VDSL2 DSLAM

U3024L

Features

- 19” Rack mountable
- Fully compliant with VDSL2 standards and band plans
- Layer 2+/Layer 3 aware switch
- Over-voltage protection circuits
- 12.8 Gbps Non-Blocking Switch Fabric
- 6.5 Mpps Throughput
- Total 2-port Gigabit Ethernet uplink
  - 2 uplink expansion module (1 port/module)
- External alarms & external FAN control
- Uplink stacking (Daisy-chain)
- Profile auto switching
- Dying gasp
- OLR(On Line Reconfiguration)
- Low power consumption
  - 2.9W/port @ system total
  - 1.7W/port @ VDSL line
- IPv4 dual stack
- IPv6 dual stack (planned)

System Overview

U3024L is high performance set of DSLAM which enables highest possible traffic bandwidth of 100Mbps (both way, at peak rate). U3024L can be applied to optical fiber or ethernet base subscriber network where it executes the functions of concentration and switching. U3024L is usually placed at regional office, MDF room of MTU/MDU or various forms of outdoor containers.

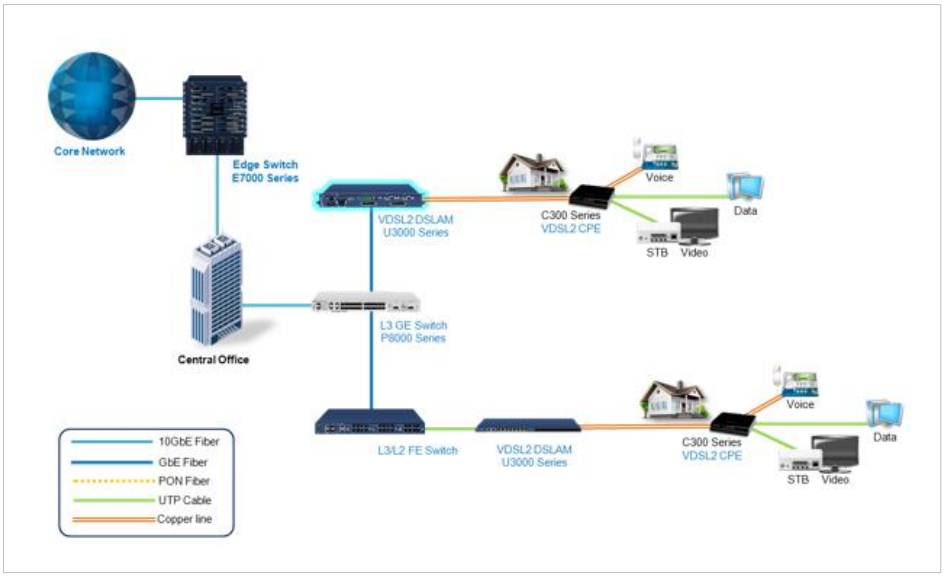
U3024L is connected to user device via VDSL2 modem. By using of the layer 2 Ethernet switching function the system can be integrated into any forms of small or medium size networks. With the feature of hardware based multicasting function like IGMP (Internet Group Management Protocol) snooping. U3024L can effectively support real time streaming services which are core requirements for next generation multimedia applications.

U3024L can support differentiated Triple Play Service according to SLA (Service Level Agreement) based on its powerful bandwidth management function and QoS (Quality-of-Service) handling ability.

U3024L has equipped VDSL2 service interface based on DMT technology which guarantees 100/100 Mbps up/down symmetrical communication. The available bandwidth the system can guarantee varies according to the implemented profiles, and the highest rate is 100Mbps at maximum in both Uplink and Downlink individually (symmetrical mode).

U3024L is an IP based VDSL system having Layer2 switching function. Thus it supports all the variety of L2 switches including VLAN, Rate limit, Port trunking, Port mirroring, IGMP Snooping, Packet filtering.

Deployment Diagram



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Specification

HW Specification

System Architecture

- DOWN
  - 100 Mbps 24Port VDSL
  - Champ Connector Connection
- UP
  - GEPON (TEK,PMC)
  - COMBO (1000B-X/100B-FX or 10/100/1000B-TX)
  - 2 SLOT Optional pluggable Type
- LED, FAN Module, SMPS, Ground Terminal, MNG Port, Console (RJ-45 Type)

Memory

- 128MB DDR SDRAM Main Memory
- 32MB Flash Memory (Boot,OS,Config, History)

Management

- Management via CLI and Telnet/SSH
- Network management based on SNMP v1/v2
- Upgrade via remote TFTP

Physical Dimension

- 19" Rack Mount Type, 1.5U
- 66mm(H) x437mm(W, Rack Guide included 482.6mm) x 320mm(D)

FAN

- FAN Module (50mm x 50mm x10mm, 3EA) 2SET

Environment Condition

Input Voltage and Frequency

- AC 100 ~ 240 V 1A / 50~60 Hz

Power Consumption

- Max. 80W

Temperature

- -20 ~ 60℃ (Operate), -30 ~ 70℃ (Storage)

VDSL Performance

Line modulation Way

- DMT (Discrete Multi-Tone)

VDSL Framing

- ITU-T 993.1 VDSL1, 993.2 VDSL2

Maximum transmutation Speed

- Downstream: 100Mbps
- Upstream: 100Mbps (VDSL1 & 2)

Applied Profile

- 8a, 8b, 8c, 8d, 12a, 12b, 17a, 30a

Applied Function

- UPBO (Upstream Power Back-Off)
- U0, ADSL, ISDN Band
- Amateur Radio(HAM) Band
- Data Channel: Interleave/Fast Channel
- INP (In case of using Slow Channel)
- U0 Band Automatic operation and selecting frequency
- Line MIB, ADSL Friendly, Trellis coding
- Loopback for EOC
- 30a Profile-8kHz Tone Spacing
- 8a, 8b, 8c, 8d, 12a, 12b, 17a Profile-4kHz Tone Spacing
- Frequency band : 6 Band(D1~D3, U1~U3)
- Less than 12M band : G.993.2 Annex A
- More than 12M band : G.993.2 Annex C
- OLR (On Line Reconfiguration)

Switch Performance

Mac Address and VLAN numbers

- 16K MAC, 4K VLANs

Multicast numbers

- IGMP Snooping v1/v2 and IGMP proxy
- Max no. of groups: 1024

Layer2

- IEEE 802.1p QoS, IEEE802.1Q VLAN
- IEEE802.3ad, Static Trunking
- DHCP simplified with option82
- Mirroring
- STP, RSTP, per VLAN, PVST

Security

- Layer 1 ~ 4 packet filtering
- NetBIOS/NetBEUI filtering
- private DHCP packet filtering
- MAC address limitation (255 numbers) per port
- Ingress & Egress limitation
- Broadcast/Multicast/DLF packet block
- TCP Sync attack, TCP port scan attack block
- Abnormal source MAC Block
- Packet Dump for analyzing packet
- Loopback detection and block
- Port blocking and alarm via Port Flood Guard
- ARP Inspection, ARP Spoofing protection
- CPU Inflow packet control
- Unicast/ICMP/IGMP Storm Control
- ICMP packet numbers limitation

QoS & Flow Control

- QoS including IEEE802.1p and DiffServ/TOS
- 8 queues per port
- DSCP marking/remarking, CoS marking/remarking
- SPQ, WRR, DRR scheduling
- HOL Blocking prevention
- Back pressure, flow control

Multicasting & DHCP

- IGMP Snooping, Proxy, Querier,Statistics
- DHCP relay with option 82, DHCP Snooping