MetaProtect™ Firewall

MetaProtect Firewall is a powerful, 48 x 10GbE port network appliance that performs sophisticated packet filtering in parallel between port-pairs.

Filtering is implemented via per-port Access Control Lists (ACL). MetaProtect Firewall provides complete flexibility in configuration, allowing authenticated administrators to create mappings between physical port-pairs and apply ACLs to one or both endpoints.

MetaProtect is architected for ultra-low-latency with packets passing an ACL being forwarded in 112 nanoseconds or less; significantly faster than most traditional firewalls.

Administrators may also define port-pairs that do not require filtering, in which case packets are passed through in 5 nanoseconds. Any ingress port, pre or post ACL, may be configured to fan out to multiple egress ports allowing for maximum flexibility based upon the desired filtering architecture.

When a packet fails an ACL, it is not forwarded and its header is logged. MetaProtect Firewall is ideal for situations where a firewall solution is mandatory but ultra-low latency as well as high port density are required.

**FEATURES**

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>BENEFITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>High port density</td>
<td>48 x 10GbE SFP+ ports in 1 RU with 32 x 10GbE Firewall filters and accelerated traffic processing capacity.</td>
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<tr>
<td>Parallel filtering</td>
<td>Cut-through filtering via 32 ACLs with up to 510 rules per ACL. Per-port filtering possible by assigning an ACL to a port.</td>
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<td>Flexible ACLs</td>
<td>ACLs support permit/deny rules based upon source/destination MAC/IP address/Port number. IP addresses may be wild-carded using CIDR style notation.</td>
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<td>Ultra-low latency filtering</td>
<td>Average filter latency of 112 ns for the minimum latency configuration (1 rule) to 187 ns for the maximum configuration (510 rules) - some of the fastest in the industry.</td>
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<td>Flexible SFP/SFP+ support</td>
<td>Support of SFP/SFP+ transceivers including DWDM and direct attached copper cables, boosted by MetaProtect™ Firewall’s high-performance signal recovery and regeneration.</td>
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<tr>
<td>Extensive packet statistics</td>
<td>Advanced monitoring and capture of comprehensive packet statistics across all ports. Support for detailed switch statistics via SNMP, CLI or InfluxDB.</td>
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<td>64-bit x86 management processor</td>
<td>Secure Linux-based platform running the MOS Operating System, offering management and configuration via HTTPS, SSH and JSON-RCP over HTTPS.</td>
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<td>Front-panel interfaces</td>
<td>48 x 10G SFP/SFP+ ports 2 x 100/1000BASE-T management ports 1 x PPS input &amp; 1 x PPS output interface Console port USB port.</td>
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<td>Comprehensive logging</td>
<td>• Logged statistics of permitted and denied packets  • Individually logged events when packet fails an ACL, including packet information, date, time, ACL ID and reason  • Logged administrative ACL rule changes  • Local and remote logging via syslog.</td>
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**1. 48 SFP Ports**

- 5 ns latency with virtually no jitter when configured as pass-through
- Non-blocking matrix switching fabric connecting ports and filters
- 1/10GbE SFP/SFP+ ports
- Tap any port to any other for off-device capture/monitoring
- Configurable port-to-port fanout with regeneration
- High performance signal recovery, regeneration and conditioning (EDC on input, CDR on input and output)

**Media Compatibility**

- Accepts any MSA compliant SFP/SFP+ module

**Redundancy & Data Center**

- 1 rack unit (1RU)
- Dual redundant, hot-swappable power supplies
- Dual redundant, hot-swappable fans
- Fan and power supply replacement kits are available
- Front-to-back or back-to-front air flow

**Layer 1**

- SMA Connector
- Pulse-per-second input and output

**Monitoring**

- Packet statistics captured on every port (valid packets, invalid packets, link state)
- Fully managed SFP+ interface diagnostics including light levels, temperature and voltages
- Statistics and diagnostics stored in real-time in InfluxData time series stack for local or remote telemetry
- Statistics and diagnostics available via Syslog and SNMP
- Eye diagram for monitoring and troubleshooting signal quality
- Front panel LEDs for port activity and status

**Management Platform**

- Quad-core x86-64 CPU
- 8 GB RAM, on-board SSD
- Industry standard command line interface (serial/SSH/telnet)
- Web-based GUI
- Linux based (shells, scripting, Python, RPMs etc.)
- Binary compatibility with other x86-64 based Linux systems
- Firmware restore and update via USB, serial and network
- Switch subsystem API (JSON RPC API)
- Integrates InfluxData time series TICK stack providing sophisticated telemetry capability
Management Protocols

- HTTP/S, SSH, telnet
- Serial console
- PTP, NTP
- SNMP v1, v2, v3
- DHCP
- Local and remote syslog
- RADIUS and TACAS+ authentication

Operating Environment

- Temperature: 0°C to 40°C
- Humidity: 10% to 85%, non-condensing
- Maximum altitude: 3000m (9800ft)

Physical and Electrical

- Dimensions (h x w x d): 4.3 x 44.8 x 37.9cm (1.7 x 17.6 x 14.9in)
- Weight: ~8kg (17.6lbs), depending on configuration
- Maximum power: 290W
- AC voltage range: 100-240V, AC frequency: 50/60Hz
- DC voltage range: 40-72V