ORAMA X400 NETWORK PACKET BROKER

Vision for Data Center Networks
Robust and Scalable

ORAMA X400 is a high port density Packet Broker with 32 QSFP56-DD 400Gpbs ports visibility enabling users to interconnect different network protection and monitoring tools quickly and easily.

Beyond server ready high speed connectivity for security and monitoring tools, this Packet Broker is also a feature rich traffic manager.

Every port support QSFP single density modules that would allow 200Gbps QSFP56 or 100Gbps QSFP28, as well as breakout cables with 8x1/10/25/56Gbps or 2x100Gbps connections.
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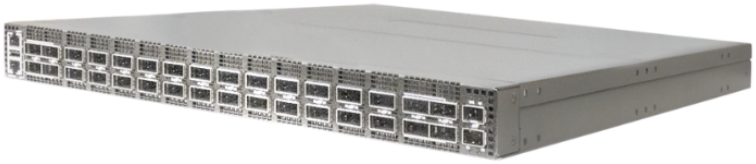
Packaged in a compact single RU chassis the Orama X400 offers immediate value for today and an efficient path to the inevitable adds and changes for tomorrow.



Highlights

- 32x400Gbps QSFP56-DD in 1U form factor
- 256x56Gbps High Speed Serdes MAC in a single PFE Packet Forwarding Engine that support 1/10/25/56 port speed modes
- Aggregate, Filter and Load Balance core network traffic across existing and future tool portfolio
- Non-blocking architecture, Line Rate System Throughput 12.8 Tbps
- Session Aware Load Balancing by IP address, protocol, port, VLAN, MAC address or other parameters.
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- Maximizes visibility and efficiency for monitoring and security tools
- Dual Hot swap power supplies and fans for greater resilience

Key Features

- Zero packet loss with total traffic capture.
- Load-Balance traffic to multiple monitoring and analysis tools.
- Aggregate traffic from multiple Network TAPs or SPAN ports.
- Application layer visibility allows for efficient packet processing on individual L7 protocols.
- Filter traffic, ensuring that security and monitoring tools see all the data they need.
- Smart rule optimization engine calculates all filter rule interaction automatically.

The fastest processing, highest density, most flexible combination of port speeds and simplest management make Orama X400 from Larch Networks the best choice for complete network visibility. Your speed, your scale, your network.

Product Capabilities

Basic Capabilities

Flexible traffic filtering

L2: MAC, VLAN, MPLS, Ethertype
L3: IPv4, IPv6, DSCP, Protocol
L4: Port, Custom Fields

Comprehensive management

Configure and manage the entire system through the easy-to-use web interface and SNMP monitoring support

Traffic aggregation

Aggregate traffic from multiple TAP modules to the backplane for aggregation, regeneration or filtering

Scalable architecture

Scalable to 200 ports of 1/10/25/50G
Non-blocking architecture, Line Rate
System Throughput 12.8 Tbps

Traffic Load Balancing

Session Aware Load Balancing by IP address, protocol, port, MAC address or other parameters.

Reliability

Dual Hot swap power supplies and fans for greater resilience

Advanced Capabilities (Optional*)

Tunneling support

Tunnel Termination/De-Encapsulation ERSPAN, GRE and VxLAN

Port Tagging

Custom P-Tag functionality enables complex traffic processing workflows

Packet Slicing

Truncate packets at a particular byte to remove payloads and reduce appliance workload and storage requirements.

Protocol Header stripping

Remove any tunneling protocol to obtain the un-tunneled traffic for further (filtering) processing, such as GRE, GTP(U/C), RTP, VN-Tag, MPLS

*Optional Capabilities are hardware supported functionality that may require additional software licensing and may be provided with future software versions.

Specifications

General Specifications

Hardware Performance

- Fully non-blocking 12.8Tb switch capacity
- Forwarding Rate of over 1050Mpps
- Packet buffer 16MB
- Line-rate across all ports
- 1GbE/10GbE/25GbE/40GbE/100GbE support

Management

- Web UI via HTTPS/HTML5,
- CLI via SSH/RS-232,
- SNMP v1/v2c/v3

MTBF

- > 582,692 hours

Interfaces

- 32x400Gbps QSFP56-DD*
- 2x10GbE ports: SFP+ port
- OOB: 1x 10/100/1000 Mbps Eth RJ-45
- 1x 10/100/1000Base-T port: RJ45 port.
- USB A 2.0, UART console

Configuration

- MAC : MARVELL/98CX8580
- Memory: DDR4 16G

Fan Tray

- 6 (5+1 redundant) hot swappable
- Air Flow: 36.78 CFM / MIN. 32.85CFM
- Rated Speed: 23000/22500 RPM

Physical Specifications

Size and Weight

- Dim: (W x D x H) 440 x 570 x 44 mm
- Mounting: Surface or 19” rack (1U)
- Weight: 13,5kg

Electrical

- Power Consumption: 1238W MAX
- 2 PSU 1600W (1+1 redundant) Hot swappable

Compliance

- UL/CSA, cUL, CB, CCC

Operating Specifications

Temperature

- Operating Temperature: 0°C to 40°C,
- Non-Operating Temperature: -40°C to 70°C,

Humidity

- Relative Humidity: 10% to 90% (non-condensing)

*Each access QSFP56-DD interface can be configured as 1x400GbE, 2x200GbE or 8x 50GbE

Full Features list

KEY VISIBILITY ATTRIBUTES

- Smart, drag-and-Drop, Intuitive GUI
- Zero-Packet Loss Architecture
- Overlapping Filter Rules Automatically Handled by Visibility Engine

INLINE SECURITY

- Multiple network links tool sharing (VLAN port tag)
- Multiple network links tool sharing (MAC address)
- Multi-path (multiple criteria for different data paths)

MANAGEMENT

- RESTful API* (Optional)
- Role Based User Accounts
- TACACS+, RADIUS Authentication
- SNMP Traps
- Strong Password
- Event monitoring and Alarm Generation with SNMP Traps
- Link Status Trap
- Packet Counters and Statistics
- WebUI for System Management

NETSTACK

- Three Stages of Filtering - Filter rules may be applied to ingress, dynamic, and/or egress traffic
- Counter Comparison - Ingress, Dynamic, Egress
- Max # of General & Custom Rules- 3K*
- Max # of Source IP Rules (unicast)- 3K*
- Max # of Destination IP Rules (unicast)- 3K*
- Max # of Multicast IP Rules (No wildcard / masking capability)- 3K*
- Priority Based Filtering (PBF) provides ACL-like logic when filtering traffic.
- VLAN Tagging - Track packets easily by adding VLAN IDs to packets based on the source (ingress) port and remove them as they leave a packet broker via exit (egress) ports.
- VLAN Tagging per Port
- Aggregation - Consolidate incoming traffic to optimize port usage and simplify filtering:
  1 : 1
  1 : Many
  Many : 1
  Many : Many*
- Replication - Replicate traffic to multiple dynamic filters (ingress) or to multiple tools (egress)
- Load Balancing - Distributes traffic across tool ports
- Load balancing Standard (2 Tuple & 4 Tuple)*
- Maximum Ports per Load Balancing Group- 128
- Command Line Interface Management

* Current Firmware has 1k rules limit imposed to allow non-packet-loss configuration switching.
Total amount of suported rules can be increased up to 3k – this will influence load balancing features (as rules share same memory with load balancing) and will result in possible packet loss when configuration changes. Exact rule consumption is hidden from user and only percentage is shown as any Intersections between filters & maps produce additional rules.
* In order to create Many to Many Aggregation user shall create Many-to-One group and attach it to Load Balancing group and one-to-many group to egress ports.
* Current firmware supports 2-tuple/4-tuple load balancing. TCP/UDP protocolrs will be added to the further firmware versions

PACKETSTACK

- Packet Trimming* - Send only what security and monitoring tools need by cutting out the unnecessary information and reducing packet size
- GRE Tunneling* - Encapsulate and de-encapsulate data. Origination and termination features.
- Source Port Labeling with push P-Tag operation

*Optional Capabilities are hardware supported functionality that may require additional software licensing and may be provided with future software versions.