Verso Verilink® 8500 Series
VoIP/VoDSL IAD (SHDSL)

Integrated access router offering maximum performance with superior convergence capabilities

Award-winning compression technology with an integrated access router that supports the deployment of converged voice, data and video communications to maximize Quality of Service, reliability, and performance.

Extend the power of convergence across your networks

The 8500 Series are Integrated access devices (IADs) ideal for service providers looking to expand their service areas and offer small to medium-sized businesses a high-quality voice and data service over SHDSL.

Flexible and scalable

The 8500 series consists of access products available in two models: a base model supporting VoATM only and an "S" version that supports VoATM and VoIP in a single device. Both the base and "S" units are available in models equipped with 4 and 8 derived voice lines and a 10/100 BaseT interface for high-speed data connections. The 12, 16 and 24 port versions come standard as "S" versions.

With models available supporting 4, 8, 12, 16, or 24 POTS ports and a full range of integrated features, the 8500 offers toll quality voice and high-speed Internet access over a single copper pair. Additionally Verilink's IADs deliver robust features such as routing, bridging, NAT, DHCP, and support for MGCP and SIP – all in one unit.

Interoperability

The 8500 Series delivers high-quality voice and data over a single pair SHDSL line, making it ideal for both the international and North American markets. The 8500 uses integrated circuit technology that allows easy internationalization through software control of line impedance and ring frequency. Features such as Emulated Loop Control Protocol (ELCP) and interoperability with a wide range of DSLAMs and voice gateways giving service providers the freedom to choose an infrastructure device based on what they need.

Subscriber Value

The 8500 is particularly valuable to a carrier's subscribers because the integrated firewall and router eliminate the need to purchase additional hardware. With Dynamic Host Control Protocol (DHCP) and Network Address Translation (NAT), the 8500 automatically generates unique addresses for different workstations. This allows subscribers to ensure the heightened security of hidden internal addresses without purchasing additional costly IP addresses. Additionally, remote diagnostics, provisioning, and easy upgrades are critical benefits to services providers since they dramatically simplify the deployment process and eliminate the need for costly truck rolls.

Proven Reliability

Above all, the Verso Verilink 8500 offers superior reliability and field proven success, both critical elements to service providers today. Verso Verilink's IADs are designed to meet Class 5 call completion rates of 99.999% and provide voice quality that is virtually indistinguishable from toll quality.
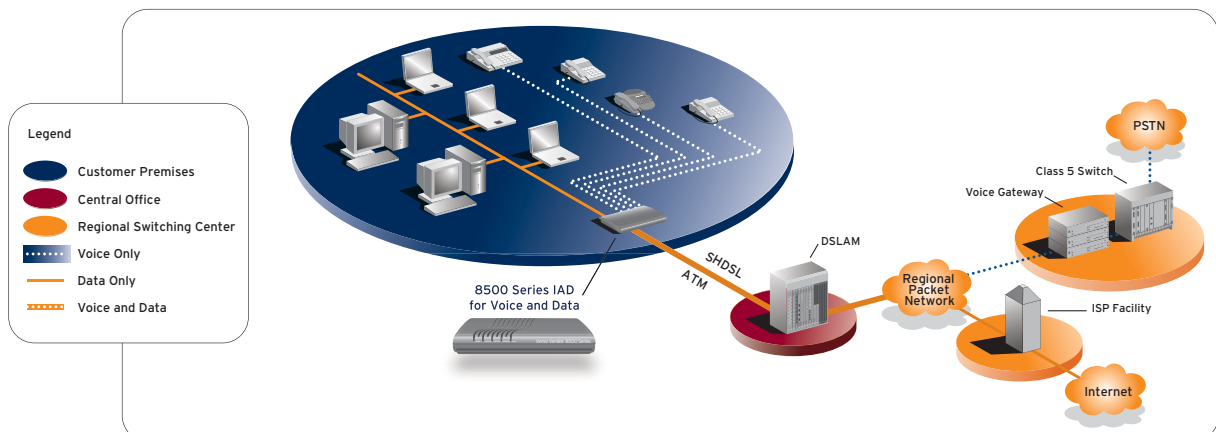
It's easy to learn more

To learn more about the Verso Verilink 8500 and how it can benefit your company, call, email, or visit us online today.

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

8500 Series IAD for Voice and Data

SHDSL
ATM
DSLAM
Regional Packet Network
PSTN
Class 5 Switch
Voice Gateway
ISP Facility
Internet

A global provider of Next Generation Network solutions

think|growth

Verso Verilink® 8500 Series VoIP/VoDSL IAD (SHDSL)

Key Features

- Supports emerging VoIP specifications (SIP, MGCP) "S" versions only
- Seamless voice and high-speed data integration over SHDSL
- 4, 8, 12, 16, or 24 port POTS interface with Loop Start or Ground Start
- Universal Serial Interface (USI) (12, 16, 24 port models only)
- Toll-quality voice
- Dynamic bandwidth capabilities

- Management capabilities including Telnet, SNMP, and bandwidth allocation and prioritization for voice and data traffic
- DHCP and NAT to support IP address management
- Firewall support - IP filtering
- Dynamic and Static IP routing and bridging

Specifications

Voice Features
- Analog
  - Voice ports: 4 or 8 POTS ports (RJ-11); 12, 16, or 24 POTS ports FXS (RJ-21X)
  - Failover: Analog input fail over to Line 1 (RJ-11)
  - Signaling: Loop start, ground start
  - Dialing: DTMF (tone), Pulse
  - Ring Source: Internal
  - Impedance: 600, 900,Complex (country specific)
  - REN: 5 REN per port, 16 REN total
  - Loop Current: 20, 24 mA typical (country specific)
  - Idle State Voltage: .48 V typical
  - Ring Voltage: Balanced 65 V rms ±5% at 5 REN load
  - Ring Frequency: 20, 25, 50 Hz (country specific)
  - Gain/System Loss: Programmable, +3 to -9 dB
- Digital
  - Compression: G.711 (64 kbps PCM), G.726 (32 kbps
  - ADPCM) G.729a (8 kbps) "S" version only
  - Encoding: A-law, μ-law
  - Echo Cancellation: G.168 compliant (single reflector)
  - Fax Support: G3, G4, and analog V.17, V.29
  - Modem Support: V.34, V.90
  - Calling Features: Caller ID, flash hook, distinctive ringing, stutter dial tone, call forwarding, call waiting

WAN Features
- Interface
  - WAN: SHDSL-TCPAM, SDSL (RJ-11)
  - Standards: ITU-T G.991.2
  - Transport: ATM
  - 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; "S" versions also support ATM Profiles 7,8, 12 and ITU 2
  - Voice: Single AAL2 PVC
  - Data: Up to 8 AAL5 PVCs
  - Security: Software-configurable payload scrambling
  - Voice QoS: CBR; VBR-rt (12, 16, 24 port model only)

  - Data QoS: CBR, UBR
  - Cell Delay Variation Buffer: Configurable 0-30 ms
  - OAM Cell Handling: F4/F5 segment and end-to-end loopbacks

Data Features
- LAN Interface: 10/100 Base-T (RJ-45)
- 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)
- Universal Serial Interface: EIA-530/RS-449, V.35 (DB25) (12, 16, 24 port models only)

Voice Gateways Supported
- DSLAMs Supported: ATM: Lucent, Nortel, Nokia, AccessLan, CopperMountain, Paradyne
- Voice Gateways Supported: Verso, CopperCom, JetStream, TdSoft, Broadsoft, MetaSwitch, CirPack, NuERA Tollbridge, Nortel CS2K MGCP, General Bandwidth, Accelerated AAL2/LES and ELCP and any af-vmoa-0145 compliant gateway
- Softswitches: NCS, LCS, MGCP 1.0, (RFC 2705.bis), SIP ("S" versions only)

Configuration & Management
- 10/100 Ethernet (Management or IP Gateway)
  - Connection: 8-pin modular
  - Network Protocol: TCP/IP based networks
  - Data Rate: 10/100 Mbps
  - Compatibility: 10/100Base-T
- Supervisory Port Connection: DB-9 female
- Data Rates: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps (default: 19.2 kbps)
- Upgrades
  - Trivial File Transfer Protocol (TFTP) server and client for software upgrades and configuration
  - Software download via gateway (wherever supported)
  - Telnet (local and remote)
  - Management: SNMP 1.0, SNMP 3.0, Telnet, Console
  - SNMP via IP or EOC, MIB1, MIB2, (RFC 1213),
  - Enterprise MIB, LES MIB

Security Features
- Firewall: IP filtering (in and out)
- NAT: RFC 1631, Port translation, exported services, multi-NAT (up to 16 public IP addresses)
- Security: Multilevel password protection
- Other: Radius client support (RFC 2865)

Physical Characteristics
- Dimensions: 4 or 8 port models: 11.8" W x 8.3" D x 1.8" H (30cm W x 21cm D x 4.6cm H) 12, 16 or 24 port models: 17.5" W x 10.25" D x 1.75" H ((45cm W x 26cm D x 4.5cm H)
- Weight: 4 or 8 port model: 1.8 lbs (1.35 kg); 16 or 24 port models: 4.75 lbs (3.50 kg)
- Mounting: Stand alone or wall mountable
- LEDs: Power, LAN link, LAN act, WAN link, Voice

Power
- Power Supply:
  - 4 or 8 port models: External 90-240 VAC, 50-60 HZ
  - 12, 16 or 24 port models: Internal 90-240 VAC, 50-60 HZ
- Power:
  - 4 port model: 15 watt nominal, 30-watt max operating
  - 8 port model: 20 watt nominal, 50 watt max
  - 12, 16, or 24 port models: 40 watt nominal, 65/76/110 watt max

Environmental Tolerances
- Operating Temp: 0° C to 40° C
- Storage Temp: -10° C to 70° C
- Operating Humidity: 5%-90% non-condensing

Regulatory - Compliance and Agency Approval
This product complies with or has obtained Regulatory Agency approval at least against the following standards:
- EMC - Emission - Class A : FCC Part 15, EN 55022:1998 + A1 + A2, AS/NZS 3548
- EMC - Immunity: EN 55024:1998 + A1 + A2
- Safety: UL 1950, CSA C22.2 No 950:95, IEC 60950-1, EN 60950-1, AS/NZS 3260
- Telecom: FCC Part 68, IC CS-03 Issue 8, AS/ACIF S043