

## Bitnet, CSnet consider merger

*Galen Gruman, Soft News Editor*

Members of the Bitnet research computer network voted 195-21 Feb. 6 to approve a proposed merger with the CSnet network. CSnet's parent company, the University Corp. for Atmospheric Research, will vote on the proposal in early summer. CSnet's executive committee has urged ratification.

"The two networks — although their technologies are different — are very similar in their goals. Both are oriented towards low-cost academic services," said Jim Conklin, director of Bitnet's Network Information Center in Washington, D.C.

Both networks are financially healthy, according to their spokesmen. Bitnet is growing rapidly; CSnet is growing slowly but the network is financially well off, they said. However, "we felt [that] as the [National Science Foundation-funded] NSFnet and regional networks continued to grow, there wasn't a lot of room for two mail-transfer and file servers at the low end of the spectrum," Conklin said. "We'd be stronger [merged] than if we stayed separate," he said.

Furthermore, "it would be good if we could more effectively work with government and other institutions," Conklin said. The merger would give CSnet "the ability to combine with a much broader user base and provide a broader connectivity with computer-science departments and industry with the rest of academia," said Dan Ruttenberg, CSnet's executive director. "It would [also] give us more clout as a substantial component of NSFnet," he said.

If UCAR approves the merger, users

will see little change for the first few years, Conklin said. "In the short term, we'd offer the separate offerings that we're now offering," he said. Ruttenberg said he thinks the operations would merge more quickly, perhaps a year after the new network's parent organization is established. In the long term, Bitnet users would gain access to CSnet's TCP/IP communications protocol, which provides higher bandwidth and more capabilities than the aging RSCS protocol Bitnet uses, Conklin said. "That expertise would be valuable for us," he said. Bitnet has already implemented a

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***The merged network would be positioned to serve the industrial and small-college markets. It also might have more clout in NSFnet.***

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project called Bitnet 2 to let the RSCS protocol work over TCP/IP links. That would make the network merger more transparent to current Bitnet users — especially to European users, who tend to use RSCS, Conklin said.

Bitnet uses leased lines paid for by member institutions who also buy their hardware. The leased lines give Bitnet independence from the federal budget uncertainties that users of federally sponsored networks like NSFnet might face, Conklin said. Furthermore, the costs of national high-speed networks like NSFnet and Internet are high, while Bitnet's approach "provides inexpensive links for smaller institutions," he said.

However, the limited bandwidth of Bitnet's links resulted in increasingly aggravating bottlenecks, Conklin said. "We're having a very serious bandwidth prob-

lem," Conklin said. Bitnet did get permission to use NSFnet's higher bandwidth links for some message traffic, which has relieved some of the bottlenecks, he said. Still, "the majority of the [Bitnet] board feels we should retain separate pathways as a backup," Conklin said.

Even with the growth in regional networks and national networks like NSFnet, Ruttenberg said, "we have a niche to fill that can't be covered by the mid-level networks: industry and small schools." The merger of CSnet and Bitnet would position them to offer "affordable connectivity to Internet and provide a high level of service to new and small member institutions," he said.

About half of CSnet's members are also institutionally members of Bitnet, but the CSnet membership is oriented more toward academic departments and Bitnet's more toward an organization's central computing departments, Conklin said, so he expects that "a significant number of organizations will remain on both." Ruttenberg concurred.

Bitnet has 417 members and is a subsidiary of Educom, a 25-year-old consortium of academic institutions based in Princeton, N.J. CSnet's UCAR parent, which is based in Boulder, Colo., is a consortium of research institutions that manages the National Center for Atmospheric Research. It took over CSnet six years ago at the request of the National Science Foundation, which started it in 1981 to link computer-science departments. The network has expanded to connect researchers in many disciplines and now links more than 190 institutions.