

SIGNET Performance

- a. The item with the greatest remaining uncertainty and greatest potential to impact the relative success of SIGNET in the minds of the end users is the performance of applications which require real time interaction across the SIGNET Wide Area Internetwork. Such applications must take into account the utilization of available bandwidth, delay, and availability of the SIGNET wide area internetwork.
- b. Preliminary analyses of expected availability of the mission access links, delay (particularly in the Pacific Rim which is serviced out of Ottawa), and limited bandwidth, weight the applications / data architecture in favour of localizing transaction or real time oriented services into the local subnetworks (missions). On the other hand, operations concerns, such as hardware / software costs and data replication, weight the applications / data architecture in favour of regionalizing data bases and implementing transaction oriented services across the wide area subnetwork.
- c. Application simulations in the SIM Centre are required to determine SIGNET based applications' sensitivities to the throughput and delay characteristics of SIGNET, particularly real time remote access or remote client / server based applications. The internetwork development program is soon entering the important phase of simulating EAITC applications on a SIM Centre internetwork based upon the target SIGNET internetwork architecture. Close cooperation with MITNET is enabling a realistic wide area network test bed. However, the usefulness of the simulation results is dependent upon realistic assumptions on representative usage cross sections of applications and volumes of data flow; review of the estimates and assumptions contained herein by EAITC applications developers is required.
- d. Based upon the outcome of the simulations, recommendations for an optimum architecture for SIGNET based applications will be provided.

SIGNET Internetwork Design Milestones

- a. The major milestones in the SIGNET Internetwork development process are:
 - 1) Definition of SIGNET Internetwork requirements for the purpose of identifying network element requirements. The major network elements are routers, multi-port bridges, ethernet concentrators, and terminal servers.

Status: Complete
 April 1992
 - 2) Completion of the SIGNET Network Element Request for Proposal.

Status: Complete
 June 1992
 - 3) Completion of target model for the overall SIGNET Internetwork.

Status: Complete
 August 1992