NetEngine™ 6104i and 6504i

HIGHLIGHTS

4 S0 ISDN BRI ports with ADSL or G.shdsl WAN interface

Support for up to 8 phone extensions

PS1 and PS2 powering for ISDN phones

Toll-quality voice

Enhanced bandwidth and reach (G.shdsl)

Complete routing and bridging

Integrated firewall: IP filtering

10/100 Ethernet LAN interface

Remote management and provisioning

Stackable or wall mountable

NetEngine™ 6104i and NetEngine 6504i are integrated access devices (IADs) ideal for international service providers offering high-quality voice and data over ISDN BRI lines to small- and medium-sized businesses. Now, service providers can deliver toll-quality voice and high-speed data with these highly interoperable, fully featured IADs.

Now, service providers around the globe can meet the broadband needs of end users using ISDN lines as their primary phone service. Sporting features such as Emulated Loop Control Protocol (ELCP), and the widest interoperability with DSLAM and voice gateway vendors, the NetEngine 6104i and NetEngine 6504i are ideally suited for service providers offering voice over broadband services internationally. Whether service providers are deploying ADSL Annex A or Annex B, the NetEngine 6104i gives end users high-quality voice and data over a single POTS or ISDN line respectively. The NetEngine 6504i supports G.shdsl an industry standard newly ratified by the ITU enabling service providers to capitalize on the advantages of higher bandwidth and greater reach, as compared to legacy SDSL, made possible by the standard.

The NE 6104i and NE 6504i provide line powering and can support the full range of BRI phones powered or non-powered. The Dynamic Host Configuration Protocol (DHCP) and Ne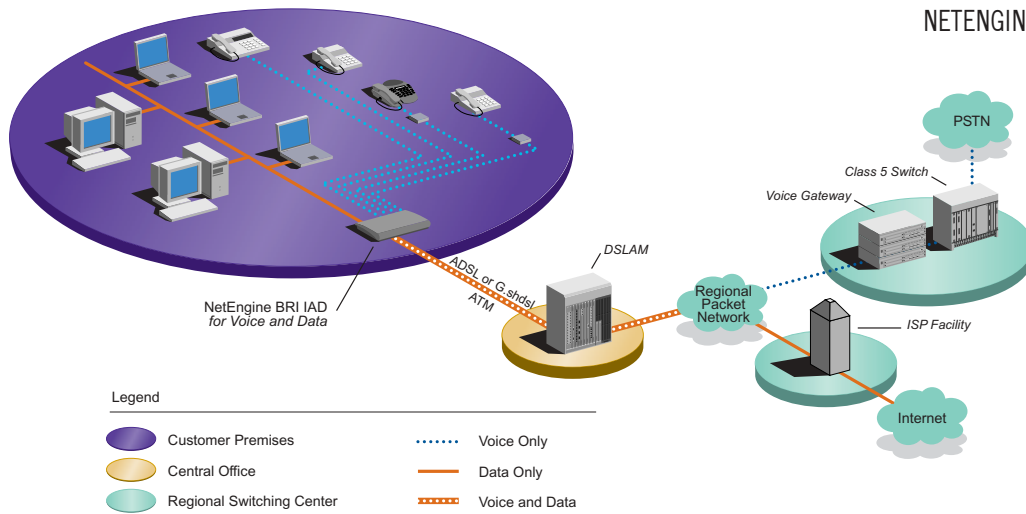twork Address Translation (NAT) features mean that the IAD automatically generates unique addresses for different workstations. End users do not have to purchase additional IP addresses and can still enjoy the heightened security of hidden internal addresses. Remote diagnostics and provisioning dramatically ease the deployment process and eliminate the need for costly truck rolls. Each BRI port can connect two external phone numbers, which means that using a standard NT adapter, end users can connect a total of eight external phone numbers to one IAD.

Verilink increases the value that service providers offer to end users by providing compression on both of the IADs. Support for G.726 for voice means more bandwidth is available for data.

Above all, Verilink offers top reliability with proven products absolutely necessary for today's end users accustomed to hearing a dial tone every time they pick up a phone. NetEngine IADs are known for CLASS-5 call completion rates of 99.99 percent and voice quality that is virtually indistinguishable from toll-quality voice.

Go to www.verilink.com or call 866.665.1515 for more information

VERILINK®

Legend

- Customer Premises
- Central Office
- Regional Switching Center
- Voice Only
- Data Only
- Voice and Data

SPECIFICATIONS

PART NUMBER AND DESCRIPTION

2200-60302-125 NetEngine 6104i—Annex A (Europe)
2200-60302-102 NetEngine 6104i—Annex A (UK)
2200-60302-119 NetEngine 6104i—Annex A (Switzerland)
2200-60302-122 NetEngine 6104i—Annex A (Other Europe)
2200-60303-125 NetEngine 6104i—Annex B (Europe)
2200-60303-102 NetEngine 6104i—Annex B (UK)
2200-60303-119 NetEngine 6104i—Annex B (Switzerland)
2200-60303-122 NetEngine 6104i—Annex B (Other Europe)
2200-60301-125 NetEngine 6504i (Europe)
2200-60301-102 NetEngine 6504i (UK)
2200-60301-119 NetEngine 6504i (Switzerland)
2200-60301-122 NetEngine 6504i (Other Europe)

VOICE FEATURES

ISDN Interface

Voice Ports: 4 BRI S0 ports (RJ-45)

Line: 4-wire (Tx and Rx pair)

Operating Mode: Full duplex

Data Rate: 2B+D ISDN (B=64 kbps, D=16 kbps); 128 kbps available

Power: PS1 and PS2 powering for ISDN phone, 10 power consumption units (pcu)/port

Digital

Compression: G.711 (64 kbps PCM), G.726 (32 kbps ADPCM)

Encoding: A-law, μ-law

Echo Cancellation: G.168 compliant (single reflector)

Protocol Support: ELCP (af-vmoa-0145), Jetstream

Fax Support: G3, G4, and analog V.17, V.29 (with external adapter)

Modem Support: V.34, V.90 (with external adapter)

Calling Features: Caller ID, flash hook, three-way calling, distinctive ringing, stutter dial tone, call forwarding, call waiting

DATA FEATURES

LAN Interface: 10/100 BaseT (RJ-45), Auto Sensing, Half and Full Duplex

Bridging: IEEE 802.1d including spanning tree

Routing: Default, Static, RIP1 (RFC 1058), RIP2 (RFC 2453), ICMP for IP packet processing

DHCP: Server, client (RFC 2131), relay agent (RFC 1542)

PPP: PPPoA, PPPoE, PAP, CHAP, IPCP (RFC 1332)

IP multicast: IGMP (RFC 2236), PIM (RFC 1213), Enterprise MIB

Management: SNMP (RFC 1157), MIB1, MIB2 (RFC 1213), Enterprise MIB

WAN FEATURES

Interface

WAN:

   NetEngine 6504i: G.SHDSL-TCPAM, SDSL (RJ-11)

   NetEngine 6104i: ADSL—Annex A, B (RJ-45)

Standards:

   NetEngine 6504i: ITU-T G.991.2

   NetEngine 6104i: ANSI T1.413 Issue 2; ITU-T G.992.2, G.992.1

Transport: ATM

DSLAMs Supported: Cisco, Copper Mountain, Innovia, Lucent, Nokia

Protocol: Point-to-Point (PPP)

ATM

Adaption Layers: AAL2 (voice), AAL5 (data)

Encapsulation: RFC 1483 multiprotocol encapsulation over ATM; RFC 2364 (PPP over ATM); ITU 366.1, ITU 366.2 (AAL2)

AAL2 Profiles: ATM: 9,10,11 and ITU: 1

Voice: Single AAL2 PVC

Data: Up to 8 AAL5 PVCs

Security: Software-configurable payload scrambling

Voice QoS: CBR, VBR-rt

Data QoS: CBR, UBR

Cell Delay Variation Buffer: Configurable 0-30 ms

OAM Cell Handling: F4/F5 segment and end-to-end loopbacks

VOICE GATEWAYS SUPPORTED

CopperCom, JetStream, AAL2/LES and ELCP, General Bandwidth, PSAX, TdSoft, Zhone, and any af-vmoa-0145 compliant gateway

Softswitches: MGCP 0.1, NCS, LCS, MGCP 1.0 (RFC 2705 .bis)

SIP capable

CONFIGURATION AND MANAGEMENT

Upgrades:

   Trivial File Transfer Protocol (TFTP) server and client for software upgrades and configuration

   Telnet (local and remote)

Management: SNMP 1.0, Telnet, Console

Configuration: Console, Telnet (local, remote)

SECURITY FEATURES

Firewall: IP filtering (in and out)

NAT: RFC 1631, Port translation, exported services, multi-NAT (up to 8 public IP addresses)

Security: Multilevel password protection

Other: Radius client support (RFC 2865)

ENVIRONMENTAL

Power Supply: External 120 VAC, 60 Hz or 220–240 VAC, 50 Hz

Power: 12 watt nominal, 16 watt max

Operating Temp: 0° C to 40° C

Storage Temp: –10° C to 70° C

Operating Humidity: 5%—90% non-condensing

Safety: UL 60950 Third Edition, CAN/CSA C22.2 No. 950-95, EN 60950:2000, IEC 60950:1999

Emissions: EN55022, EN55024, EN61000-3-2, EN61000-3-3

LEDs: Voice, WAN link, LAN Rx, LAN Tx, Power

Dimensions: 11.8" x 8.3" x 1.8"

Weight: 1.8 lbs

Mounting: Stackable and wall-mountable

WARRANTY AND SUPPORT

Five-year warranty

VERILINK®

VERILINK CORPORATION   **127 Jetplex Circle**   **Madison, AL 35758**   **866.665.1515**   **256.327.2001**   **www.verilink.com**