Network Working Group
Request for Comments: 153
NIC: 6758

J. Melvin
R. Watson
SRI-ARC
15 May 1971

SRI ARC-NIC Status

Computer and Network Status

The conversion to the DEC PDP 10, running the BBN operating system Tenex, has just about been completed. We have had a number of obscure bugs which caused delays recently. Several symptoms were traced to bad data being written into memory. This problem was diagnosed as a noisey ground on a chip in the drum-disk memory bus access control. With the problem fixed our reliability has improved significantly to about one crash every day or two. System attention has now been turned to system measurement and tuning and to bringing up an NCP and Telnet.

We have been working to bring up the BBN NCP of Doc. #1 NIC (5143,) and BBN's Telnet. Because of our different configuration from BBN's and slightly different system we have not yet removed all the bugs caused by these differences. As of May 14 we estimate that we are only a few hours away from completing this task. We need more testing before we can provide network service. We will bring up the NCP of RFC 107 NIC (5806) when we can obtain it from BBN and the official Telnet when it is specified and BBN can provide it to us.

At present our local connect capacity allows for 12 displays and 24 typewriter terminals. With about 10 displays and 6 typewriter terminals running NLS, response is satisfactory, but marginal for display users. The delivery in June of new Bryant drums and the measurement and tuning in progress should increase capacity and response. How much improvement to expect is not known.

The system processing required to support a network user is heavier than that required to support a local typewriter user. Therefore we are not sure how many network users we will be able to support without degrading response seriously or requiring us to limit local loading by administrative restrictions. Our guess at the moment is that we can handle 6 network users by middle summer with an optimistic expectation that we might be able to handle closer to 12.

As there is only limited interactive experience over the network, we do not know what its response characteristics will be like. We may find that the delays caused by two timesharing systems and the network transmission may allow us to support the higher number of

network users without adding serious incremental response delays. The loading caused by parallel processes controlling intersite file transfers is also an unknown factor at this point.

We are pushing to increase our capacity by providing deferred execution facilities which will allow NLS compatible file preparation and editing offline or in local hosts and then will allow entry of the files so created into NLS for further manipulation.

File capacity is also going to be a scarce resource and we are studying ways of using tape or the facilities at UCSB to give us an integrated auxiliary facilities.

Our plans for providing online service to the network are briefly given below. There are intermediate stages possible. For example, if all goes well in the early part of Stage 0 we can probably allow more sites to participate in Stage 0.

Stage 0 (June 18):

Stage 0 is to provide experimental access to the NIC for a limited number of West Coast sites (these sites provide a variety of hosts and having them on the west coast simplifies communications for this initial trial period) so that we can learn how to handle any problems which may come up in actual network operation.

Stage 0 will allow access to the Tenex Executive. NICTNLS (NIC Version of Typewriter On Line System), an initial Network Dialog Support System-NICDSS (which will allow online creation and submission of messages and documents, with hardcopy mail delivery), and the first release of our users manual.

We will allow an initial maximum of two network users on at once.

There will be a two day NICTNLS course at SRI June 16-17 for the initial sites.

Stage 1 (August 2):

Stage 1 is to provide access to the NIC from any site in the network having the appropriate access software.

Stage 1 will allow access to a self contained version of NICTNLS not requiring access to the Tenex Executive, the NICDSS of Stage 0 with online access to documents and messages created online, online access of network related files such as the NIC Catalog, ARPA Network Resource Notebook and NIC documentation.

We expect to provide training to sites desiring access. We will allow as many network users simultaneous access as we can, depending on initial success with system tuning. A reasonable guess is 4-8.

Stage 2 (September 6):

Stage 2 will provide message delivery to files at remote sites (assuming the NWG establishes file transfer protocols soon and sites implement them), an initial deferred execution mode allowing users to prepare files on their systems and then have them entered into NICTNLS for further work, and improved query facilities of network online files.

We hope to have improved Tenex-NLS performance so as to allow more network users simultaneous access than allowed in Stage 1.

Offline System Status

Mailing: We mail RFC's and other material going to Liaison people as soon as we can get the material duplicated, which is usually within 24-48 hours after we receive it. We mail material to station agents once each week, usually on Fridays.

When people do their own direct mailing to the Liaison list, please send us a good copy, preferably the original, for duplication and sending to the stations.

Document Numbering: It is important for citation and cataloging purposes that each document created have a unique number. Even if a document is just an update of one previously issued, one should use a new NIC number and RFC number and indicate which document(s) it supercedes. There are lots of numbers so feel free to use them.

Site Documentation: Our recommendations on how we would like to handle this type of document and the type of information these documents should contain are described in RFC's 115 NIC (5822) and 118 NIC (5830). We urge each Liaison person and station agent to read these carefully.

Catalog: Our biggest problem caused by the computer transfer has been getting out an up-to-date catalog. We apologize for the inconvenience this has caused. Producing the catalog has turned out to be a good debugging tool, however. The most recent catalog, containing citations through 23 March, was mailed 13 May. This catalog contains an RFC index through 5 May. Currently a catalog is being produced to bring us up-to date. With the issuing of this catalog around the end of the month, we expect to produce an up-to-date catalog on a monthly basis.

General: If there are any problems a station may be having in organizing or handling their collection which we could help with, please let our Information and Agent Coordinator Jeanne North know. If anyone has any suggestions for how we could improve our service or has any suggestions for services we should perform please let us know.