ZyXEL

High-Speed Compact VDSL2 Technology

- Compliant with VDSL2 Standard, Including ITU-T G.993.2 and G.994.1
- A 24-port VDSL2 Pizza Box DSLAM with Downstream/ Upstream Performance Up to 100/45 Mbps (17a Profile)
- Supports ADSL2/ADSL2+ Fallback Capability that Provides Telco Operators Increased Interoperability with Different xDSL CPEs by Using the Same DSLAM Equipment
- Multiple HDTV Channel Support

24-port VDSL2 Remote IP DSLAM

VES-1624FT-55A

Benefits

2 Gbps Duplex Backplane for High-Bandwidth Transmission Connections

VES-1624FT-55A provides up to two Gigabit Combo ports to upper layer network. Since VDSL2 ports support only 100 Mbps in a very short distance, VES-1624FT-55A can provide virtually non-blocking interconnections from the subscriber ports to the network interface ports in most environments and application scenarios.

Completed Ethernet VLAN and Multicast Functions

The VES-1624FT-55A provides Ethernet VLAN features for both security and performance purposes. A VLAN is used to isolate traffics between different users/applications in order to provide better security and performance. By limiting broadcast traffics within the VLAN broadcasting domain, the performance can be enhanced. The IGMP snooping function is provided in VES-1624FT-55A to prevent unnecessary multicast traffic forwarding to all subscribers, thus optimizing bandwidth utilization for multicast applications such as broadcast video.

MVLAN Consolidates Same Video Stream Requested by Different VLANs

The multicast VLAN feature checks all VLANs to see if some have requested the same video stream. If they have, only one request instead of many will be issued and the stream is distributed to all requesting VLANs. The total amount of the video streams can be reduced significantly as a result.

Service Differentiation from Rate Limiting

In order to fulfill different customer needs, service providers need a network infrastructure that combines guaranteed performance and flexibility in service provisioning. Upstream rate limiting on subscriber ports allows services to step up with 64 Kbps increments for service providers to offer tiered services.

Upstream Access Control Mechanism

VES-1624FT-55A supports not only 802.1x port-based access control for subscriber authentication, but also defines a limited number of MAC addresses that can access the network from a particular port. This feature denies unauthorized access to the DSCAM to significantly enhance network security. Another access control feature is the capability to limit the number of users (MAC addresses) that can access the network simultaneously on a per-port basis, allowing the service provider to offer flexible billing plans. Besides that, VES-1624FT-55A provides per-port packet classification rules based on the header information of up to layer 4 and the corresponding action rules to manipulate the matched packets as needed.

DHCP Snooping

The VES-1616FE-55A provides a DHCP snooping mechanism to prevent users from using static IP addresses. If a port is DHCP-enabled, IP packets from the port cannot pass through the line card if the IP address of the packets are not leased by the DHCP snooping mechanism.

Expanded Revenue Opportunity

In addition to the VDSL2 PTM mode service, the VES-1624FT-55A also provides an ADSL2+ fallback feature. When the feature is turned on, the DSLAM will detect if one of the customer devices is an ADSL2/2+ CPE, and the operation mode of the corresponding port is switched to ADSL2/2+, and a corresponding connection is established through the port to the customer device. This feature empowers VES-1624FT-55A to become a suitable solution for Telco operators to start the migration from ADSL2+ to VDSL2 services.

Double-tagging Service

The VES-1624FT-55A provides IEEE 802.1ad VLAN stacking functions. When enabled, the function can add provider's s-tag for incoming c-tag frames without checking c-tag value, add s-tag to untagged incoming frames, or add c-tag and s-tag simultaneously to untagged incoming frames. The added tags will be removed while frames move toward subscribers. Moreover, different ports can apply the same s-tag and c-tag values. With the mechanism, operators can easily identify traffics from different users/applications and route the traffics to corresponding ISPs.

Various Band Plans Support Different Applications

The DS1 frequency band of the 17a profile starts at 138 kHz and the edge frequency of the upper band of the 17a profile is 17.664 MHz. The VDSL2 profiles are programmable and they can automatically adapt to each VDSL2 line according to the conditions.

The VES-1624FT-55A defines seven different VDSL2 profiles as below to suit a variety of different applications.

VDSL2 Profile	Maximum Downstream	Maximum Upstream
8a/b/c/d	85 Mbps	18 Mbps
12a/b	85 Mbps	45 Mbps
17a	100 Mbps	45 Mbps

Specifications

System Specifications

- 1.5U, 19" and 23" rack mountable standalone pizza box
- Network interface: 2 x Gigabit Ethernet Combo ports (100/1000Based-T and SFP)
- Subscriber interface: 24 ports VDSL2 (G.993.2) and built-in POTS splitter
- One serial console port for local management (Mini-RJ11)
- One out-band management Ethernet port
- One DB9 for 4 in and 1 out alarm contract
- The LEDs show VDSL2 connection status
- Force cooling by hot swappable FAN module with speed controllable
- AC universal input connector

Features

- ADSL2+ & VDSL2 profile management
- Alarm profile management
- CLI/Web GUI/Telnet/MIB
- STP/RSTP
- IEEE 802.1Q
- TLS (Q-in-Q)
- Double tagging
- DHCP option 82 (circuit ID & remote ID)
- DHCP relay
- 802.3ad and static link aggregation

Multicast

- IPv4 multicasting
- IGMP v1, v2 and v3 snooping/proxy
- Multicast VLAN (up to 16)
- Support 512 multicast groups
- Support intermediate leave
- Support 24 members in a multicast group
- Static multicast forwarding
- IGMP group count limiting per VDSL port
- IGMP 128 filtering profile with each profile having 16 multicast address ranges
- Support the function to limit the number of IGMP messages on each subscriber interface or each subscriber interface unit per second

Security

- Port isolation
- Rule-based ACL filtering based on MAC address, IP address, protocol ID, UDP/TCP port number, Ethernet type
- ARP/DHCP broadcast & NetBIOS packet filtering
- IGMP filtering

Hardware Specifications

- Profile 8a, 8b, 8c, 8d, 12a, 12b and 17a
- INP capability: support the capability of impulse noise protection (INP) as defined in ITU-T Rec. G.993.2. The minimum impulse noise protection (INP MIN) can be configurable (from 0 to 16)
- Fixed rate and rate adaptive
- Power back off (UPBO & DPBO)
- Standard RFI configuration
- ADSL/POTS band off
- Interleave delay setting
- Limit PSD mask: to reduce the impact of interference and attenuation, available options are listed as following: nus0_d32, eu32_d32, eu36_d48, eu40_d48, eu44_d48, eu48_d48, eu52_d64, eu56_d64, eu60_d64, eu64_d64, eu128_d128, 997_like
- Loop diagnostics (SELT & DELT)
- ADSL2+ fall back
- Power consumption: 64 W maximum

Physical Specifications

- Item weight: 4,600 g (10.1 lb)
- Item dimensions: 439.8 (W) x 251 (D) x 66 (H) mm
- Packing weight: 6,000 g (13.26 lb)
- Packing dimensions: 570 (W) x 383 (D) x 165 (H) mm

Environmental Specifications

- Operating temperature: -10ºC ~ 60ºC
- Storage temperature: -40ºC ~ 70ºC
- Operating humidity: 10% ~ 95% (non-condensing)
- Storage humidity: 5% ~ 95% (non-condensing)

Certification

- RoHS
- K.20
- ETSI300-019
- Safety
  - EN60950-1
  - CSA60950-1
  - UL60950-1
  - IEC60950-1
- EMC
  - FCC Part 15 Class A
  - EN55022 Class A
  - ETSI300-386

For more product information, visit us on the web at www.ZyXEL.com

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