

'Twas the Night Before Start-up'

STATUS OF THIS MEMO

This memo discusses problems that arise and debugging techniques used in bringing a new network into operation. Distribution of this memo is unlimited.

DISCUSSION

Twas the night before start-up and all through the net,  
not a packet was moving; no bit nor octet.  
The engineers rattled their cards in despair,  
hoping a bad chip would blow with a flare.  
The salesmen were nestled all snug in their beds,  
while visions of data nets danced in their heads.  
And I with my datascope tracings and dumps  
prepared for some pretty bad bruises and lumps.  
When out in the hall there arose such a clatter,  
I sprang from my desk to see what was the matter.

There stood at the threshold with PC in tow,  
An ARPANET hacker, all ready to go.  
I could see from the creases that covered his brow,  
he'd conquer the crisis confronting him now.  
More rapid than eagles, he checked each alarm  
and scrutinized each for its potential harm.

On LAPB, on OSI, X.25!  
TCP, SNA, V.35!

His eyes were afire with the strength of his gaze;  
no bug could hide long; not for hours or days.  
A wink of his eye and a twitch of his head,  
soon gave me to know I had little to dread.  
He spoke not a word, but went straight to his work,  
fixing a net that had gone plumb berserk;  
And laying a finger on one suspect line,  
he entered a patch and the net came up fine!

The packets flowed neatly and protocols matched;  
the hosts interfaced and shift-registers latched.  
He tested the system from Gateway to PAD;  
not one bit was dropped; no checksum was bad.  
At last he was finished and wearily sighed

and turned to explain why the system had died.  
I twisted my fingers and counted to ten;  
an off-by-one index had done it again...

Vint Cerf  
December 1985

