Inter-Office Memorandum

To	Communication Protocols	Date	March 8, 1978
From	David Boggs	Location	Palo Alto
Subject	Pup Statistics Protocol	Organization	Parc

XEROX

Filed on: <Pup>Statistics.bravo

This memo documents a protocol by which one host may request statistics from another host. The protocol is intended for monitoring gateway traffic and inter-gateway line loading.

The Protocol

When a Pup of type SendStatistics arrives at the statistics socket, the receiver should look at the subtype word to determine what kind of statistics are being requested. If the receiver can answer that kind of request, it should construct a Pup of type StatisticsReply with the same Pup ID and return it to the requester, otherwise it should discard the packet.

Packet types, formats, etc.

All of the information given below is contained in PupStats.decl as BCPL manifest constants and structure definitions.

SendStatistics: Pup type #200

   Data: 2 bytes containing a request subtype.

StatisticsAck: Pup type #201

   Data: 2 bytes containing a reply subtype. The rest of the Pup contains statistics in the format described by the subtype.

StatisticsNak: Pup type #202

   Contains no data. The requested statistics are not available.

statistics socket: #22

Request subtypes:

0-#400:	Statistics for network 'subtype'
-1:	Gateway forwarding statistics

Reply subtypes:

small integers:	Statistics for net type 'subtype'
-1:	Gateway forwarding statistics

reply formats:

Gateway statistics consist of a word giving the number of directly connected networks followed by

that many words each containing one net number. Following this is zero or more blocks with the format of the GSE structure.

SLA statistics consist of the level 0 SLA routing table and a block of statistics for each line. The second data word of the packet contains the maximum host number, followed by that many routing table entries in the format of the SLARTE structure. Next is a word giving the maximum line number minus one, followed by that many line statistics blocks (plus one) in the format of the SLAStats structure.

Ether Statistics consist of a block in the format of the EtherStats structure.

Revison History

October 26, 1976

First release

March 8, 1978

The format of the gateway statistics reply changed to include the list of nets to which the gateway is directly connected.