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VSAT Technologies at NIC : the New Paradigms

The Internet technology has grown tremendously over the past few years and consequently, a dire need for high speed access mechanisms has arisen . Being a pioneer in India in the field of VSAT technologies , NIC has kept pace with the latest by acquiring three new VSATs recently.

In order to meet its networking requirements, NIC has been operating the 850 - node CDMA network and the 20-node SCPC network, which have already been discussed in a previous issue of Informatics (October '94). To fulfill the growing demand of the NICNET users for a direct Internet access from their premises (eliminating the last-mile problem) and to support a number of value-added services, NIC has recently introduced three new types of VSATs namely, FTDMA, DirecPC and IP Advantage.

FTDMA

The FTDMA VSAT system is a private communication network designed for bi-directional traffic that includes interactive transactions, batch file transfers, data broadcast and voice communications. Broadcast of audio and video can also be included as add-on options.

The FTDMA features a unique and patented two-dimensional satellite access scheme which combines the TDMA slotted ALOHA and FDMA techniques.

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The star topology of a FTDMA network is well suited for use in configurations where corporate headquarters or data centres communicate with hundreds or thousands of geographically dispersed locations. The System supports a variety of data protocols and applications as well as voice, providing central 'host-to-remote terminal' and remote terminal-to-remote terminal connectivity.

A FTDMA network consists of the following components :

- A Master Earth Station and a control facility or Hub.
- A number of VSATs located at the customers' remote sites.