E1-E2 (EB)

Chapter 10

Enterprise Services

10. Enterprise Business

BSNL is having number of business solution for enterprise. The details of each solution is as follows:

10.1   VSAT service

VSAT technology is a secure and reliable medium to connect geographically dispersed locations and represents a cost effective solution for users seeking an independent communication network connecting to the global network. In a situation where other connectivity options are not feasible, broadband VSAT of BSNL (operating in Ku band of electromagnetic spectrum i.e. 11 to 18 GHz) offer value added satellite based services capable of supporting- Broadband internet access, VOIP, video conferencing, IP multicast, Local Area Network, voice, Fax and can also provide powerful dependable private communication solutions.

VSAT stands for Very Small Aperture Terminal. VSAT is a device (also known as an "earth station") that is used to send and receive wireless transmissions by satellite. Millions of VSATs are in use around the world, allowing people to send and receive two-way data, voice or video transmissions by bouncing signals off of satellites in orbit. The "very small" component of the VSAT acronym refers to the size of the VSAT "antenna" or "dish" - typically about 2 to 5feet (0.55-1.8 meters) in diameter for Ku-band systems - that is mounted on a roof, attached to a wall or placed on the ground and is capable of both receiving and sending satellite signals. VSAT systems can be designed to serve both broadcast and interactive applications whether data, voice or video, which are now being served by terrestrial lines and can be operated in either single or multi-user environment.

10.1.1   Key Features

- VSAT service of BSNL covers all parts of India

- Available at any remote location

- Provides voice as well as data service

- Provides broadband services

- Supports Internet, video multicast, video conferencing as well as voice telephony

- Capable of providing access to MPLS VPN as well as normal leased lines

- A range of satellite bandwidth available

- 4, 8, 16, 32, 64, 128, 256, 512 Kbps, 1 Mbps, 2 Mbps

- Installation and maintenance at remote location by BSNL

- Centralized NOC at Bangalore

- 24 x 7 support available at NOC

10.2   Business Opportunities

VSATs are required by customers to interconnect their offices or to complete their private networks in following situations:

- Leased lines not feasible through conventional media

- Backup for existing leased lines

- Low bandwidth usage applications like ATMs / vending machines

- Broadcast mode applications like e-learning, multi commodity exchange

- Voice / Data for offshore activities

10.3   Target customers

- Banking sector

- State Govt. e-governance projects

- PSUs of Power Generation, Oil Exploration, Coal Mines etc.

- Insurance companies, stock brokers

- NIC projects

- E- learning institutions

10.4   ISDN PRI (Primary Rate Interface)

ISDN Stands for Integrated Services Digital Network . ISDN is having two type of access one is BRI and other one PRI. PRI access can be used to get business from enterprises.

10.4.1   Key Features

- Digital telephone line as opposed to ordinary analog phone line.

- 30B channels over a single pair of ordinary telephone copper wires.

- Useful for connecting private exchange (EPABX) of Corporates to the PSTN telephone network.

- Also useful for DID franchisees of BSNL and ISPs (for their incoming traffic)

- Better voice quality due to digital transmission of voice & data.

- Capable of both voice & date usage.

- Video conferencing and other data applications possible by utilizing required number of B channels.

10.4.2   Value Proposition

PRI is capable of delivering CLI in both directions so that the telephone number of an extension, rather than a company's main number, can be sent.

- Faster call set up.

- Superior audio fidelity

- Lower cost

10.4.3   Commercials features

- A number of usage plans available suitable for low as well as high traffic.

- Call charges reduce with traffic volume.

10.5   MLLN – Managed Leased Line Service

A leased line is basically dedicated pair/pairs of copper wire connecting between two points that is available 24 hours a day for use by a designated user (Individual or Company). A synonym is non-switched line (as opposed to switched or dial up line). A leased line can be a physical path owned by the user or rented from a telephone company like BSNL/MTNL/VSNL. In earlier days these leased line equipment used to be the same as that of the telecomm transmission equipment as the requirement of leased line networks were low. With the burgeoning need for the leased line, now a days Managed Leased Line Networks (MLLN) are being used.

The MLLN is an integrated, fully managed, multi-service digital network platform through which service provider can offer a wide range of services at an optimal cost to Business Subscribers. Backed by a flexible Network Management System with powerful diagnostics and maintenance tools, the MLLN can be used to provide high-speed leased lines with improved QoS (Quality of Service), high availability and reliability. The Network Management System also supports Service Provisioning, Network Optimization, Planning and Service Monitoring. The system offers features such as end to end circuit creation and monitoring, Circuit Loop Test and fault isolation, Alternate re-routing of traffic in case of trunk failure, Software programmability of NTUs, etc. Due to its wide range of applications in various sectors like banking, financial institutions, stock markets, newspaper industry, broadcasting houses and Internet Service Providers, this managed leased line equipment will benefit all sections of people by way of faster Internet access, accessibility of bank accounts from anywhere, instant news coverage etc.Various organizations like banks, ATM operators, IT companies will be using this flexible leased line solution.

The MLLN also supports enhanced features such as Corporate Internet Access, Point toPoint Data, Point to Multipoint Data, LAN-IC, Hotline, EPABX Inter-connect, EPABX Remote Extension and ISDN Line Extension, Virtual Private Network, etc.

The MLLN service is specially designed mainly for having effective control and monitoring on the leased line so that the down time is minimized and the circuit efficiency is increased. This mainly deals with data circuits ranging from 64 Kbps to 2048 Kbps.

10.6   Drawbacks in plain Leased line service

- Limited range of services - Only Plain Leased Line Service, Data cards support only up to 64 kbps, no support for N x 64 Kbps.

- Cumbersome operation

- Different "boxes" from different vendors - difficult control & management

- first Generation Network Elements with minimal maintenance features - Fault isolation & rectification difficult

- No centralized Alarm or Performance Statistics Monitoring - No way to know the health of the network

- New Circuit Installation - Long drawn out process - Manual verification of resources needed

- Cross-connection of individual circuits is done at the channel level, physically

- Poor customer satisfaction

- Reactive maintenance - Network fault reports not generated proactively

- No guaranteed Quality of Service (QoS) - No way to measure circuit quality or generate customized performance reports

- Poor network reliability & availability - Non-redundant network elements, No alternate routing of circuits in case of failure

- No centralized Network Management System (NMS) - High lead time to for new installations, High MTTR (Mean Time To Repair)

10.7   Today's Requirement

- Buyers' Market – Customer demands - Competition

- Service Level agreements – TRAI recommendations

- Carrier Class Operation

- Negotiable Quality of Service & Statistics

- Proactive corrections

- Negotiable bandwidth – Time of day

- Deployment in hours

10.8   End to end Management in the Network – MLLN

The MLLN is an integrated, fully managed, multi-service digital network platform through which BSNL offers a wide range of services at an optimal cost to Business Subscribers. Backed by a flexible Network Management System with powerful diagnostics and maintenance tools, the MLLN is used to provide medium-speed leased

lines with improved QoS (Quality of Service), high availability and reliability. The Network Management System also supports Service Provisioning, Network Optimization, Planning and Service Monitoring.

The system offers features such as end to end circuit creation and monitoring, Circuit Loop Test and fault isolation, Alternate re-routing of traffic in case of trunk failure, Software programmability of NTUs, etc.

10.9   Features of MLLN service

- Control and management of the leased line network more effectively - Centrally managed from Network Management System

- Bandwidth management as per the customer demand

- Pro-active maintenance, without waiting for customer to book a complaint - Circuit fault reports generated proactively

- Alternate routing in case of any route failure

- Generation of periodic performance reports for self-analysis / customer

- Low lead time for new circuit provisioning

- Long drive on single pair copper

- MLLN NMS includes

- Billing and Accounting System

- Web Self-care system

10.10   Advantage MLLN

- Highly economical

- Saving of cost of modems – NTU is provided by BSNL without any charges

- Easy scalability and pay as per use

- Proactive maintenance

10.11   Internet Leased Line (ILL)

- ILL is an always on Internet connection based on leased line access (i.e. dedicated access). Leased lines provide the last mile access from the user premises to BSNL equipment.

- Required by heavy users like educational institutes, big cyber café, small and medium corporate house who need to constantly remain online with Internet.

- Permanent Internet connection as compared to the temporary connectivity through dialup access.

- Far superior quality as compared to dialup, thanks to digital signaling, less noise, fewer exchanges etc.

- A scalable access method - Bandwidths starting from 64 Kbps to 2 Mbps to 8 Mbps, 10/100Mbps Ethernet connectivity, 34/45/155 Mbps and beyond can be deployed.

- Since the access is "always on", it is possible to associate a pool of permanent IP addresses with a particular leased line. Using IP addresses provided by BSNL, it becomes possible to deploy a variety of services such as mail, FTP, WWW, DNS, and proxy, to name the most common requirements of organizations. In other words, leased lines enable hosting of services of all types, and provide a platform for enterprise intranets and extranets, apart from what we may term as "entry level" services such as messaging, which still account for over 70 percent of all Internet access.

- Leased Internet bandwidths up to 2Mbps are provided using modems on copper pair, however, large bandwidths are provided using OFC in the last mile.

10.12 3G Mobile Broadband Device (Data Card)

Service description

Key features and value proposition

- 3G is the next generation of mobile communication system. It enhances the services like multimedia, high speed mobile broadband, internet access etc

- 3G Data Card offers High speed internet and data service while on move

- Data rate downloading 3.6 Mbps & 7.2 Mbps

- Simple Plug and Play type of devices

- Single band and Tri-Band operation

Service level

- 100% Network uptime 24*7*365

- Multimode support GPRS/EDGE/GSM/UMTS

- Only 3G services provider in India besides MTNL

- Guaranteed Service support through dedicated service centre provided by Data card vendors

Product variants

USB form factor (HSDPA/HSUPA)

- A complete wireless platform to extend high speed data transfer

- Simple USB interface with variants like HSDPA/HSUPA

- HSDPA up to 7.2 Mbps and HSUPA up to 5.76 Mbps

Express/PCMCIA form factor

- PC/notebook card interface for wireless mobile broadband
- Plug and play with HSDPA support
- HSDPA up to 7.2 Mbps

Target Market

Applicable customer segments

- Suited to all the mobile work force of Platinum, Gold and silver segment
- Requirement of customers to always stay in touch via internet for business while on the go
- Will cater to the requirement of
- Mobile office
- General customers for wireless internet usage
- Offices of enterprise units in diversely located areas

Product / service differentiation

- Only services provider with 3G connectivity besides MTNL
- Highly secure and reliable communication all over India
- Choice of different data plan as per requirements
- Unique offering to stay in touch vide wireless Broadband while on the go

Suggested customer pitch

- Widest GSM coverage to the remotest part of India
- 3G enabled Network
- Fully Data enabled (GPRS/EDGE/3G) network
- Seamless connectivity with MTNL

10.13   Free EPABX scheme

Service description

Key features and value proposition

- BSNL provides a scheme to provide bundled telecommunication services through the provision of Voice & Data EPABX systems at customer location connected to the telecom backbone on BSNL's nationwide telecom network
- Free deployment of EPABX systems wherein the supply, installation, operation and maintenance of the entire system are done by BSNL through its appointed and empanelled vendor(s)

- Service for all customers including Housing complexes etc. requiring Voice & Data EPABX facility fin the area of operations of BSNL.

- DID enabled EPABX; (with Unlimited Free Calls within EPABX extensions).

- Rentals to be charged on a per extension basis

Service level

- State of the art fully functional full featured Voice & Data EPABX System connectivity at the customer premises.

- FCBC & Batteries for adequate Power Backup.

- Fully protected Main Distribution Frame.

- Customer Premises Equipment (CPE) i.e. in case of xDSL Connectivity

- All related software such as fault management software, extension wise billing software, subscriber management software etc.

- Connectivity through PRI/EI/DID/CO Junctions

Product variants

Services under the scheme

- Intra & Inter Office Voice Connectivity

- Data Connectivity & Internet Access through dialup & xDSL

- Value Added Services (VAS) – Voice mail and optional services such as Predictive Dialers, Automatic Call Distribution, Information Pop-Up Screens, VoIP, Voice Mail, Inter Office Video-Conferencing etc

Target Market

Applicable customer segments

- Corporate customers/ offices of all segment

- Housing Societies / Complexes/ Apartments etc

Product / service differentiation

- Highly secure and reliable communication

- Rentals to be charged on a per extension basis and no rentals of whatsoever nature on the junction connectivity by BSNL.

- Different plans for Voice and Data services

10.14   Wire Line Intelligent Network Services

Service description

Key features

- Dedicated IN platform for wire line Network.

- Services available on PAN India basis.

- Both Prepaid and Postpaid Services available.

- Prepaid Services-ITC, CALLNOW, FLPP and ACC

- Postpaid-VPN, TFS, UAN, UPN, Televoting and PRM

- Four GPIN platforms to support all IN services except Televoting.

- One dedicated MCIN platform to support Televoting Service.

- 11 digit number beginning with 18.

10.15   Free Phone Service

Key features

- This service shows the new function in charging, a call to a service subscriber will be paid by the called party.

- All charges are levied on the service subscriber.

- The service is free of any charge to the calling user.

- 11 digit number beginning with 1800.

- Service is accessible from networks of Private Operators also like Airtel, Vodafone, TATA, Idea, Shyam etc.

- Host of Call Handling Features

- Origin Dependant Routing

- Time Dependant Routing

- Black/White and Grey List

- Traffic Dispersion as per predefined criteria.

- Line Hunting

- Call Queuing

- Detailed Bill

Target Market

- Enterprises or organizations with large customer base or having call centers.

- Retail products and services Industry.

- Ideal for hotels and restaurants.

- Companies providing after sales support as customers associate a Free phone number with the quality of the business products or services

- The whole business community in general

Universal Access Number

Key features

- A call to a service subscriber will be paid by the calling party or split between the calling and called party.

- The service is an ideal business promotion tool for business communities who want the people to call them without any hassle.

- Service is accessible from networks of Private Operators also like Airtel, Vodafone, TATA, Idea, Shyam etc.

- 11 digit number: 1860-XYZ-ABCD.

Premium Rate Service

Key features

- A single 11 digit number on PAN India basis to the service subscriber: 1867-XYZ-ABCD.

- Call charges to be paid by calling party.

- Call will be billed at premium rates (Higher Rates).

- Revenue shall be shared between Service subscriber and BSNL.

- Host of Call Handling Features

Target Market

- Tarot, the crystal ball, rune readings, healings, astrology etc

- Gambling, Horse racing, Adult chat lines

- Directory enquiries and weather forecasts

- Competitions and Diplomatic services to reduce the call volume from casual callers, a tactic also employed by tech support lines to also reduce call length.

10.16   Televoting Service

Key features

- Televoting is unique service used in collecting public opinion.

- A user, who wishes to vote, can dial the specific voting number to register his vote of choice.

- Televoting is possible from STD barred phones also.

- Televoting is a more cost-effective method of democratic deliberation as it does not require the participants/voter to meet in person.

- Televoting numbers are 13 digit number :

- 1861-424-ABCD-XY (unit pulse charge to calling party)

- 1862-424-ABCD-XY (two pulse charge to calling party)

- 1861-424-ABCD-XY (no charge to calling party, service subscriber to pay)

- Revenue sharing between the service provider (Subscribers) & network provider (BSNL).

Target Market

- Media like TV and Press.

- Policy making bodies, political party/activities

- Quiz shows, contests, events, product choices, concepts, programmes, song and beauty contests etc.

10.17   Virtual Private Network

Key features

- What is true of all VPNs is that they provide connectivity between two or more places using a previously established, shared network infrastructure rather than having to deploy new, dedicated hardware specifically for this purpose.

- Combined voice VPN can be provided for fixed line telephones of BSNL/MTNL and BSNL mobile.

- Use this service by dialing short codes to have a private network using public network resources.

- Good for institutions, Government departments and businesses.

- This service brings down telephone bills due to special package tariff for calls within VPN.

Features

- Translation of multiple private numbers to one public directory number mechanism

- Multi-site Organization - Many sites belonging to one single VPN Network where the site can be located at different physical location in the world.

- Short Group Numbers - These are public directory nos. which are not a part of VPN Network but are given a short number which is defined at Company level.

- Date & Time Screening – Date and time slices for incoming/ outgoing calls where VPN users are allowed to make/receive calls.

- Exception List - The lists which contain the numbers which are not allowed for incoming & outgoing calls.

- Call Duration Control – Threshold can be set for accumulated incoming/outgoing calls.

- Multiple Account Codes - This feature allows the company users of a given VPN group to mark their calls according to business so that subscribing companies receive a bill, which details the cost of communication according to the company activities and the company organization

- Dual Invoicing - This is the ability to bill calls made by a given company member either on the corporate account or on the VPN member personal account.

- Call Forwarding from one VPN number to another

- Hunting List – A series of numbers may be defined in hunting list for incoming calls per VPN user.

- Substitution: This feature allows mobility of VPN user in their company by providing the VPN access from handset of any other VPN user of that group.

- Preferred External Destination (PED) - If there exists a number which is not a part of VPN Network but is frequently called then it can be defined as PED in the network at a particular site.

- No call charges for management functions.

Target Market

All type of companies, distributors, firms, institutions, housing society etc

10.18   Account Calling Card

Key features

- This service allows the user to make a phone call from any normal phone to any destination number and have the cost of these calls charged to the account specified by the Account calling card.

- This card is deal for corporate and executives. Economical and convenient, customer need not worry about consumption out of budget and helps executives control their calling.

Features

- Multiple Language Choices

- Four simultaneous calls possible from same Account Card calling

- Local, National and International dialing possible.

- National, International call restriction. Call restriction also possible according to origin & destination

- Detailed bill facility available on demand at cost.

- Account balance announcement with Real Time Credit Supervision

- Minimum credit to use the service with Warning Tone when credit reaches optimum level

- Follow On Calling – In case of Called Party On Hook, Called Party No Reply & Called Party Busy the user can go and make a second call without entering the secret code number
- Provider Incoming /Outgoing Black List
- Access code : 1804-XYZ

Target Market

Companies and retail subscribers

10.19   MPLS VPN

MPLS – a Bird's eye view

- 230+ NODES across the country.
- Built on STM16 Backbone (Easily upgradeable)
- Managed Solutions.
- Identification, Escalation and Localisation of faults before the customer could sense it.
- Better Traffic Engineering Capabilities

Choices available to the customer today

- Point to Point Leased Lines
    - 64 Kbps to STM-16 (2.5 Gbps)
    - Special Construction basis

- VSAT Based solutions
    - Ku-Band Net/ HVNET / RABMN

- Telephone Based Solutions
    - ISDN , PSTN

Limitations of the above choices

- As the organization grows, number of links increase, Network becomes more complex and it is difficult to maintain the reliability.
- As the organization grows, present networking solution becomes costly since we will have to invest on multiple links and Networking equipments.
- Security, Maintenance of Network Elements is customer's responsibility in present scenario.
- Provisioning & Commissioning time is more.

What Customer wants…?

- Ease of Implementation

- SLA to be entered with customer.

- Bandwidth on Demand to be provided instantly and to be varied as & when required.

- Network monitored right up to customers premises equipments.

- Security, Maintenance of Links is the Service Provider's responsibility.

MPLS – a new solution to the customers' problems

- Network can be easily implemented.

- Network highly secured.

- Network built for better Traffic Engineering.

- Any differentiated Services possible.

- Network very reliable due to built in redundancy.

Why MPLS based VPNs?

- Security is the responsibility of BSNL MPLS Network.

- (Company will be responsible for the Security of the Information and network in Point to Point leased lines.)

- Simple Network Implementation

- Easy to configure & manage.

- QoS, CoS and better Traffic Engineering.

- Easy Network Expansion at Customer Premises.

- Easy Introduction of New Services (Multicasting, VoIP, Hosting over the same link)

- Mobile Workers can dial up on a Secure Network to access Company VPN.

Service Capabilities

    Managed / Unmanaged Layer 3 MPLS VPN

- Capability to provide Managed Services to the end customers.

- BSNL will manage the complete network, including the CPE for the customer.

- Intranet Managed and Un-managed

- Extranet Managed and Un-managed

Layer 2 VPN Services

- Capability to provide dedicated end to end connectivity services.

- The traffic will be carried on the core as MPLS Traffic.

- L2 VPNs support the following encapsulations: FR, HDLC, PPP, Ethernet

- Seamless Migration from the existing network in a shortest possible time.

Roaming Services (VPDN)

- Capability to provide VPN connectivity from any part of the country.

- A Unique Access code (127233 for PSTN and 127225 for ISDN) is to be dialed to access the Nearest POP.

- After due authentication, the tunnel gets established thereby increasing the Availability and Manageability

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