

2006-2007 Math IT Accomplishments

04/18/07

The Mathematics Department Information Technology group (MathIT) actively maintains approximately 440 computers (370 Apple Macintosh computers, 35 Dell workstations running Windows and 30 Dell workstations running RedHat Enterprise Linux). We centrally support 19 printer queues and manage 6 labs of 24 to 30 Apple iMac computers for instructional purposes (included in the above counts). These labs service some 2200 students each Fall and Winter semester, and over 300 Michigan Math and Science Scholars students--an increase from previous years. The labs are also used for instruction and training for Apple Certification courses, a Scientific Python workshop and serve as extra spaces for exam overflow and meetings.

From May 1, 2006 to this writing, Math IT has handled 639 requests for assistance via math-request@umich.edu, 621 of which were resolved. Additionally, there are approximately double that number of walk-in support incidents. The closed number of tickets is down compared to past years (860 in 2004/5 and 951 in 2005/6). The reduction in the numbers as well as the content of individual requests suggest our user base is becoming increasingly familiar with the tools and equipment that we support.

This past year saw striking improvements in the way we handle student accounts in our labs, and in the management of the labs themselves. Previously, account creation typically took anywhere from a half to a full day of processing. Our new process takes the raw data from the Registrar's office to directly load our lab servers with all of the accounts for faculty, students and staff—not just courses. This new process is controlled by an easy-to-use web page and now takes only **30 seconds** to complete, and can be performed securely anywhere that has a network connection. It has made a noticeable improvement in service for students and faculty teaching.

Our other process improvement involves the steps necessary to make our servers aware of new hardware on our network. The first improvement simplifies finding free IP addresses in LSA's NetReg system. Large blocks of IP's can now be identified and the entries edited via a special web page we've created. The second improvement takes the data from the LSA NetReg databases, and automatically loads our servers with the ethernet addresses of the machines on our network. This used to require hand-entry of *every* machine's ethernet address into no fewer than 3 places--very error-prone, very tedious. Now, the complete inventory of 1000 addresses in Math's networks is refreshed to our servers **every 30 minutes**. New instructional labs can be prepared before the machines are even unpacked. Taking the machines out of the boxes has now become the lengthy process!

This year, our web site moved from Math Department servers to ITCS Web Services. ITCS offered a much lower cost plan for the very same services and capabilities, and relieved Math of maintaining and upgrading our own server. ITCS offers complete web hosting for only \$100/year, which includes all security certificates and file space—things we had to pay nearly that much for anyway. In the Spring/Summer term, it's our intention to move our MySQL database to ITCS as well, since we get MySQL as part of ITCS' Web Service package, eliminating another Math server.

This year, 2 instructional labs of 30 machines each were upgraded from LSA-IT funding, and 57 faculty machines were replaced due to the shortage of PowerPC G5-based computers from Apple after their move to Intel processors. Faculty saw this as an improvement in the size of their iMac screens, upgrading from 17" to 20" screens and slightly faster processors. We are now in the process of upgrading the next 2 labs of 30 machines and the 30 machines of the 2007 Faculty upgrades.