

IS&T

MIT

News about **I**nformation **S**ervices and **T**echnology throughout **MIT**

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Cricket Indoor Location System Provides a Sense of Place

• Robyn Fizz

Knowing where to install an electrical outlet, locating your colleague, or making a move in a virtual reality game may not seem to have much in common. But they are all potential applications for Cricket, an indoor location system being developed by MIT Professor Hari Balakrishnan and his colleagues at the Computer Science and Artificial Intelligence Laboratory (CSAIL). Cricket is a central component of MIT's Project Oxygen, a major research initiative that aims to bring "abundant computation and communication, as pervasive and free as air, naturally into people's lives."

Cricket provides fine-grained location information to applications running on handhelds, laptops, and sensor nodes. This data can range from space identifiers (e.g., room numbers), to position coordinates, to compass-like orientation. Cricket is intended for use indoors or in urban areas where the Global Positioning System (GPS) does not work well.

How Cricket Works

Cricket uses a combination of radio frequency (RF) and ultrasound technologies. Wall- and ceiling-mounted beacons placed throughout a building publish information on an RF channel. With each RF "chirp," the beacon sends

a concurrent ultrasonic pulse. Receivers attached to mobile devices listen for RF signals, and after receiving the first few bits, listen for the corresponding ultrasonic pulse. Cricket calculates distance estimates between handheld devices and nearby beacons by running algorithms based on the difference in propagation speeds between RF (light) and ultrasound (sound). Even in the presence of competing beacons, Cricket quickly achieves good precision – usually within 1 to 5 centimeters.

Cricket, Version 2

From the start of the project in 1999, the design goals for Cricket have included scalability, privacy, low cost, and accurate space detection. Toward that end, the project team released the second major version of Cricket software in July. Substantially more accurate and energy-efficient than the first version, Cricket v2 is now commercially available. Early adopters include research groups at universities, corporations, and hospitals. Balakrishnan says he can no longer keep track of where the next application is coming from. He recently heard of a chemical sensor company that is experimenting with Cricket to help monitor chemical and gas leaks.

Cricket's software – both the code embedded in sensors and the higher-layer software that runs on laptops and handhelds – is open source. It's also flexible, making it easy for others to code location-aware applications.

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CRICKET

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Shining a Light on the Future

Balakrishnan acknowledges that the Cricket project is a risky undertaking, and that right now there is no single “killer app.” But he believes the potential for Cricket is great. Ten years out, he foresees three broad areas of use:

- *Robot and human navigation and discovery.* Cricket could enable teams of robots to navigate the floor of a busy manufacturing plant and perform various tasks. The location system could also help people make their way around large, unfamiliar places. Visitors to MIT could be given handheld devices to help them figure out where they are on campus, and community members who drive to MIT could use Cricket to find empty parking spaces in campus lots.

Seth Teller, a professor in CSAIL, has already demonstrated the potential for a “software flashlight” that could download CAD drawings of a room – say a diagram of the wiring behind a wall – and project it as an overlay on the wall itself. Similarly, Facilities staff could use the flashlight to mark the locations of new electrical outlets in a room, and this information could then be retrieved by a Cricket-savvy electrician.

- *Monitoring and controlling environments through sensor networks.* These applications could range from equipment and environmental monitoring to activating heating, ventilation, and air conditioning (HVAC) systems. Balakrishnan believes the use of location-specific sensors in building infrastructures could become a key use of Cricket technology.

- *Games and entertainment.* As the software gets better at the fast tracking of moving objects, Cricket-based virtual reality games could take off. In these games, physical movements you make in special rooms in the real world appear in a computer-simulated world shared by others, who can make their own moves in response. CSAIL research scientist Larry Rudolph has created a prototype of such a game.

Privacy Concerns

Another potential use of Cricket is to locate people – for example, colleagues in your group. For this to work, you and your colleagues would need to take a Cricket-aware device with you as you move from place to place. Higher level software would let you set up profiles of who gets access to your location and at what times.

Balakrishnan acknowledges that this technology, like any other, has the potential for misuse – especially once

information gets stored in a database. With Cricket, the goal has been to protect privacy by building a passive mobile system, much like GPS, where the beacons are active, while the mobile devices quietly receive information and don’t transmit anything. This is the preferred mode of operation.

However, Cricket’s hardware and software are flexible enough that they can be configured to transmit location information. You would want this capability, for example, to track a robot or to be a player in a virtual reality game.

Ultimately, Balakrishnan feels that privacy is important, but that it’s also an issue defined by many shades of gray. Most people have already demonstrated a willingness to sacrifice some privacy for the sake of convenience or financial gain. How society chooses to deal with technology is as critical as the technology itself.

Zeroing in on Cricket

Cricket has received funding through the MIT Project Oxygen partnership, as well as from the National Science Foundation, Intel Corporation, and Sloan Foundation. To find out more about the project, to view video clips showing it in use, or to download the software or user manual, go to

<http://cricket.csail.mit.edu/> ☉

RiverRat: Making Sailing on the Charles Fun to Watch

While most sailors will tell you that sailing is the most exciting sport they participate in, races can be difficult to watch, especially for untrained spectators. This is because racing occurs half a mile from shore and spectators can’t identify their friends or teammates. Even when races take place close to land, the view that spectators have is highly skewed due to the perspective, making it difficult to identify which boat is leading and which is trailing.

RiverRat, a real-time tracking system being developed by MIT and Wellesley students, hopes to make races on the Charles River more exciting for spectators at the MIT Sailing Pavilion. With funding from iCampus, the joint Microsoft/MIT initiative, the team plans to launch RiverRat during the Schell Regatta on the weekend of October 30.

RiverRat will track up to 30 boats on the Charles, displaying their positions on a screen at the Sailing Pavilion.

Spectators will get a bird’s eye view, as if they were looking down on MIT’s boats.

RiverRat works via waterproof sensors with wireless modems that are attached to the sailboats. These sensors provide GPS data to a computer base station in the Sailing Pavilion. The data is interpreted by software and then displayed on the monitor.

A Few Other Tacks

RiverRat could also prove to be an aid in educating sailors in racing tactics and sailing skills, and in improving boating safety on the Charles. Once the system has been implemented, it may be possible to enhance the software to record and play back sailboat tracks for post-race analysis of strategy and speed. RiverRat may also be able to warn the dock staff of capsized boats or boats in other danger.

To learn more about RiverRat, check out the project page at

<http://web.mit.edu/riverrat/>
or send mail to <river_rat@mit.edu>. ☉

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Community Welcomes IS&T Support for Red Hat Linux

• Bill Cattey

July 8, 2004 marked a long-awaited milestone for MIT Linux advocates: the transition of IS&T's Linux support from "best efforts" and "Athena-only" to the same full support offered for Windows and Macintosh systems. On that day, Help Desk support for Red Hat Enterprise 3, the Red Hat Network update service, and a raft of important applications all went live.

IS&T now offers the community

- Media containing the Red Hat Linux operating system
- Support for key applications and services such as
 - Kerberos configuration
 - LPRng for printing to the MIT printing infrastructure
 - Mozilla for Web browsing
 - Evolution for e-mail
 - TechTime for calendaring
 - OpenOffice for office productivity/word processing
 - OpenAFS for secure, enterprise-wide, networked filesystem support
 - Red Hat Network for software updates
- Documentation on what software is recommended and supported, how to get, install, and use it, and how to work around known issues

IS&T continues to extend its support for Linux and will soon provide

- More documentation for OpenOffice
- A Virtual Private Network client
- Other software, such as VirusScan, as it becomes available for Red Hat Enterprise Linux

Key Features

Red Hat Enterprise Linux 3 has many strengths. It

- Builds on the success of previous Red Hat products, the most widely deployed distribution of Linux
- Reaches beyond the software development niche to become a platform for mainstream users
- Emphasizes reliability and usability
- Is the version of Linux that hardware vendors aim to support

- Includes versions of Mozilla and Evolution that meet MIT requirements
- Includes a version of OpenOffice that is competitive with Microsoft Office for document production

Use in the Community

The newest release of Linux Athena is also based on Red Hat Enterprise 3. There are close to 800 Linux Athena systems on campus. About one quarter of these are in Athena general-use clusters. The rest are owned by individuals or are in use in departments, labs, and centers. IS&T expects that a similar number of non-Athena Linux systems will be running Red Hat Enterprise 3 this year.



redhat.

The Evolution of Support

MIT has participated extensively in the evolution of Linux. Individuals and various departments, labs, and centers have helped develop and refine Linux over the years. In February 2000, MIT took a big step in making Linux more mainstream by deploying it on Athena. Linux Athena, however, could only be part of the solution because Athena prioritizes maintainability, robustness, low cost, and large-scale deployment over customer choice or control.

Although the Athena Release has evolved to permit a wide range of customer choice, and its development team is responsive to requests for enhancements, MIT customers still wanted the ability to start with a vendor's shrink-wrapped product and make it their own through customization.

Back in May 2002, a Discovery team investigating Linux support recommended that IS&T provide support for Linux on the desktop (with an eye to supporting it on laptops). The team envisioned that Linux support would be comparable to that for Windows and the

Mac OS. Although the support structure for these two platforms evolved over many years, Linux support was expected to reach the same level much more quickly. IS&T addressed this issue by leveraging the Athena staff's experience with Linux and customer support, and through the hard work of the Red Hat release teams.

Red Hat Enterprise Linux is not the only Linux distribution used on campus, so some customers want to know why IS&T doesn't provide support for other Linux distributions, such as SuSE and Debian. IS&T tries to respond to customer needs effectively within the constraints of its resources. Ramping up support for stand-alone use of any operating system is a major undertaking.

IS&T worked with many members of the MIT community to determine which Linux distribution to focus on first. These discussions revealed that Red Hat Enterprise 3 was expected to become the version of Linux most widely supported by third-party software vendors, as well as the most widely adopted by customers. Given these trends, IS&T decided to offer comprehensive support for Red Hat Enterprise. Right now, issues from other distributions are addressed on a "best efforts" basis. As demand shifts, and resources allow, IS&T will provide support beyond Red Hat Enterprise.

To find out more about Linux support at MIT, go to

<http://web.mit.edu/ist/topics/linux/>

For a full list of supported Linux applications, see

<http://itinfo.mit.edu/product?platform=Linux>

For a list of Linux software distributed by MIT, visit

<http://web.mit.edu/software/linux.html>

Red Hat Network Update Service

IS&T strongly recommends that Red Hat Enterprise Linux customers use the automated Red Hat Network service to update their workstations regularly. MIT offers free access to the Red Hat Network through an on-campus proxy server. Using the Red Hat up2date tool, users can fetch and install security fixes, system updates, and bug fixes. If you run Red Hat Enterprise Linux, but not the Athena Release, use Red Hat Network to keep your system up2date!

For information on how to set up Red Hat Network, see <http://web.mit.edu/ist/topics/linux/rhn.html>.



IS&T Expands Wireless Network Service on Campus

• Jag Patel

In May 2004, Information Services and Technology (IS&T) began deploying more than 800 new wireless access points to extend the reach of MIT's wireless network and enhance the coverage and connection speeds of the existing wireless network in MIT's main group of buildings. These access points use the 802.11a/b/g wireless network communication standards.

MIT's original wireless network installations focused on classrooms, libraries, and other frequently used common spaces. A number of departments, labs, and centers also maintain independent wireless networks that can be used to connect to MITnet. Many members of the MIT community have requested expanded, higher speed wireless connectivity, and IS&T continues to work with the community to develop a truly wireless campus.

These latest access points will replace older access points and add about 500 new ones. Goals for the project are to

- Provide complete high-speed wireless network coverage in the main group of buildings, 2-13, and in Buildings 16, 18, 56, and 66
- Improve coverage in lounges and common areas in five undergraduate residences: Burton-Conner House, MacGregor House, New House, Random Hall, and 500 Memorial Drive

The new access points support the 802.11b (up to 11 Mbps) and 802.11g (up to 54 Mbps) standards. The classrooms in the main group of buildings also support the 802.11a (up to 54 Mbps) standard. Several manufacturers produce multiple-band wireless cards that simultaneously support the 802.11b and 802.11g standards, or the 802.11a/b/g standards.

Most of the expansion project will be completed by the start of classes this September. At that time, MIT will host one of the largest wireless installations among its peer institutions, with approximately 1500 wireless access points on campus.

You can view wireless coverage of individual MIT buildings by selecting them on the MIT campus map at

<http://whereis.mit.edu/>

For a more detailed listing of specific rooms with coverage information, see

<http://web.mit.edu/network/wireless-locations.html>

If you have questions or suggestions about the wireless expansion project, send them to <unwired@mit.edu>.

Getting Connected

Members of the MIT community who want to connect to the wireless network need an internal or external wireless card in their computing device.



Many laptop and PDA vendors provide wireless technology with their products, or several options for

wireless connectivity. Wireless cards that are Wi-Fi compliant will work on MIT's wireless network; for maximum flexibility and speed, look for multiple-band wireless cards that support the 802.11a/b/g standards. For detailed recommendations for Apple, Linux, and Windows machines, see

<http://web.mit.edu/ist/topics/hardware/wireless.html>

To use the MIT wireless network, the wireless card must be registered for the Dynamic Host Configuration Protocol (DHCP) service. With DHCP, you get a network address automatically, so you don't need to reconfigure your computer as you move to different locations on campus. For details about registering for MIT's DHCP service, see

<http://web.mit.edu/ist/services/network/dhcp/dhcp.html>

Visitors to campus may also use MITnet for up to 14 days every 12 months. To access the wireless network, visitors simply need to enable their wireless card and open a browser to any web page. A registration page guides visitors through the connection process.

For more information on connecting to MITnet, visit

<http://web.mit.edu/ist/topics/network/>

If you need assistance with wireless connections, contact the Computing Help Desk at 253-1101 or <computing-help@mit.edu>.



This column presents announcements about IS&T-supported software. For more information about recent releases, see <http://web.mit.edu/swrt/>

Unleashed: Kerberos for Windows 2.6.3

IS&T has released Kerberos for Windows (KfW) 2.6.3. Kerberos uses secret-key cryptography to provide effective network authentication for client/server applications.

KfW updates include the following:

- The Get Tickets dialog box displays automatically when launching an application that requires tickets.
- Leash, the tool that manages Kerberos tickets in Windows, is now a System Tray application in the taskbar.
- The Leash online help functionality has been improved: it now uses the HTML help engine.
- The Leash Change Password function works when passwords have expired.
- If a ticket is near expiration, Leash attempts to renew it; if it fails, the ticket initialization dialog displays.

The KfW 2.6.3 installer is customized for MIT. For details on how to get the software, system requirements, and known issues, see the product page at

<http://itinfo.mit.edu/product?vid=626&platform=Windows>

IS&T Supports Safari for Macintosh

IS&T now fully supports Safari, the web browser that ships with Mac OS X. IS&T recommends Safari 1.2.2, which requires Mac OS X 10.3.4 or greater. Safari 1.2.2 stores your MIT CA (Certificate Authority) and personal certificate in your default keychain, enabling access to secure services such as ECAT, TechTime, and Casetracker. For an overview of how certificates work with keychains in Mac OS X, see

<http://itinfo.mit.edu/article?id=6907>

Safari 1.2.2 also offers full keyboard access for navigation and support for the latest World Wide Web Consortium standards, including CSS, HTML, XML, and XHTML.

For more information about using Safari at MIT, see

<http://itinfo.mit.edu/product?name=safari&platform=Macintosh>

CommuniTech Helps Those on Other Side of the Digital Divide

• Robyn Fizz

CommuniTech is a volunteer-based initiative at the Institute, under the umbrella of the MIT Public Service Center. CommuniTech works to bridge the Digital Divide – the gap between those who have access to information technologies and those who do not. When it began in 2000, CommuniTech focused on refurbishing older donated computers and giving them to economically disadvantaged people in the area.

With that piece in place, the volunteers at CommuniTech discovered that their job was only half done. Those given computers had to reach a comfort level in using them, which was hard to do on their own. So, later that same year, CommuniTech began to offer an introductory computer course to the recipients of the systems.

Today, CommuniTech has two active branches. The MIT Used Computer Factory (UCF) refurbishes donated computers, while Families Accessing Computer Technology (FACT) handles the software training side.

UCF: The Fix-IT Factory

CommuniTech is always looking for donations of Pentium II machines or better. (Macintoshes are currently not part of the program.) VGA-connector monitors that are in full working order are also welcome. CommuniTech asks those making donations to include the equipment manuals if possible.

If you have a computer you'd like to donate, begin by filling out the form at <http://web.mit.edu/mitpsc/programs/comtech/donate.shtml>

If your department has older computers available for donation, contact MIT's Property Manager, Michael McCarthy, so that he can deactivate the computers and keep a record of the donation. You can reach him at <mmccarth@mit.edu> or 253-2779.

UCF's coordinator, Kevin Bong, noted that last year CommuniTech placed computers in 16 homes, and that it has placed computers in over 70 homes since 2000. Almost every recipient has signed up for Internet service (56K dialup); a modem is installed on every computer. The connections are provided indefinitely at the significantly discounted price of \$5/month by Elirion (www.elirion.net).

The FACT Program

FACT's six-week course covers hardware basics and word processing, spreadsheet, Internet browsing, and e-mail applications. Each volunteer is matched with a client and works with him or her for two hours a week on Saturday mornings for half a semester.

According to FACT coordinator Matthew Zedler, the volunteer trainers "get to make a make a difference in their clients' lives while learning about the local community and its people."

Get Involved

Anyone at MIT is welcome to help with either UCF or FACT. Both programs have training sessions for volunteers at the start of each semester. A few times during the semester, volunteers meet to discuss their experiences and other issues concerning the Digital Divide.

To find out more about CommuniTech, go to

<http://web.mit.edu/mitpsc/programs/comtech/>

You can also send e-mail to the coordinators at <communittech-admin@mit.edu>, stop by the MIT Public Service Center in 4-104, or call 253-0742. ☛

Quick Study for New Users: MIT Libraries Redesigns Home Page

• Heather Denny

In June, the MIT Libraries launched a new home page at

<http://libraries.mit.edu/>

With a lighter look and feel, as well as improved features and functionality, the page was redesigned with new users in mind.

"We found our existing home page served repeat users well, but there was room for improvement in helping new users get started," said Web Manager Nicole Hennig.

The Libraries' Web Advisory Group, made up of Hennig and four staff members from different departments of the Libraries, employed usability tests to solicit feedback from users. Out of the testing came improvements to navigation and aids to help new users.

New Features

One such feature is the "How Do I" button which immediately links users to the information they need to find



an article or a book, or to borrow or renew an item. Other features include

- *Tip of the Week, Hot Topic, or Featured Service or Resource.* Rotating weekly, these categories highlight a timely topic, tip, or useful information about a library service or resource.
- *Barton Catalog Quick Search.* Users can search for a book, journal, thesis, CD, or electronic publication, directly from the home page.
- *Revised Quick Links.* New quick links help users find the most frequently referred to areas, including lists of all the libraries and their hours, access to databases and electronic journals in Vera, the Ask Us! help feature, and more.
- *Photo Stripe with "Curious?" Link.* A thin photo "stripe" across the bottom of the page hints at what might be

pictured, such as a library-related object, architectural detail, or artifact from MIT history. Users can click on the "Curious?" link to see the photo in its entirety and find out more about what is pictured.

Looking Ahead

The home page redesign is the first of several improvements to the Libraries' site that the Web Advisory Group plans to make. The group coordinates the overall organization and presentation of the site and continually looks for ways to enhance usability. The entire site was last redesigned in 2001. The recent update focused on improving the top-level home page and making the code more accessible and standards-compliant.

Going forward, the group will consider redesigning lower-level pages, focusing on one section of the site at a time. To learn more about the history of the Libraries' web site, go to

<http://libraries.mit.edu/about/web-history.html>

If you have questions or recommendations about the site, send mail to <webgroup-lib@mit.edu>. ☛



This column presents tips related to computing. For more technology tips, check the IS&T Stock Answers database at

<http://itinfo.mit.edu/answer/>

As announced in the Software Spotlight on page 3, IS&T now supports Red Hat Enterprise 3. Here are some Q&As to help you get started.

Q What should I do before installing Red Hat Enterprise?

A Take these precautions before installing the operating system:

- Back up any critical or difficult-to-replace data.
- Peruse the known issues at

<http://itinfo.mit.edu/product?vid=630>

and – even if you’ve installed other versions of Linux before – read the installation instructions at

<http://itinfo.mit.edu/article?id=7153>

- Make sure that your hardware is compatible with Red Hat Enterprise. A compatibility list is linked from the installation instructions. Notably, the built-in wireless cards in some IBM laptops and the newer Orinoco Silver wireless cards do not work with Red Hat Enterprise.

Q What do I do if my network card or other hardware is not detected during the installation?

A Although Red Hat Enterprise works on a variety of hardware, Red Hat has classified many older components as unsupported, and so those kernel modules are not installed by default. If your hardware is not detected during the Red Hat installation, install the kernel-unsupported Red Hat Package Manager (RPM) from the Red Hat CD afterward. Your hardware will be detected after rebooting. Detailed instructions are included in the Known Issues web page.

Q Why am I being asked to pay for update services? Aren’t they free?

A You may be prompted to register (and pay) for the Red Hat Network update service the first time you boot Linux or open Mozilla. Don’t! You can register for free updates through MIT at

<http://web.mit.edu/ist/topics/linux/rhn.html>

Q Can I use Red Hat Enterprise off campus?

A Yes, you can. However, some applications that use Kerberos, such as LPRng printing and Zephyr, won’t work behind Network Address Translation (NAT) devices, which includes cable/DSL routers and some wireless access points. The discrepancy between the internal IP addresses that NAT assigns to computers and the IP address visible to the rest of the Internet can prevent some Kerberized applications from working properly. ❏

Signal Service: MIT Cable TV Keeps Its Offerings Current

• Robyn Fizz

One of IS&T’s longest-running and “showier” services is MIT Cable Television. It debuted in 1976 with three MIT channels. Today, it’s hard to keep track of all the programs it carries. MIT Cable TV provides 57 channels in its free basic lineup, along with a subscription digital service. The basic lineup includes five MIT channels that air programming produced at MIT, from lectures to campus events. The service also dishes out local Boston channels, cable and news channels, and science, music, and foreign language programming. There are even broadcasts from outer space, courtesy of NASA TV.

While MIT Cable plays mostly to students in their residences, it also offers a community bulletin board on a television in Lobby 10.

Recent Arrivals

MIT Cable TV is a “with-it” service when it comes to new offerings. It recently added round-the-clock weather on MIT Channel 21, providing local

weather conditions instantly. MIT Cable uses a Linux machine to grab a local Doppler radar map from the Weather Channel’s weather.com web site, and also broadcasts NOAA Weather Radio.

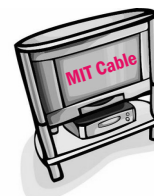
New to MIT Channel 27 is ABC News Now, which is offering extensive reporting on the 2004 political season. This spring, MIT Cable began airing three digital channels from WGBH: WGBH World, WGBH Create, and WGBH Kids, on Channels 14, 15, and 22.

MyInfoTV and ArTtV

Two homegrown initiatives encourage input – submitted as PowerPoint slides – from community members.

MyInfoTV is MIT Cable’s free events promotion channel that shows “your message, your way.” You write and design a message about a community event. The slide or slides can include multimedia elements, even video and animation. Once you’ve completed the slides, you send them as an e-mail attachment to <MyInfoTv@mit.edu>. These event messages air on Channel 12 and on the TV in Lobby 10. For more details, including a template, go to

<http://web.mit.edu/mitcable/www/myinfotv.html>



This year MIT Cable also launched an on-air gallery: ArTtV. It all began back in February, when MIT Cable TV’s manager, Randy Winchester, saw an art show

in the Sidney Pacific graduate residence. He thought it would look great on TV, and contacted the artist, Bren Bataclan. And so *The Smile Boston Project* began airing in the slots between live programming on MIT Channels 8 and 9. The current exhibit, *Scenes from the Haunted City and Other Paintings*, shows oils by MIT staff member Chuck Wright.

Like MyInfoTV, submissions for ArTtV should be in PowerPoint format. To find out about ArTtV’s schedule and guidelines for submitting work, go to

<http://web.mit.edu/mitcable/www/ArTtV.html>

Views Welcome

MIT Cable Television operates out of modest quarters in Room 9-050, as it has for years. If you have suggestions or comments about the service, send mail to <mitcable@mit.edu> or call 253-7431. ❏

Updating Employee Data for the MIT Directories – and More

• Diana Hughes

The annual process of updating employee information for MIT's printed *Faculty and Staff Directory* began in mid-July. Employees can make many of these updates through the Employee Self Service (ESS) web application at

<http://web.mit.edu/sapwebss/>

The deadline for employees to change their information for inclusion in the printed *Faculty and Staff Directory* is September 15. This directory will be available in early November. MIT's online directory is updated daily.

Here are some tips for employees who plan to make changes:

- If your name is, for example, Mary Elizabeth Hart, you can choose to have it listed as Beth Hart in both the printed and online directories.
- If your name is not displayed in the correct case (e.g., Mcdonald instead of McDonald), send e-mail with the correct case to <hrpayservicecenter@mit.edu>.
- If your name change is more substantial (e.g., from Ramirez-Jones to Ramirez), make the correction by using the Employee Name Change Form, accessible from ESS or the Human Resources (HR) web site at <http://web.mit.edu/hr/>
- If you'd like to update your Position Title for the directories, contact your area Directory Coordinator.

Note that information about fax numbers and web page URLs is published online only.

It is also important that you enter and/or verify that your e-mail address in ESS is accurate – and not just for the directories. Important Institute e-mail notifications, such as the Benefits Open Enrollment information, are sent to your current e-mail address.

To ensure confidentiality, you need an up-to-date MIT personal certificate to use the ESS application. To obtain a certificate, go to

<http://web/ist/topics/certificates/>

Same Functions, New Features

This summer marks the third year that employees can make changes to their directory information using the ESS application. Employees can also change other information via ESS that does not appear in the directories, but is part of their MIT record. Examples

include MIT pager and mobile phone numbers; education history; and emergency contact information. Employees can also use ESS to view their health and welfare benefits choices and their training registration and history.



In response to community requests, Information Services and Technology (IS&T) and HR have recently made several enhancements to ESS – and to the SAPweb Employee tab used by Directory Coordinators for the Departments, Labs, and Centers (DLCs).

- *Ability to enter Foreign Home Address and Telephone Number*

Note that MIT records only one home address and phone number per employee, so you can't list both a local and a foreign address.

- *Ability to enter Gender*
- *Ability to view Position Title and Date of Birth*
- *New step-by-step process for new employees or first-time users of ESS*

This process takes you through each ESS screen, ensuring that all necessary data is captured.

- *E-mail confirmations*

You now receive an e-mail notification that your employee information has been updated when you make a change via ESS. (E-mail confirmations were already automated for changes made via the SAPweb Employee tab.)

These enhancements underwent testing by the IS&T Usability Team to ensure that updates would be easy for end users to make. With fewer separate screens than in the past, updating employee data is simple and fast.

Evolution of a Process

Shortly after ESS was delivered to the community three years ago, Directory Coordinators for the DLCs asked for a quick and direct way to maintain directory information on behalf of employees in their areas. IS&T and HR responded by developing the SAPweb Employee tab, available from

<http://web.mit.edu/sapweb/>

This tab enables Directory Coordinators to maintain information for employees in their area year round.

ESS and the SAPweb Employee tab have been central to streamlining the production cycle for MIT's printed directory. Since their introduction, the traditional five-month cycle has been significantly reduced. The ability to make online updates has eliminated the need for HR staff to print, collate, and distribute 5,600 pages of information to Directory Coordinators through campus mail. This labor-intensive, paper-laden process required Directory Coordinators to spend much of the summer writing edits by hand and sending them to HR for keying into the system. All entries into the ESS application and the SAPweb Employee tab result in real-time updates to SAP and require no re-entry of data by HR.

This Fall: ESS and Open Enrollment

ESS has been a win for the Institute in other ways too. Once again, benefits-eligible employees will use ESS to make their elections during the annual Benefits Open Enrollment period. This period will begin in November with an e-mail notification prompting benefits-eligible employees to log on to the ESS application to make their elections. The Open Enrollment page in ESS will have detailed information on any plan changes, 2005 rates, and a schedule of Open Enrollment fairs on campus. Once their elections are received, employees will receive a confirmation by e-mail.

Need Help?

If you have questions about using ESS or SAPweb or getting certificates, contact the Computing Help Desk at <computing-help@mit.edu> or 253-1101. For HR-related business questions, contact Barbara Gilligan at <byg@mit.edu>. ☺

ESS Spells Success!

The numbers below show how many staff made changes in different fields in the ESS Employee Information tab from April through July 2004.

| | |
|---|------|
| <i>Name and Home Address</i> | 1761 |
| <i>Work Address and Phone</i> | 1074 |
| <i>Emergency Contact Information</i> | 1690 |
| <i>Education History</i> | 767 |
| <i>Ethnic Origin/Gender/ Veteran Status</i> | 1143 |



If you don't know where to get help for your computer, network, or telephone problems, dial one of the help lines listed to the right.

If you prefer to use e-mail, you can send your questions to the corresponding e-mail addresses on the far right. (When logged into Athena, you can also use the `olc` command to send questions to Athena's online consultants.)

You can also submit a question online via Casetracker at

<http://casetracker.mit.edu/>

For help with...

Dial...

Or send a message to...

| | | |
|--|----------|-------------------------|
| General computing questions (Macintosh, Windows, and network/connectivity) | 253-1101 | computing-help@mit.edu |
| Academic computing | 253-0115 | f_l@mit.edu |
| Administrative applications | 253-1101 | computing-help@mit.edu |
| Athena Computing Environment | 253-4435 | olc@mit.edu |
| Computer and printer repairs | 253-0815 | pcservice@mit.edu |
| Computer presales consulting | 253-7686 | mcc@mit.edu |
| Disabilities and computing | 253-7808 | atic@mit.edu |
| Telephone and voice mail services | 253-3670 | telecom-csr@mit.edu |
| Telephone repairs | 253-4357 | 3help@mit.edu |
| Unix/Linux | 253-1103 | unix-linux-help@mit.edu |



Surf Sites: Location, Location, Location

The Cricket Indoor Location System (see lead article) may eventually help us get better bearings on where we are in a building and what resources are available there. Meanwhile, many tools already exist for navigating the world at large. Maps and compasses and GPS systems all help us find our way.

To the right are several web sites that can help you get a bead on your location. They range from an insider's guide to compasses, to a flight tracker, to maps of the world.

Flight Tracker

<http://flighttracker.lycos.com/>

Geography Home Page

<http://geography.about.com/>

Geographic Information Systems Laboratory at MIT

<http://libraries.mit.edu/gis/>

GPS World

<http://www.gpsworld.com/gpsworld/>

How Compasses Work

<http://www.howstuffworks.com/compass.htm>

Lonely Planet – Destinations

<http://www.lonelyplanet.com/destinations/>

Maps and Geography (National Geographic)

<http://www.nationalgeographic.com/maps/>

MIT information services & technology



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