

VersaXpress-2000MD system is the IP DSLAM device most suitable for Telco and Internet Service Provider's with high density network environment such as local loop, campus, multi-tenant apartment, multi-tenant commercial, multi-tenant student dorm, and Hotel/Motel. The access routing concentrator can accommodate up to 16 line cards. With the high bandwidth flexible backplane design, the system combines variety technologies to meet with different kinds of market requirements.

Provides the Gigabit Ethernet routing switch control card (MCU) with network management for the end-to-end operation, network administration, maintenance, and provisioning of the MDU access concentration. The gigabit Ethernet management control card can aggregate traffic from phone line cards to an external network device. The phone line ADSL2+ card can be operated either stand-alone or with the gigabit Ethernet concentration or switching control board.

Fully Redundant MCU and Power Supply platforms designed for uptime reliability. A pair of redundant MCU are special designed for the VersaXpress-2000MD ADSL2+ IP DSLAM device without service interruption. The Line Cards utilize individual power module which enables operation directly from -48VDC power source. The DC voltage operating range supports worldwide Telco operation.

Include build in Test Access Matrix. The implementation provides quick access to any circuit on the chassis for line/loop diagnostic without the physical presence of technician.

Include build in voice/data splitter. The added circuit offer ease of installation, cost saving without external Splitter rack and reduce cabinet space requirement.

Share the existing POTS (Plain Old Telephone Service) wiring to provide connectivity to subscribers, eliminating the need for new wiring. The system provides flexible and variety bandwidth services depend on the subscriber demand. This solution brings faster ADSL2+ high-speed networking Internet services to the subscribers by using existing phone-line found in the home and business. With high bandwidth ADSL2+ technology, the voice and data operates simultaneously over the same pair of copper wire without interfering with voice service. The system can be remotely managed and software upgraded. This function eliminates the need for field upgrade. All cards are hot swappable which minimize service outage times. There are 4 devices can be fitted into a standard Telco cabinet, up to 8 cabinets per a DSLAM group and total up to 12288 subscribers per group.

Provides most advanced 802.1Q tunneling (double VLAN Tagging) technology. By using this feature, service providers can use a single VLAN to support customers who have multiple VLANs. Customer VLAN IDs are preserved and traffic from different customers is segregated within the service provider infrastructure even when they appear to be on the same VLAN. The 802.1Q tunneling expands VLAN space by using a VLAN-in-VLAN hierarchy and tagging the tagged packets. A port configured to support 802.1Q tunneling is



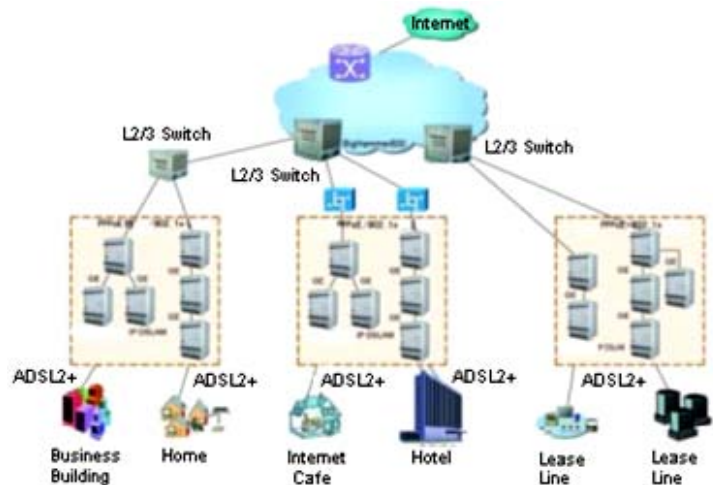
called a tunnel port. When you configure tunneling, you assign a tunnel port to a VLAN that is dedicated to tunneling. Each customer requires a separate VLAN, but that VLAN supports all of the customer's VLANs.

ADSL2+ Line Card Overview



The ADSL2+ Line Card interface module provides **Maximum Downstream Rate up to 24 Mbps and Maximum Reach Distance over 7.0 Km.** It is most suitable for local ISPs to use existing copper twisted pair telephone lines to provide high speed Internet access. This 24 port interface module is ITU G.ADSL2+ (G.992.5), G.992.3, G.Span Standard ADSL2 992.2, 992.1, hot swappable and features the LED indicators in front of the Line Card panel. PWR STATUS, UPLINK status LED indicates each connection status. When LED turns green means the line connection is valid and operational. Versa Technology's ADSL2+ Line Card is also backwards compatible with early version of ADSL and it is enhanced version of the ADSL2 improvement technology with the cross-talk free features.

Applications:



Features

- 24 port ADSL2+ Line Card
 - Support ADSL2+ module and total up to 384 High bandwidth ADSL2+ ports per Chassis.
 - One standard Telco cabinet for 4 chassis, cascade up to 8 cabinets per a DSLAM group and total up to 12288 subscribers per system.
- Supports packets transmit and receive statistics report.
- Provides optimal rate/reach performance.
- Higher rates by limiting reach (up to 24.0 Mbps).
- Longer reach by reducing rate (distance up to 7.0 Km).
- Bandwidth Management control on each port.
- Build in Voice/Data Splitter
- Build in Test Access Matrix to speed up line diagnostic on a trouble ticket

Network Configuration Modes

- Gateway
- Router (software upgradeable)

System & Management Features

- DSL Performance Monitoring, Alarm Management, Profile Management, and EOC handling.
- System provides an optional Standard GBIC Interface
- 2 10/100/1000BASE-TX trunk able ports for uplink and downlink, with auto-negotiating and automatic MDI/MDIX.
- Out-of-band 10/100Base-TX management port
- Support Mixed voice-data networks
- Racking and stacking support
- Special power saving mode for inactive ports
- Automatic in-band DSL PHY management
- Each port can be individually enabled or disabled with management card installed
- SNMPv2 and MIB standards support including:
 - IETF RFC 2662
 - IETF ADSL II Line Extension MIB (Draft)
 - IETF HDSL2-SHDSL-LINE MIB (Draft)
 - ITU-G 997.1
 - ADSL Forum Technical Report TR-024
 - RFC 2515, RFC 2514 ATM Management MIBs
 - RFC 2674, RFC 2665 Ethernet Bridge and VLAN MIBs
 - RFC 1213 MIB-II, RFC 1757 RMON1
- Sun Solaris HP OpenView, Castle Rock Computing SNMPc, Versa EMS, etc.
- TFTP, BOOTP Client, Boot Server

ATM Support

- ATM OAM cell processing, congestion / buffer management
- Ethernet packet support per RFC 2684 multi-protocol encapsulation over ATM AAL5
- RFC 1483
- RFC 1577 (IP over ATM)
- AAL0, AAL2, AAL5
- ATM Service Class: UBR/VBR/CBR
- 2 VCs per Ports

VLAN Support

- Up to 4094 VLANs supported
- IEEE 802.1Q and 802.1Q Tunneling (Q in Q) Virtual Bridged Local Area Networks (VLAN bridging)
- Static VLAN group and membership management
- Dynamic group and membership management using GVRP and GARP

Multicast Support

- Static multicast group and membership management
- Dynamic multicast group and membership management using GMRP and GARP
- Up To 128 Multicast Address Filtering

Ethernet Forwarding & Control

- IEEE 802.1D Media Access Control (MAC) Bridges (spanning tree algorithm and protocol, and 802.1P priority and traffic classes with strict priority scheduling)
- Congestion control using queue thresholds
- IEEE 802.3ad Link Aggregation (bonding, LACP, Ethernet link aggregation sub-layer for use with CSMA/CD MACs)
- Unknown packet – configurable flooding/ dropping
- Broadcast packet – configurable flooding/ dropping
- Statistics on a global and per port basis can be collected
- Bridge port created over Ethernet and EoA interfaces

Management Interfaces

Console, Web, CLI, Telnet, SNMP, EMS

Operation Parameters

Voltage	-48 VDC
Dimension	17(L)in x 17(W)in x 13(H)in
Temperature	0 to 50°C (Standard)
Humidity	5% to 95% non-condensing
Altitude	-200ft. to +15,000ft
Reliability	MTBF 70,127 hrs minimum

US-International Headquarter:

4711 Chino Ave,
Chino, CA 91710

URL: www.versatek.com

Phone: (909) 591-8891

Fax: (909) 591-6962

Email: sales@versatek.com

China Headquarter:

Paojiang Industry Park,
Shaoxing, Zhejiang
312071, P.R. China

Phone: +86 575-8912186

Fax: +86 575-8034496

Email: vickif@versatek.cn