Bolt Beranek and Newman Inc.

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Combined Quarterly Technical Report No. 29

SATNET Development and Operation
Pluribus Satellite IMP Development
Internet Operations and Maintenance
Mobile Access Terminal Network

May 1983

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This Quarterly Technical Report describes work on the development of and experimentation with packet broadcast by satellite; on development of Pluribus Satellite IMPs; on Internetwork monitoring; and on shipboard satellite communications.

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COMBINED QUARTERLY TECHNICAL REPORT NO. 29

SATNET DEVELOPMENT AND OPERATION
PLURIBUS SATELLITE IMP DEVELOPMENT
INTERNET OPERATIONS AND MAINTENANCE
MOBILE ACCESS TERMINAL NETWORK

May 1983

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1 INTRODUCTION

This Quarterly Technical Report is the current edition in a series of reports which describe the work being performed at BBN in fulfillment of several ARPA work statements. This QTR covers work on several ARPA-sponsored projects including (1) development and operation of the SATNET satellite network; (2) development of the Pluribus Satellite IMP; (3) Internet Operations, Maintenance, and Development; and (4) development of the Mobile Access Terminal Network. This work is described in this single Quarterly Technical Report with the permission of the Defense Advanced Research Projects Agency. Some of this work is a continuation of efforts previously reported on under contracts DAHC15-69-C-0179, F08606-73-C-0027, F08606-75-C-0032, MDA903-76-C-0214, MDA903-76-C-0252, N00039-79-C-0386, and N00039-78-C-0405.

4 INTERNET OPERATIONS AND MAINTENANCE

This QTR is the final Internet report written for the current contract. Internet work is being continued on contract MDA 903-83-C-0131.

The major activity during the past quarter was the continued deployment and maintenance of the Macro-11 gateway. New gateways are now running at ISI (Arpanet - Ethernet) and Rockwell (Arpanet - PRnet). The current list of operational gateways is shown in the following table.

Gateway	Adjoining Networks
BBN	ARPANET - BBN-NET
BBN-PR	BBN-NET - BBN-PR
BRAGG	ARPANET - BRAGG-PR
BRIMF	ARPANET - DEMO-PR
CSS	ARPANET - SATNET
CRONUS	ARPANET - DOS-ETHERNET - FIBERNET
DCEC	ARPANET - SATNET - EDN
ISI	ARPANET - ISI-ETHERNET
NTARE	SATNET - NTARE-TIU - NTARE-RING
PURDUE	ARPANET - PURDUE-NET
ROCKWELL	ARPANET - ROCKWELL-PR
SRI-C3P0	ARPANET - SF-PR-2
SRI-C3PR	ARPANET - SF-PR-3
SRI-R2D2	ARPANET - SF-PR-1
UCL	SATNET - UCLNET - RSRE/NULL - UCL-TACNET
WISC	ARPANET - WISC-NET

A new gateway software release (1004.) is now running in the majority of gateway sites (binaries have been delivered to the remainder). The release was delayed somewhat because we discovered a bug in the routing code (GGP) dealing with sequence

numbers wrapping around. The bug, which was also in the previous releases, is now fixed. The new release contains the following additions and improvements:

- Arpanet "Uncontrolled" messages supported.
- ICMP Source Quence Sent.
- Class-C Arpanet Addressing supported.
- New Gateway Buffer Allocation.
- Interface and Neighbor probes sent with Higher priority.
- Satnet Support Improved.
- CMCC Removed.
- Interface Up/Down Procedures (K out of N) Improved.
- Ethernet supported (fixed table addess lookup).
- BBN Fibernet supported.
- HMP Status Reports show Memory Useage.
- Bug fixes and improved Traps.

The MOS driver for X.25 Interface for the VAN gateway is now complete. We expect to begin testing with the Telenet line in the next month.