



# AGGREGATION ROUTER

## LN-3616Y-Z4T

As the internet data are growing at unprecedented rate due to advancements of 5G, IoT and always connected device, the capacity demand for telecom network is soaring. Locating at the edge of the network, the cell site gateway is high volume deployment product and an ideal location for mobile operators for high-volume cell site and aggregation routing applications.



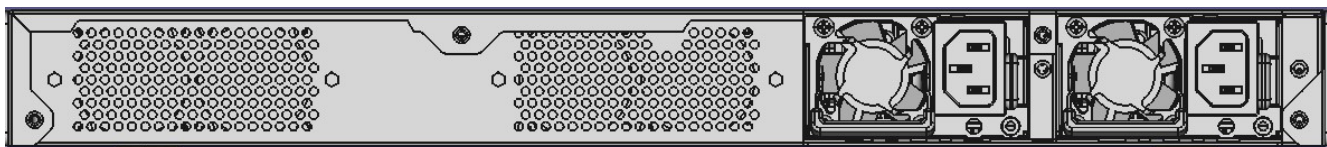
### Product Highlights

- Temperature hardened design for harsh environments
- Precision Timing and Synchronization (IEEE1588v2 & SyncE)
- Compact 1RU design at 250mm depth
- High availability in redundant design: 1+1 PSU Module, and 3+1 Fan Tray
- Serviceability: all I/O and replaceable FRUs are front access for easy maintenance
- Hardware support MACsec IEEE 802.1AE for strong cryptographic protection at Layer 2 data transmission
- Hardware support TSN IEEE 802.1CM Profile B Frame Preemption
- Hardware support SRv6

LN-3616Y-Z4T implemented the 16 ports 10/25Gbps of the SFP28 and 2 ports 400Gbps of the

QSFP56-DD ports. It also provides the GNSS/ToD/1PPS Feature for the end-users.

The LN-3616Y-Z4T also consists of one RJ45 serial connection port as a system console port, one 10/100/1000 Base-T Ethernet port used as a management port, and one USB type-A port for the external mass storage on the front panel. On the front-facing have two hot-swappable power supplies and the redundant power supply



# HARDWARE SPECIFICATION

Function/parameter	Value
Interfaces	16 x 10/25G SFP28 ports 2 x 400 QSFP DD ports 1 x RJ45 Mgmt port 1 x RJ45 Console port 1 x USB2.0 Type A Mgmt port
Timing Interfaces	1 x ToD Input/Output 1 x 10MHz Input/Output 1 x 1pps Input/Output
GNSS	1 x GNSS Antenna Receiver
CPU	Marvell CN9130 4C/1.6GHz
Switch Silicon	Marvell 98DX7335M (Aldrin3-XL)
Memory	16GB DDR4 w/ ECC
Storge	32GB eMMC 32GB M.2 SSD(optional)
Max Bandwidth	1600 Gbps
Number of SerDes	32+1(PCIe)
Forwarding Rate	810 MPPs
DMA Channels	32
Hardware	
Fans	4 pcs of 40x40x28 mm /12V Fans. (3+1)
Air Flow	Front to Back
Power Supply	x2 (1+1 redundant) hot-swappable power supplies.
AC-DC Input	AC 100 - 240 V ~ , 50 - 60 Hz,
DC-DC Input	DC 36 – 72 V
Power	140 Watts (Typical)
Consumption	170 Watts (Max) Redundant 1+ 1 PSU modules
Physical	
Dimension	440mm(W) x 400mm(D) x 44mm(H)

# Marvell ROS SOFTWARE FEATURES

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## Basic Functions

- Port Speed/duplex management
- Port Auto management
- VCT Diagnostics Port features
- Jumbo Frames (FE and GE)
- LAG / LACP
- Green Ethernet
- STP/RSTP/MSTP etc.
- VLANs (Protocol / MAC / IPv4 based)
- GVRP/GARP
- Multicast/CPE(Triple Play) VLAN
- QinQ
- Flow Control 802.3x
- Back Pressure
- Loopback and UDLD (Unidirectional link) detection
- Optical Transceiver Analysis

## Quality of Service

- Basic / Advanced QOS (Port/Flow)
- CoS/QoS
- Ingress/egress Rate Limiting/Shaping
- SP/WRR Queue settings
- L2/L3 CoS->Queue mapping
- Per-Flow Actions

## Security

- Access Control and logging
- Time based ACL
- MAC/Port based security
- Ace priority
- 802.1x enhanced (all variants)
- 802.1x MAC/Port/Web/Time based
- Radius Authentication/Accounting/802.1x
- TACACS+ Client and Accounting
- Syslog
- DHCP Snooping
- ARP inspection
- IP Source Guard
- Secure Control Technology (protect CPU)
- DoS Attack prevention

## Monitoring

- Mirroring SPAN/RSPAN
- RMON/SMON
- SNMP v1/2/3 with MIBs
- Environmental PS/RPS, FAN, Temperature
- SFLOW v5
- Counters with History

## \*Optional Features for ROS

- Ring protection
- WEB-GUI with flexible configuration options
- PTP
- VxLAN
- Radius COA
- BGP

## Multicast

- IGMP Snooping v1/2/3
- MLD Snooping v1/2
- MLD Querier
- Unregistered Mcast
- \*PIM-SM (optional)
- IGMP/MLD Proxy
- Ports, Flows, CP

## Management

- OOB & serial Console support
- CLI/SNMP management (IPv4,IPv6) over Telnet or SSH
- USB/SD flash storage support
- DHCP based Self-Configuration/Update
- Multi-File Configs, Dual-Firmware
- RMON, Syslog, Radius, TACACS+
- DNS, DHCP, SNTP, LLDP-MED, UpnP
- LLDP 802.1ab + LLDP MED
- WEB-GUI interface for basic management
- Time based scheduled features
- \*Detailed REST compatible API (Optional)

## Power Over Ethernet

- PoE 802.3af 802.3at 60W PoE
- PoE Budget with LLDP negotiation
- PSE/PD if HW supported
- Time Based PoE
- PoE Consumption monitor

## \*IP Routing (Optional)

- L3 DHCP Relay
- Proxy ARP for IP Routing
- OSPF / RIP
- Equal Cost Multiple Path (ECMP)
- VRRP
- IP SLA
- Loopback IP interface (Source Address Selection)
- Directed Broadcast
- UDP Relay
- IPv6 static unicast routing

## \*Stacking (Optional)

- Optional Stacking up to 8(16) units using uplinks
- Real cross-unit features, not just Management
- Stand-alone and Stack-mode operation
- Stack Master Election process
- Firmware Version Control
- Stack Backup capabilities
- Unit joining or leaving the stack
- Stacking Fast Failover
- Stacking LAG

# \*OpenROS Concept (Optional features)

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- Linux inside switch CPU (Debian/Ubuntu)
- All ROS functions as Linux process
- Support of any linux compatible devices, binary kernel modules supported.
- Virtual interfaces to flow traffic switch<->linux
- Internal virtual loopback to allow switch control
- Works on ARM and x86