

## ISAP-2300

IP-BASED DSLAM (Digital Subscriber Line Access Multiplexer)



### DESCRIPTION

The ISAP-2300 Series is an advanced IP-based DSLAM that can be used by service providers interested to offer broadband multi-service features. It enables high bandwidth, high quality data and voice transmission for applications such as multimedia and video streaming, interactive paid TV channels, online gaming, video conferencing, telecommunication, VoIP and distance learning, etc.

ISAP-2300 provides 24 VDSL2 ports per system. This Ethernet over VDSL2 can run to at the maximum speed up to 100Mbps, which proves to be a promising technology and revenue generation gear for service providers. OPNET's VDSL2 technology supports ITU-T G.993.2 that permits the transmission of asymmetric and symmetric data transmission on twisted pair copper using a bandwidth up to 30 MHz, and all VDSL2 line profiles (8a, 8b, 8c, 8d, 12a, 12b, 17a and 30a).

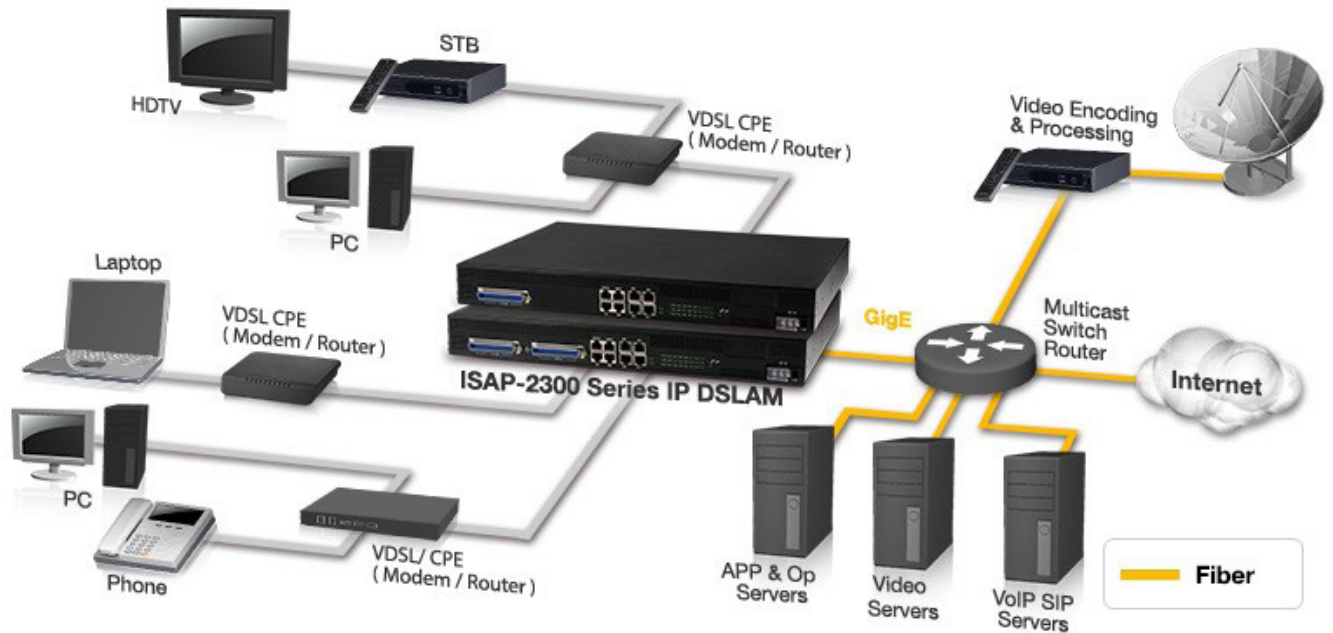
### HARDWARE FEATURES

- Compact design in nearly one RU height unit
- Service capacity expansion via units stacking
- Two 100/1000Base Combo Gigabit Ethernet uplink network interfaces
- 24 VDSL2 ports with or without built-in POTS Splitter
- Non-blocking switching fabric and wire-speed switching capability
- On board LEDs for system status indications
- Dual power supply modes, DC and AC
- High reliability design
- SELT Subscriber Loop testing

### SOFTWARE FEATURES

- Fully compliant with ITU-T G.993.2 and supporting all VDSL2 line profiles
- L2 switching and IP multicast
- System OAM&P and remote operation
- Subscriber traffic isolation among VDSL2 line ports
- Subscriber rate limiting
- QoS for IEEE 802.1p priority queues
- OAM F5 fault diagnostic
- IEEE 802.1Q VLAN tagging
- IEEE 802.3ad link aggregation on network interface
- IGMP snooping/proxy
- Windows based and GUI management system with different user access levels
- Remote system configuration by using Telnet, SNMP v1/v2c management
- Inband/Outband management

## APPLICATION



## INTERNET SERVICE

- With the VDSL CPE connecting to ISAP-2300 Series, IP packet will be encapsulated in accordance with QoS to optimize connection quality
- ISAP-2300 Series IP-DSLAM has ability to convey transparently the protocols from VDSL CPE or end user PC to service applications such as PPPoE (RFC 2516), RFC 2684 Bridge, and L2TP, L2F, PPTP, IP-Sec. tunneling



## VIRTUAL PRIVATE NETWORK SERVICE

- The ISP is offering VPN (Virtual Private Network) service to corporations
- The retail business is currently selling only high-speed Internet access to residential consumers but wants to offer some value-add services to the current offerings with the proper device supporting the VPN applications for small-to-medium business.
- ISAP-2300 Series transfers their tunnel protocol to upper layer broadband router securely

# SPECIFICATIONS

## 1. Gigabit Ethernet Interface

- Two 100/1000Base Combo uplink interfaces (electrical and optical)
- The throughput at least 80,000 packets per second for 1518 bytes packet size both upstream and downstream
- Cascading connection for multi-system application

## 2. Subscriber Line Interface

- 24-port VDSL2 Subscriber line
- Bidirectional VDSL2 connection interfaces with max. of 100Mbps speed
- Loop test supported (SELT)
- Impulse noise protection

## 3. Interface Connection

- 1xRJ45 for Female DB-9 for Console Management access interface
- 2xRJ-45+2\*SFP for Network uplink interface
- One Telco50 for VDSL Subscriber interface
- One Telco50 for POTS line Subscriber interface (in ISAP-2300S)
- 2xRJ-45 for Alarm I/O contacts
- Out-band Network Management

## 4. Standard Compatibility

- *VDSL Standard ITU-T G.993.2 VDSL2 Band Plan up to 30a*
  - 25KHz~138KHz(U0) Option band used
  - Dynamic rate adaptation

## 5. Application Services

- *Static IP service at bridge mode*
  - It associates the incoming traffic and tag the VLAN ID to switch into Layer 2 network
- *PPPoE Services*
  - Provides effective way to summarize the assigned subscribers among different ISPs
- *DHCP Services*
  - Assigns a DHCP server for centralize IP manage under bridged mode.
- *Video on Demand Services*
  - Supports multicasting with stream channels by IGMPv2 snooping function and supports up to 256 multi cast groups per set
  - Supports Multicast VLAN Registration(MVR)
- *VLAN Pass-through Services*
  - Under bridged mode, it allows subscriber deployed their own VLAN ID to associate in the network
- *VPN Pass-through Services*
  - Supports tunneling mechanisms service like IPsec, L2TP, and PPTP for VPN pass-through application under bridged mode

## 6. Subrack / Models

- Dimensions: 436mm x 290mm x 44.5mm (WxDxH)
- 19"rack mountable pizza box in nearly 1U height
- *ISAP-2300 Series consists of four models:*
  - ISAP-2300: 24 ports VDSL2 IP-DSLAM
  - ISAP-2300S: 24 ports VDSL2 IP-DSLAM with built-in splitters