Functions and Realizations of Value-Added Networks

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Summary

EDUNET is an international facilitating network for computing in higher education and research. The communications technology underlying Edunet is TELENET and TYMNET. The different ways in which a customer host may be interconnected with the networks are explained. The costs involved in using telecommunications facilities in the United States are discussed. Finally the user support of EDUNET is described.

Zusammenfassung

In my remarks today I would like to present a brief overview of the functions and realizations of value-added networks as they exist in the United States today. My observations are based primarily on my experiences with Telenet and TYMNET, the two dominant public packet-switched data communications carriers now operating in the U.S. My organization, EDUNET, is a large customer of Telenet and several of our member universities are customers of TYMNET. Our combined usage of these carriers exceeds $600,000 per year. I am therefore directly concerned with the quality and cost of services provided by these carriers.

Let me begin by giving an example of one of the prevalent methods of using Telenet or TYMNET. In the diagram (see Figure 1) it is convenient to think of the public networks as very large black boxes with many nodes on the edges. These nodes are the points at which host computers and terminal users connect to the network. Telenet and TYMNET each have between 100 and 200 such nodes. The communication link between the network and the customer site where a host computer is located is a line leased from the telephone company typically operating at 2400 - 9600 bits per second. This line is connected to a multiplexer/controller.