and increased direct contact with HP employees.

The grant is one of the 20 Applied Mobile Technology Solutions in Learning Environments grants awarded to universities nation-wide this year. This grant is in addition to the 32 iPAQs that were donated to Rose-Hulman and distributed to faculty members last fall.

The goal of the project is to stimulate professor/student interaction in the classroom and lab. Software written for the iPAQ such as Wake Forest University's ClassInHand software (See: <http://classinhand.wfu.edu/>) will likely be used in the project. These devices will be distributed to students for their use during class starting in Fall 2003.

## IAIT Summer Upgrade Plans

IAIT will be reengineering the web services architecture this summer. The current single server architecture will be replaced with 2 or more separate servers: a server dedicated to Rose-Hulman "corporate" pages, and another server dedicated to Rose-Hulman student and faculty pages.

IAIT will also be moving the POP and IMAP services off email.rose-hulman.edu to im-server.rose-hulman.edu. If you will not be on-campus this summer, you should migrate to im-server before you leave for the summer. Instructions for changing your email account setup in both Netscape and Outlook can be found at [http://www.rose-hulman.edu/TSC/services/email/new\\_email\\_server\\_setup/](http://www.rose-hulman.edu/TSC/services/email/new_email_server_setup/). In addition, the current IMHO WebMail service will likely be

replaced with SquirrelMail WebMail service (See: <http://www.squirrelmail.org/>). SquirrelMail is a more robust and functional webmail service.

Finally, IAIT expects to have all students added to the CorporateTime Calendar service by the time students return in the fall. This will allow students to easily schedule meetings and other activities with other students and faculty members.

## Laptop Battery Tips

Many students have been frustrated with their laptop's battery life. Some simple rules can be followed to optimize battery life. Turn off wireless Ethernet when not in use. Remove unused PC cards and USB devices. Do not watch DVDs or play graphics-heavy games when running off the battery. These activities consume a great amount of energy. Also, close all programs that you are not using. All running programs and devices, even when they are idle, use some amount of energy.

The amount of energy needed to power the LCD display can be reduced by turning down the LCD brightness and setting screen blanking to one to two minutes. Use the built-in power management. This will reduce the energy usage of your laptop by turning off the display and hard drive when they are not in use.

Increasing the amount of RAM can cut down on power usage by reducing the need for virtual memory. Virtual memory uses a portion of the hard drive as memory. Since accessing the hard drive is more power intensive than accessing RAM, reducing reliance on the hard drive will save power.

Fully drain, and then recharge the lithium ion batteries every few months. Batteries have sensors that remember how much energy is stored into them. Following this rule will help the battery sensors to stay as closely calibrated as possible. Also, when your laptop is on for more than twenty-four hours, the battery life will slowly decrease just by having the battery in with the laptop on and plugged in. If you plan on leaving the laptop on for more than twenty-four hours, take out the battery. Additionally, do not run your laptop off the battery for only ten or fifteen minutes at a time. By using the laptop battery for short spans of time, the battery's sensors will become miss-calibrated resulting in a reduction of battery life.

Following these tips does not guarantee your battery will last forever; however, following them will lengthen the life of your laptop's battery.

## Selecting Memory for Laptops

If you have decided to add more RAM to your laptop, you will need to know what type of RAM to buy and from where to buy it. IAIT recommends purchasing memory from Crucial Technology (<http://www.crucial.com/>). The list of manufacturers on the main page will not contain Acer. Click on "More RAM" to open a page with a list of manufacturers that contains Acer. Here is the model information for each of the laptops:

- Compaq Evo N800c – PC2100 DDR 200-pin SODIMM. Max 1 GB (2 x 512MB).
- Acer Travelmate 730 Series – PC100 144-pin SODIMM. Max 512MB (2 x 256MB).
- Acer Travelmate 721TX – PC66 144-pin SODIMM. Max 256 MB (2 x 128MB).

The base Compaq Evo N800c model came with 1 256MB SODIMM. Therefore an additional 128MB, 256MB, or 512MB SODIMM can be added without replacing the existing RAM.

The base Acer Travelmate 739TLV and 736TLV came with 1 128MB SODIMM. Therefore an additional 128MB or 256MB SODIMM can be added without replacing the existing RAM.

The base Acer Travelmate 721TX came with 1 64MB SODIMM. Therefore an additional 64MB or 128MB SODIMM can be added without replacing the existing RAM.

If your laptop was purchased with more RAM than the base model, then you will have to replace one of the two existing SODIMMs to upgrade.

If you do not know what the current memory configuration for your laptop is, bring it to the Help Desk and they will explain your upgrade options.

When you purchase memory for your laptop, bring it to the Help Desk and Laptop Services will install it in your laptop and test it.

## Laptop Maintenance Tips

Several simple maintenance activities for your laptop can be performed while you are away from campus to keep your laptop in good working order.

To clean the screen, use Windex. First, turn off the laptop. Spray a light layer of Windex onto a standard paper towel. Wipe the screen. Make sure the screen is dry before turning the laptop back on. This can also be used to clean the touchpad.

To clean the keyboard, use canned air. First, turn off the laptop. Hold can upright and spray in between keys. This will keep dirt out of the system.

If the power light does not come on when power button is pushed, remove the battery and unplug the AC Adapter from the laptop. Reinsert the battery and plug in the AC Adapter (Note: If this is a persistent problem the laptop should be brought to the Help Desk for testing).

To keep from damaging the hard drive, do not move the laptop while it is on. After the laptop has powered down, wait five to ten seconds before moving the laptop.

Do not wrap cords tightly around themselves or the AC adapter. This causes damage to the wiring. Also, use care when plugging and unplugging the AC adapter. Do not pull on the wire to unplug the AC adapter. Firmly grasp the connector itself when plugging and unplugging cord from laptop. Follow these guidelines for your network cable as well.

Excessive strain on the USB port will cause the solder joints to fail. Make sure the cords are not applying pressure on the connector or USB port.

Place your laptop on a hard flat surface to prevent overheating.

## Using Wake with the CS AFS cell

Many students have asked the Help Desk how to access the CS AFS cell using Wake. Mapping a drive to your home directory on the CS cell requires a few simple steps. Please note that not all students have an account with the CSSE Department. These instructions only apply to students and faculty who have accounts with the CSSE Department. If you would like an account with the CSSE Department, please contact the department secretary, Lynn Degler.

First, you need to add the list of CS AFS servers to your computer. Login as localmgr and make sure that Wake is not running. Next, open the Control Panel. Double click on the icon labeled "AFS Client Configuration" to bring up the AFS client configuration panel. In the AFS client configuration panel click on the AFS cell tab to bring up a list of AFS servers your client is configured for. Click the add button which is located towards the bottom of the AFS cell tab. In the AFS cell text box type `cs.rose-hulman.edu` and click on the add button located under the server name box. Enter the CS AFS server

name (`galaxy.cs.rose-hulman.edu`) and make sure the look up address automatically radial button is clicked. Click OK and exit the AFS Client Configuration interface.

The next step is to obtain an AFS token for the CS AFS cell. There are two ways to do this. They can be used interchangeably, but one of them must be done before you can access the CS AFS cell. The easiest, in the long run, is to create a shortcut which allows you to login to the CS AFS cell much like the current Wake icon allows you to login to the Rose AFS cell. Locate the current Wake shortcut and copy it (renaming the new copy to CS Wake). Next, right click on the new icon and select properties. Locate the box titled "target" and add the following after the last quotation: `/klog cs.rose-hulman.edu /background` and click OK. When you click this shortcut, you will be prompted for your CS AFS username and password.

The other option is to use a currently running instance of Wake to login to the CS cell. To do this, right click on the Wake system tray icon and select "Login to AFS Directly." Enter your CS username and password into the dialog box. Also, the first time you do this you will need to type `cs.rose-hulman.edu` into the box labeled "AFS Cell."

Now that you have an AFS token for the CS cell you need to map a drive to your CS home directory. Right click on the green system tray icon near the system clock. Select "Map AFS Drives" from the menu that appears. Next, select a drive letter you would like to use for your CS home directory from the drop down list of drive letters. In the next text box type in the name you would like to use (i.e. `cshome`). Next you have to enter the AFS path. The AFS path for your personal AFS space under the CS cell is: `/afs/cs/users/class/username`. Make sure you replace `class` with your class (i.e. `class06`) and `username` with your username.

If you have questions about any information contained in the Kernel, please contact the IAIT Help Desk at [helpdesk@rose-hulman.edu](mailto:helpdesk@rose-hulman.edu) or x8989.