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.

**Revision 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.