Networking

by Mark Allman

The Internet is becoming inundated. Inundated with new users. Inundated with information. Inundated with traffic. And considering that it was never meant to support the glut of information and users, this vast network has performed fairly well. Yet the solutions now employed will most likely not scale well for much longer at the current growth rate.

As new tools have been developed which make "surfing the net" very easy, the Internet has rapidly changed from a network connecting scientists and engineers to a network connecting everyone. Email addresses are as common as fax machines with the advent of the ``Information Superhighway." The designers of the original Internet could not possibly have foreseen the current success of their creation or the myriad of purposes that it's being used for now (and will be used in the future). Scott Ruthfield takes us on a ride through the development of the network in ``The Internet's History and Development: From Wartime Tool to the Fish-Cam."

The Multicast Backbone

The Internet has become a way for people in different geographic areas to collaborate on projects easily. People have been using email for this purpose for years. But working with others over the network is getting even easier with the use of the Multicast Backbone. The MBONE provides an efficient way for people to use real time audio and video to communicate. In ``The MBONE -- The Internet's Other Backbone," Jay A. Kreibich introduces the concept of ``IP multicasting," as well as the applications which currently use it.

Security

The point of connecting to a network is to communicate and share data with others who are also connected. But this has its drawbacks. Connecting a host or a network to the Internet means making it accessible to the world. This opens up the machine to possible break ins. This has been a very large issue for some companies, as they try to attach to the Internet. In his article, ``Network Security, Filters and Firewalls," Darren Bolding illustrates some of the ways in which networks are being ``secured."

Harvest

As the Internet grows, so does the amount of information being made available. Finding the information you want can be hard or nearly impossible in some cases. Additionally, if the information you are looking for is popular, and easily found, chances are that the server providing the information is heavily loaded and you will have a hard time obtaining it. The ``Harvest'' system for information discovery can help ease both of these problems. In her article, ``Harvest,'' Sarah Elizabeth Burcham describes this system and compares it to other information indexing systems.

FoxNet

Finally, as the Internet has become more heavily used, the importance of having efficiently implemented network protocols becomes clear. The FoxNet research project is attempting to do just that by implementing network protocols in SML. In ``The Fox Project: A Language-Structured Approach to Networking Software,'' Jeremy Buhler offers a guided tour of the FoxNet project.