



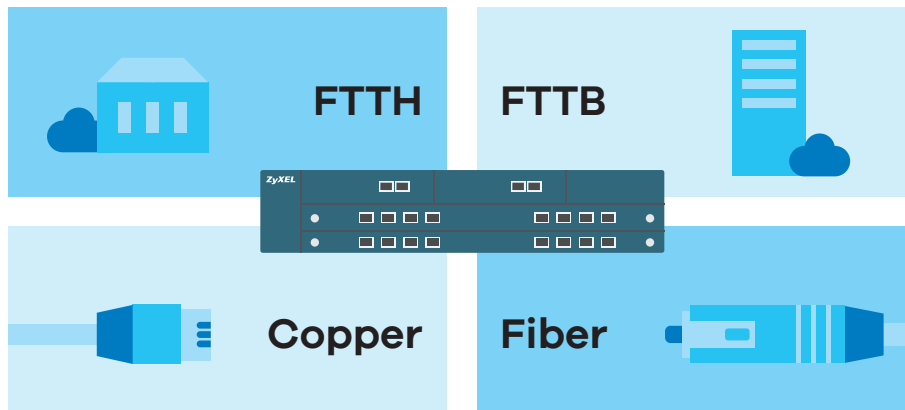
IES4204 Series

2U 4-slot Temperature-Hardened Chassis MSAN

Benefits

Unified platform for various scenarios

The Zyxel IES4204 Series 2U 4-slot Temperature-Hardened Chassis MSAN supports VDSL2, GPON and fiber-based GbE service access. Two service slots work with any service line cards. With full set line cards, the IES4202 Series provides up to 4K FTTH subscribers, 96 FTTB/VDSL subscribers or 80 active non-blocking Gigabit Ethernet fiber links. In various application scenarios, the IES4204 Series saves CAPEX significantly for operators. Using the same software and service line cards as IES5206, the IES4204 Series reduces operators' learning curve and spare part inventory, which further reduce maintenance costs for operators.



Multi-service interfaces including VDSL2, GPON and fiber-based GbE



VDSL2 Vectoring support



Full redundancy of management card and power



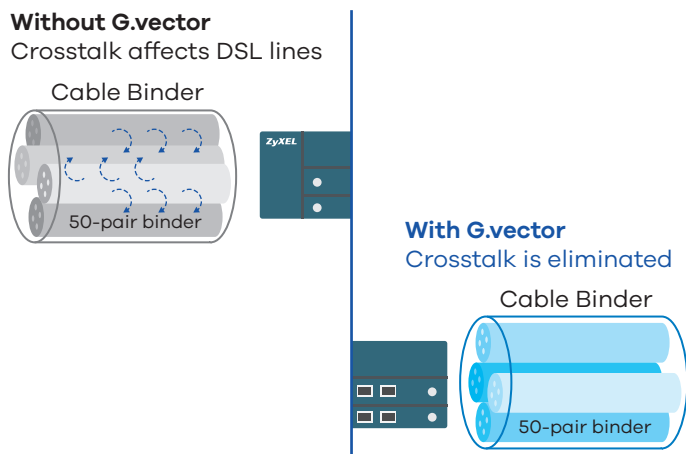
Comprehensive QoS enhanced Triple play experience



Field-proven IGMP snooping and proxy for IPTV deployments

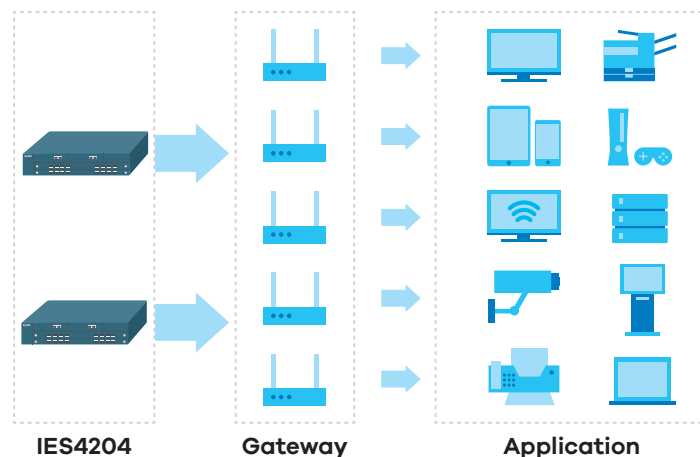
G.993.5 vectoring cancels far-end crosstalk for higher bandwidth

The Zyxel IES4204 Series of 2U 4-slot Temperature-Hardened Chassis MSAN is a vectoring xDSL network device featuring up to 96 ports for service providers, enterprises and large building complexes. The IES4204 Series conforms to G.993.2, G.994.1, G.997.1, G.998.4 G.inp, and G.993.5 vectoring to ensure interoperability with standard-compliant VDSL CPEs. The IES4204 Series supports VDSL2 Vectoring (G.993.5) technology to mitigate performance degradation by cancelling the incurred crosstalk within multiple DSL lines.



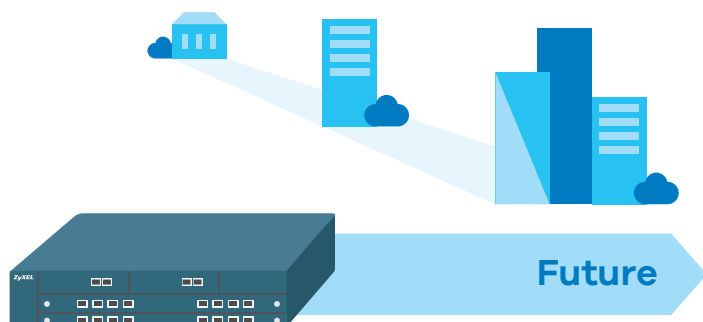
Advanced Triple play and mass deployment functionalities

The Zyxel IES4204 Series supports all the Layer-2 Quality of Service (QoS), security and multicast functionalities; it also supports IGMP snooping to prevent unnecessary forwarding of multicast traffics to all subscribers and thus optimizes bandwidth utilization for multicast applications such as broadcast video. The IES4204 Series also supports the multicast VLAN feature that distributes the source to all the VLANs requesting video streams. With a built-in splitter over POTS, the Series allows operators to provide Triple play services over the same copper wires.



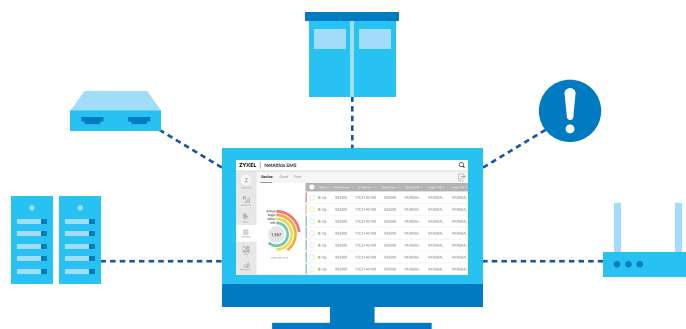
Future-proof architecture

The Zyxel IES4204 Series is equipped with non-blocking backplane, failover-enabled Management Switch Cards (MSC), dual-input power modules and various high port density, multi-purpose line cards. With comprehensive IP-centric firmware features, the IES4204 Series is a small-capacity system that facilitates telcos/ISPs to deliver high-quality services for residential or business users at a competitive CAPEX/OPEX as well as to satisfy their need for reliability, flexibility and scalability necessary to the current and future infrastructures.



Sophisticated OAM&P features

The Zyxel IES4204 Series provides various management methods: local console port, Telnet, local hosted Web GUI and SNMP v1/v2/v3-based EMS (NetAtlas EMS). The management functions include Alarm and Status Surveillance, Configuration Management, Performance Management and Fault Management. Both Series allow multiple administrative accounts with 3-level access privileges. The IES4204 Series supports user-friendly web GUI that allows operators to manage through any browser on any PC, laptop or smart phone.



System Architecture

Chassis



IES4204M

Management Switch Card



MSC1240QA

VDSL Line Cards



VLC1448X-51



VLC1448X-51D



VLC1448X-51S



VLC1448X-51F

Gigabit Ethernet Line Card



GLC1440X-55A



OLC3416-42A

Specifications

System Specifications

DSL Compliant

- Comply G.993.2, G.993.5 (Vectoring), G.998.2 (PTM bonding), & G.998.4 (G.INP) Profile 8a, 8b, 8c, 8d, 12a, 12b, 17a
- UPBO/DPBO
- Seamless Rate Adaptation
- Single End Loop Test (SELT)/Dual End Loop Test (DELT)
- On-line reconfiguration
- Impulse Noise Monitoring (INM)
- Virtual noise
- ADSL2+ fallback
- ADSL G.992.1 (G.DMT)
- ADSL2 G.992.3 Annex M
- ADSL2+ G.992.5 Annex M

GPON Compliant

- ITU-T 984.1
- ITU-T 984.2
- ITU-T 984.3
- ITU-T 984.4
- ITU-T 984.7
- Dynamic bandwidth allocation for upstream bandwidth dynamic adjustment

- Forward error correction for upstream and downstream
- GPON encapsulation method fragmentation
- GPON Type-B protection
- Rogue ONT detection
- Supports up to 128 ONTs per PON port

Topology Protocols

- ERPS
- Ring/Tree/Star topology
- STP/RSTP/MSTP
- Link aggregation

Switch Function

- IEEE 802.1q VLAN
- IEEE 802.1ad VLAN stacking
- VLAN translation 1:1
- VLAN translation N:1
- Jumbo frame
- Mirroring by port
- Mirroring by VLAN
- Port isolation

Multicast

- Multicast VLAN registration
- IGMPv2 & v3, snooping & proxy
- IGMP filter profile setting
- IGMP fast leave
- MLDv1 & MLDv2 snooping and proxy

Security

- DHCP relay agent
- PPPoE IA
- Static MAC
- Access Control List (ACL)
- MAC limit per port
- MAC filtering source/destination MAC
- Storming control
- Anti MAC spoofing
- Prevent ARP spoofing

QoS

- IEEE 802.1P
- Ingress port rate limit
- Egress port rate limit
- Scheduling algorithm SP, SP+WFQ, WFQ
- Limit packet rate by ACL

OAM&P

- SNMP
- In band management/Out-of-band management
- CLI via console port/Telnet/SSH
- Web GUI
- NetAtlas EMS

Hardware Specifications

Chassis—IES4204M

- 4-slot rack mountable enclosure, 19" chassis
- 2 slots for management and switch cards
- 2 slots for VDSL, GPON and GE line cards
- 2 DC power input modules or one AC/DC power with battery charger module
- One alarm/FAN and dust filter module

Management Switch Card—MSC1240QA

- Supports four 10G (SFP+) or four 1G uplink/subtending interfaces
- One mini-RJ11 console port
- One 100M/1G out-of-band management interface

Gigabit Ethernet Line Card—GLC1440X-55A

- Hot swappable 40-port active Gigabit Ethernet line card
- 20 open slots for 20 ports Gigabit or Fast Ethernet SFP (1000/100BASE-FX/BX/LX/EX)
- 20 open slots for 40 ports Gigabit Ethernet C-SFP
- One mini-RJ11 console

VDSL Line Cards—VLC1448X-51/VLC1448X-51D/VLC1448X-51S/VLC1448X-51F

- Hot swappable 48-port vectored VDSL2 line card
- Support G.993.5, G.998.4, G.993.2, G.994.1, G.997.1
- Maximum transmission rate up to 100 Mbps/50 Mbps
- One mini-RJ11 console port
- Support VDSL2 profiles 8a, 8b, 8c, 8d, 12a, 12b and 17a
- Support U0 band, customer PSD, RFI notch, single latency in PTM mode and INP
- Support UPBO and DPBO, Reed Solomon and trellis coding
- Support ADSL fall back with ADSL/ADSL2/ADSL2+ CPE in Annex A, J, M, L modes

GPON Line Card—OLC3416-42A

- 16 GPON SFP open slots compatible with class B+ and class C+ SFP
- One mini-RJ11 console port
- Upstream signaling speed: 1.244 Gbps
- Downstream signaling speed: 2.488 Gbps

Physical Specifications

Chassis—IES4204M

- Item dimensions (WxDxH): 442 x 285 x 89 mm (17.32" x 11.22" x 3.5")
- Item weight: 6 kg (13.22 lb.)

Management Switch Card—MSC1240QA

- Item dimensions (WxDxH): 146 x 254 x 30 mm (5.74" x 9.99" x 1.18")
- Item weight: 0.7 kg (1.54 lb.)

VDSL Line Cards—VLC1448X-51S/51F

- Item dimensions (WxDxH): 391 x 258 x 25 mm (15.39" x 10.15" x 0.98")
- Item weight: 1.6 kg (3.52 lb.)

VDSL Line Cards—VLC1448X-51/51D

- Item dimensions (WxDxH): 391 x 258 x 25 mm (15.39" x 10.15" x 0.98")
- Item weight: 1.2 kg (2.64 lb.)

Gigabit Ethernet Line Card—GLC1440X-55A

- Item dimensions (WxDxH): 391 x 258 x 25 mm (15.39" x 10.15" x 0.98")
- Item weight: 1.1 kg (2.42 lb.)

GPON Line Card—OLC3416-42A

- Item dimensions (WxDxH): 391 x 258 x 25 mm (15.39" x 10.15" x 0.98")
- Item weight: 1.1 kg (2.42 lb.)

Power Consumption

- MSC1240QA: 65 W
- VLC1448X-51/51D: 73 W
- VLC1448X-51S/51F: 73 W
- GLC1440X-55A: 83 W
- OLC3416-42A: 69 W

Environmental Specifications

Operating Environment

- Temperature: -40°C to 65°C (-40°F to 149°F)
- Humidity: 10% to 95% (Non-condensing)

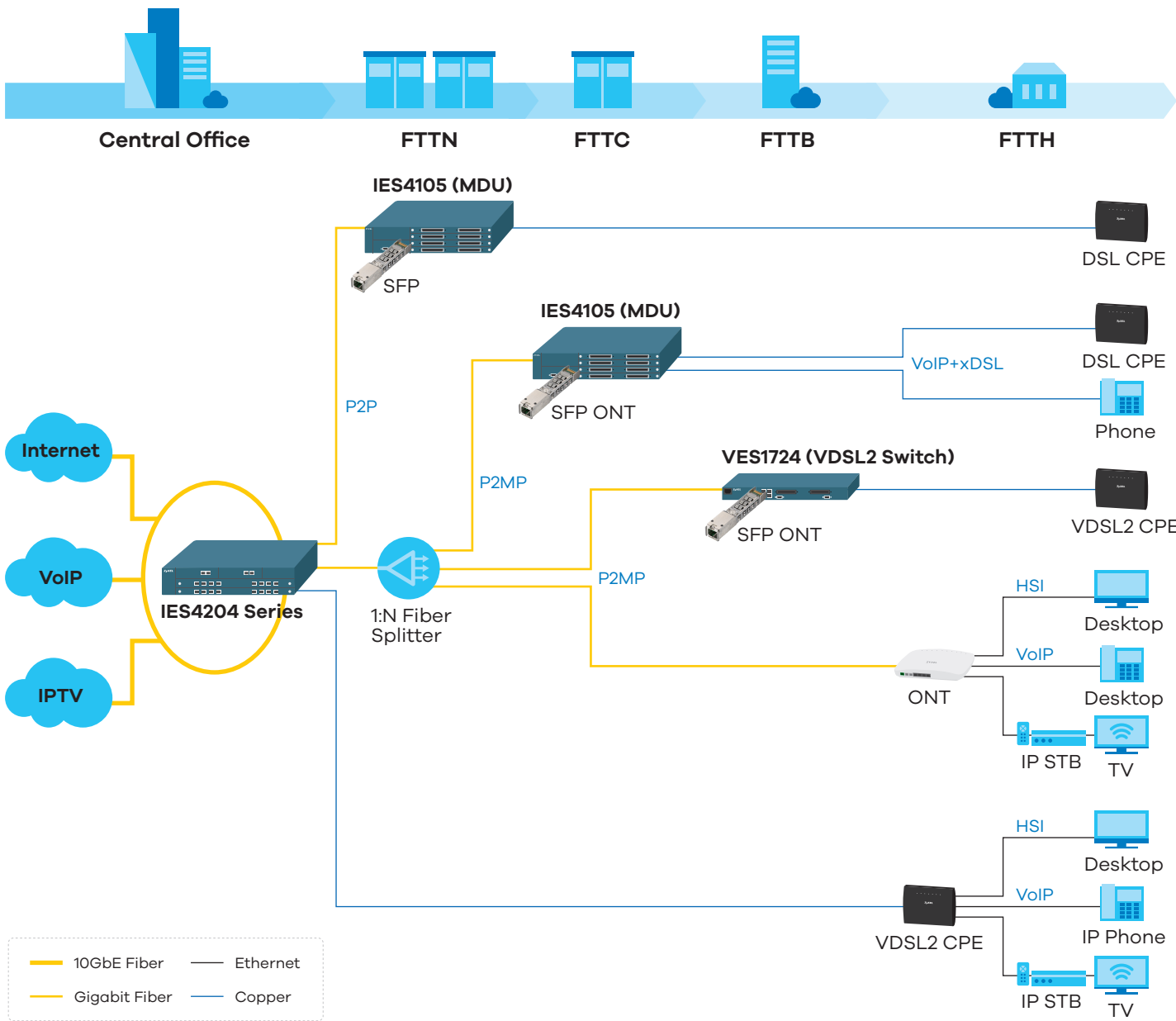
Storage Environment

- Temperature: -40°C to 70°C (-40°F to 158°F)
- Humidity: 10% to 95% (Non-condensing)

Certification

- Safety:
 - EN60950-1
 - IEC60950-1
- EMC:
 - EN55022 class A
 - EN55024 class A
 - ETSI 300 386 V1.6.1
- ITU-T K.20

Application Diagram





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Datasheet [IES4204 Series](#)



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