Data networks

In this area we explore the technology and development of information networks on a national and international basis. There are four sessions in this area and they deal with (1) "The Architecture and Application of Nationwide Packet Switching Networks," (2) "International Computer Communications," (3) "International Public Data Networks," and, (4) "Satellite Data Communications for Public Service."

The first session focuses upon the architectural similarities and differences of several packet-type networks and how the application of these networks influences network architecture which have recently become operational or are under development.

The first of two sessions on international computer networks will cover matching future international regulations against the continued growth of computer communications systems and technology utilizing all types of international transmission media. The concerns of this session include the non-homogeneous nature of national regulations as they apply to international computer communications systems, transborder data flow, and the need for new regulatory considerations for international satellite-oriented computer communications networks.

The second international session emphasizes the operational problems of international data networks with multiple organizations interconnecting dissimilar equipment rather than a single, coordinated, homogeneous network. This inhomogeneity creates special problems and requirements in order to create a viable service. This session will describe some aspects of the interconnection problem, potential solutions, and some internetworking field trials underway.

The final session will deal with the emerging question of information networks for public service users in the United States. These users consist of a small number of related communities—libraries, educational institutions, health centers, and local government agencies. Each of these communities has a need for data communication capabilities with certain common characteristics. Among these characteristics are a high degree of connectivity within a highly dispersed user community, the ability to distribute relatively small amounts of data with high economic or social value and a modular structure which can accommodate rapidly changing and diverse data rates within the same system. The key to
satisfying these data communication needs is the aggregation of the public service data communications market by means of communications satellites and the broadcast data communications architecture they make possible. In this session we describe the projected requirements of this aggregated market and discuss the status of current proposals to provide these data services.