NETWORK ACTIVITY REPORT: UCSB <- -> RAND

UCSB RJE/RJOR

The UCSB Remote Job Entry (RJE) and Remote Job Out- put
Retrieval (RJOR) Systems described in NWG/RFC #105 have been used and
validated from Rand. The facility is now being used on a limited
basis as a production tool by another research group at Rand.
Access to the UCSB facility from Rand is through the Network
Service Program (NSP). This program is driven by Rand Video-Graphic
consoles and allows a console user access to both local file storage
(at Rand) and to the Network. A small module (UCSBMGR) was added to
NSP to handle the UCSB RJE and RJOR protocols and data formats.
In exercising the RJE/RJOR facility over the past two months,
typical job sizes included input decks of 800 to 2800 80-character
card images and output files of about 30 pages of printer linstings.

NETWORK OBSERVATIONS

In sending files to UCSB we did a timing study over several
transmissions of the above mentioned 2800 record file. On the average
this file was transmitted at a rate of 250 80-character cards per
minute. (Each 80-character card was a separte Network message.) This
is, of course, much less than the advertised 30 kilobit rate; however,
it should be remembered that the path from Rand to UCSB is through at
least one intermediate IMP. On the other hand, the processes at each
end of the connection were running at maximum priority with very small
loads on either machine. An obvious area for speed-up would be the
blocking of card images for network transmission.
In the course of the last two months of networking, we have
noticed approximately five serious failures in transmitted messages.
In two instances, the RFNM on the control link from UCSB to Rand was
lost. Its loss was not reported via a type 9 IMP-to-Host message as
would be expected. We have not been able to cause the problem to
occur; hence we are unable to ascertain whether it is an IMP problem
or a problem with the UCSB Host Interface.
The other three errors were related to the garbling of a data
message between the Rand NSP and UCSB RJE. In all three instances, it
was the second card image trans- ferred to RJE. We were unable to
cause this problem at will; hence have been unable to track it down.
Unfortun- ately the HASP system at USCB merely ignored this image
rather than printing it so we are not aware of the nature nor source

of the garbling. It could be anywhere from the disk file storage at
Rand on down the line. This problem was observed sporadically in our
early trans- missions to UCSB and has disappeared. We feel relatively
confident, however, that our Host software on either end was not at
fault.
     Lest these last two figures seem too terrifying, it should be
noted that we have run over 100 jobs at UCSB from Rand, each job
consisting of many Network transmissions.

         [This RFC was put into machine readable form for entry]
          [into the online RFC archives by Simone Demmel 4/97]