Pseudo Node Translation

New listype support
Wed, May 29, 2002

This note describes a method for support of pseudo node number translation, which can be useful for various network diagnostics, including Page F, which lists recent network activity in a node as captured in the NETFRAME data stream.

The idea is to have a client, such as Page F, issue a one-shot request to ask a target node to deliver a translation of the pseudo node#. The target node would gather information from its network tables, especially IPARP, to satisfy this request. The information available is of the following format:

Field	Size	Meaning
nNode	2	Nominal node#, native or if none, then Acnet
port	2	UDP port#
ipAddr	4	IP address
aNode	2	Acnet node#
netAddr	6	Ethernet physical address

The internal pointer format is the 15-bit pseudo node# value. As usual, the sign bit means that the remaining 31 bits are a pointer to a buffer already containing the collected data, as needed for support of server-type requests.

The read routine logic merely calls uses the pseudo node# to call GetIPARP to collect what is stored in the IPARP table entry. It calls GetNNode to ask for a native node#, which, if nonzero, overwrites the node number obtained from the GetIPARP call, which is likely to be an Acnet node#, or zero. If GetNNode returns zero, try to get an Acnet node# from GetANode. In the case that both node#s are zero, default to the pseudo node# for display.

Here is an example of listing output generated by Page F, after modifying it to request pseudo node# translation from a target node.

```
09FE 0018 T 18701A 1341:01-04+ 2    IGMP reply for multicast node 09FE
0509 0018 R 160822 1341:01-04+ 3    Received copy of reply
E100 0018 T 18704C 1341:02-01+ 3    IGMP reply for multicast node 09F1
0509 0018 R 164422 1341:02-01+ 3    Received copy of reply
C508 002A R 162022 1341:09-13+65    Classic protocol req from node0508
C562 0030 R 175822 1341:12-07+ 4    Time-of-day received from node0562
C562 002E R 175E22 1341:12-07+ 5    Calendar time-of-day from node0562
C508 002A R 177622 1341:12-11+35    Classic request from node0508
A6CF 0090 R 163E22 1341:20-00+62    Acnet multicast request from node06CF
A6CF 0070 R 16C222 1341:23-00+50    Another such request
80FF 0018 T 18707E 1341:28-09+ 4    ARP request (broadcast) for node06D2
06D2 0018 R 178222 1341:28-09+ 5    ARP reply from 06D2
C6D2 0056 T 1870B0 1341:28-09+ 5    Classic request to 06D2
C6D2 0060 R 178822 1341:28-09+ 7    Classic prompt reply from 06D2
C6D2 0060 R 178E22 1341:28-10+ 5    Classic 15 Hz replies from 06D2
C6D2 0060 R 179422 1341:28-11+ 5
C6D2 0060 R 179A22 1341:28-12+ 5
C6D2 0060 R 17A022 1341:28-13+ 5
C6D2 0060 R 17A622 1341:28-14+ 5
```