NICNET (NICNET-Role of Nationwide Networking in E-Governance)

Introduction

National Informatics Centre (NIC) is a premiere S&T institution of the Government of India, established in 1976, for providing e-Government/e-Governance Solutions adopting best practices, integrated services and global solutions in Government Sector.

In 1975, the Government of India strategically decided to take effective steps for the development of information systems and utilization of information resources and also for introducing computer based decision support system (informatics-led development) in government ministries and departments to facilitate planning and program implementation to

further the growth of economic and social development. Following this, the Central Government nucleated a high priority plan project "National Informatics Centre (NIC)" in 1976, and later on with the financial assistance of the United Nations Development Program (UNDP) to the tune of US$4.4 million.

When Government of India approved NICNET, the National Information center had to evaluate various technology options of the day and come to an optimal solution for a nationwide data network. In view of our national success stories in satellite communication, be it in broadcasting, television or voice, a satellite based solution for the purpose of linking al the state capital and district headquarters through a data network appeared most appropriate. It gave a solution which was distance-independent, cheap, scalable and easily deployable. Once the satellite option was made, the issue of mechanism of channel sharing was addressed. To provide two way communication to a large number of nodes using classical time Division multiple Access (TDMA)/Frequency Time Division Multiple Access) (FTDMA) mechanisms of carrier sharing were not feasible unless costlier and complex sharing mechanisms were incorporated.

Hence it was decided to go for a Code Division multiple Access (CDMA) based on Very Small Aperture Terminal (VAST) networking under the NICNET program. Commercially viable, cheap VSATs in C-band using CDMA of nodes for the same carrier in the two-way data link. The advantages of the CDMA. VSAT option chosen were specifically

- Small size (1.2 dia)
- Low cost
- Ease of installation and deployment
- Easy scalability

The VSAT had a 1200 bps uplink and 19.2 kbps downlink, through a few VSAT's had an uplink of 9600 bps. This low speed was, of course, a limitation.

Using VSATs as communication link some of the pioneering applications of NICNET in government were the following:

1. **Electronic Mail for Government Communications:** NICNET provided pre-internet, electronic mail to all secretariats of state governments, ministries of Government of India, and district collectorate through a centralized e-mail service.

2. **Database Access:** NICNET helped its users to access database like GISTNIC (General Information Services Terminal-National Informatics Centre), MEDLARS (Medical Literature Analysis and Retrieval Systems), etc. from remote locations.

3. **Talent:** NICENET enabled remote login of systems across the country.

4. **File Transfer Protocol (FTP):** NICENET enable files transfer across states and districts. This application was widely used for, applications like budget transmission and election result analysis.

History

The NIC was established in 1976 under the aegis of the Ministry of Electronics and Information Technology.[8][9] The NIC is credited with helping the Indian government embrace IT in the 1990s[10] and has also helped disseminate e-governance to the masses.[11]It had an annual budget of □11.5 billion (US$160 million) for the year 2018–19.[2]

In May 2019, the government of India set up the Centre for Smart Governance (CSG), and state governments have since been advised to consult the CSG for IT projects they previously would have consulted the NIC and private firms for. Some claim that government sources have said "NIC is said to be unable to scale up", and Rajeev Chawla, Additional Chief Secretary (e-Governance), was quoted as saying "CSG will be an analogue to NIC"

Achievements

NIC has emerged as a "prime builder" of e-government/e-Governance applications in government sector (national, state and local districts) as well as promoter of digital opportunities for sustainable development, during more than a quarter century period. NIC has institutional linkages through its ICT Network "NICNET", with all the Departments/Ministries of the Central Government, 28 State Governments, 1 National Capital Territory of Delhi, 6 Union Territories, and about 600 District administrations of India. NIC has been instrumental in steering e-Government/e-Governance applications in Government Ministries/Departments at Centre, States, District and Blocks, facilitating improvement in government services, wider transparency, promoting decentralized planning and management, resulting in better efficiency and accountability to people.

NIC has been involved implementing "eGovernance agenda" of the Central Government with respect to:

- Internet/Intranet Infrastructure (PCs, Office productivity tools, Portals on Business allocation) upto Section officers levels;
- IT empowerment of Officers/Officials & Capacity Building
- ICT Enabled Services (G2G, G2E, G2C and G2B)
- ICT Plans for Sectoral Informatics Development;
- Business Process Re-Engineering
- Services profiles, among the others, include:
- Network services (WAN, MAN, LAN)
- Capacity Building through Human Resources Development of Government Employees;
- Datamining and data warehousing
- Total ICT Solutions
- Video Conferencing & web services
- Certification Authority and PKI Services
- Domain (gov.in) Registrar

- Computer Emergency Response Team (CERT) Services
- National Disaster Recovery Centre
- Geomatics & Informatics design and development for decision support
- Sectoral ICT Plan formulation
- ICT projects consultancy

Strengths of NIC

- Domain expertise in various sectors of Government Business Allocation (Social Sectors, Economic Sectors, and Accounting and Treasuries, etc);
- Development Expertise & Experience in Systems Development Life Cycle (SDLC);
- Expertise & Experience in Networking, Software Technology and Hardware technology;
- Web sites development and hosting with expertise in developing dynamic sites;
- Email and Internet services using NICNET;
- Imparting training in 'standard tools', computer awareness and application systems;
- Handholding support during implementation;
- District Centers providing state-wide and nation-wide support for application systems;
- "NIC is, perhaps, the only S&T organization which has the infrastructures to perform the functions of four different service providers envisaged in the Convergence Communication Bill 2000, namely:
- Network Infrastructure Facility Provider (NIFP)
- Network Services Provider (NSP)
- Application Service Provider (ASP)
- Content ASP"

Conclusion

In this case study we have studied about history of NICNET and how VSAT was established and its application. NICNET was upgraded to meet the present day requirements of the governmental various levels. Also we studied about achievement and strength of NICNET.