CUBRO
NETWORK VISIBILITY
SIMPLE | SCALABLE | SUSTAINABLE

DATA SHEET

Cubro Packetmaster EX32/32(+)

PRODUCT OVERVIEW



The Packetmaster EX32/32+ is a high performance network packet broker that aggregates, filters, duplicates, load balances network traffic to security, monitoring and management tools based on 4500 possible rules. The Packetmaster EX32/32+ supports OSI Layer 2, Layer 3 and Layer 4 header modifications including stripping, adding, and modifying VLAN tags, MPLS labels, MAC addresses, IP addresses and Port numbers.

Functions / Benefits:

- Finite Rule Life: Rules can be set with a timeout period where the rule will be removed automatically after a set period of time or a set period without traffic activity. Rules can be dynamically created via the REST API.
- Generate sFLOWS CDRs: The EX32/32+ is able to generate standard-conform sFlow information of the incoming traffic.
- Easy to configure: Via Web GUI (HTPPS supported)
- GRE / VXLAN Tunnel support: The Packetmaster EX32/32+, like all Packetmaster Series NPBs, can function as a GRE / VXLAN tunnel endpoint.
- Load balancing: L2 / L3 / L4 hash-based, session aware load balancing, up to 15 load balancing groups
- Cubro Vitrum Management Suite: EX32/EX32+ is fully compatible with Cubro Vitrum, a centralized management platform for all Cubro network visibility solutions.

Network Packet Broker (NPB)

At a glance

Definition

A Network Packet Broker (NPB) is a switch-like device purpose-built to receive traffic from a variety of network sources (live link, TAPs, SPANs, mirror ports) and to filter, duplicate, and/or aggregate that traffic to monitoring and security tools.

Advantages of EX32/32+

- Filters and load-balances traffic from a 10 Gbps (EX32) or 40 Gbps (EX32+) link to multiple 1 Gbps monitoring tools
- Aggregates multiple 1 Gbps links to 10 or 40 Gbps monitoring tools
- 32 x 1/10 Gbps (SFP/SFP+) and 2 x 40 Gbps (QSFP)
- Supports traffic modifications up to layer 4 as well as changing, removing and adding VLAN, MPLS, VXLAN, NVGRE, GRE, GENEVE tags/tunnels
- Up to 4500 parallel rules
- IPv6 support
- No additional port licensing fees or software feature licensing. All features and applications included in the unit price.
- 2-year warranty period

Extended Functions:

The management host controller of every Packetmaster EX unit runs a minimal Debian Linux OS as the operating system. This Linux OS natively supports core Unix shell commands and utilites, shell scripting, Python 2.7, and the VI text editor. This allows the user to create and run custom scripts and command sets to extend the functionality of the Packetmaster EX for their environment. Cubro can also create custom application for the customers specific needs as well.

Examples:



A Perl script collects counters and writes these counters in an external SQL Database for later analysis.



A Python script reads files from a server and creates filters based on this data.



A Python script dynamically changes filters based on link load data collected from another Packetmaster.



A shell script pings different devices and changes filter rules based on ping response.

PRODUCT CAPABILITIES / FEATURES

Link/Port Aggregation	Aggregation many to any, and any to many at all link speeds
40 Gbps traffic demultiplexer	The traffic can be easily demultiplexed into 32 low traffic 10 Gbps links to monitor highly loaded 40 Gbps links.
Jumbo Frame Support	The Packetmaster supports jumbo Ethernet frames with a size of up to 16000 Bytes
Support of IPv4 and IPv6	
Ports	32 x SFP/SFP+ 1 or 10 Gbps 2 x QSFP 40 Gbps (EX32+) 1 x 10/100/1000 Base-T (Management) 1 x RS232 Console 1 x USB
Configuration / Communication	Web GUI, CLI via SSH or Telnet, REST API, SNMP, RADIUS
Bandwidth	640 Gbps (EX32) and 800 Gbps (EX32+) backplane 100 % throughput without any packet loss
Aggregation latency	Average $< 1\ \mu s$ for 64-byte frames
MTBF	184.125 hours
Packet slicing in line speed	Configurable 64-144 byte
Different Power Versions	100- 240 V AC dual power supply (DC power modules available)

TECHNICAL DATA / SPECIFICATIONS:



Operating specifications:

Operating Temperature: 0°C to 40°C
Storage Temperature: -10°C to 70°C
Relative Humidity: 10% min, 95% max (non-condensing)

Mechanical specifications:

Dimension (W X D X H): 484 X 420 X 43 mm
Weight: 7,2 kg
Airflow: Front-back

Electrical specifications:

AC:
Input Power: 100-240V, 2A, 47-63 Hz
Maximum Power Consumption: 200W
DC:
Input 36-75V, 16A
Maximum Power Consumption: 220W

Certifications:

Fully RoHS compliant
CE compliant
Safety - UL 60950-1 / CSA C22.2 60950-1-07 / IEC 60950-1 (2005) EN 60950-1 (2006)

INPUTS*

32 x 10 /1 Gbps full duplex
2 x 40 Gbps QSFP

* Each port can be input and/ or output depending on the application and configuration

*All QSFP ports support breakout cables to 4 x 1/10G interfaces

OUTPUTS*

32 x 10 /1 Gbps full duplex
2 x 40 Gbps QSFP

*Each port can be input or / and output depending on the application and configuration

*All QSFP ports support breakout cables to 4 x 1/10G interfaces

PERFORMANCE

Performance up to 800 Gbps
Non-blocking design
Estimated boot time up to 180 sec
Packet delay through processing less than 1 μs

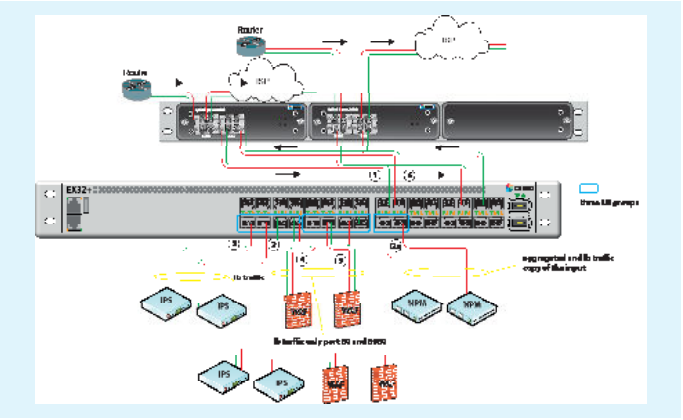
MANAGEMENT

Management Port: (1) RJ45 10/100/1000 Mbit Configuration (CLI) Port: (1) RS-232 DB9
USB for software update

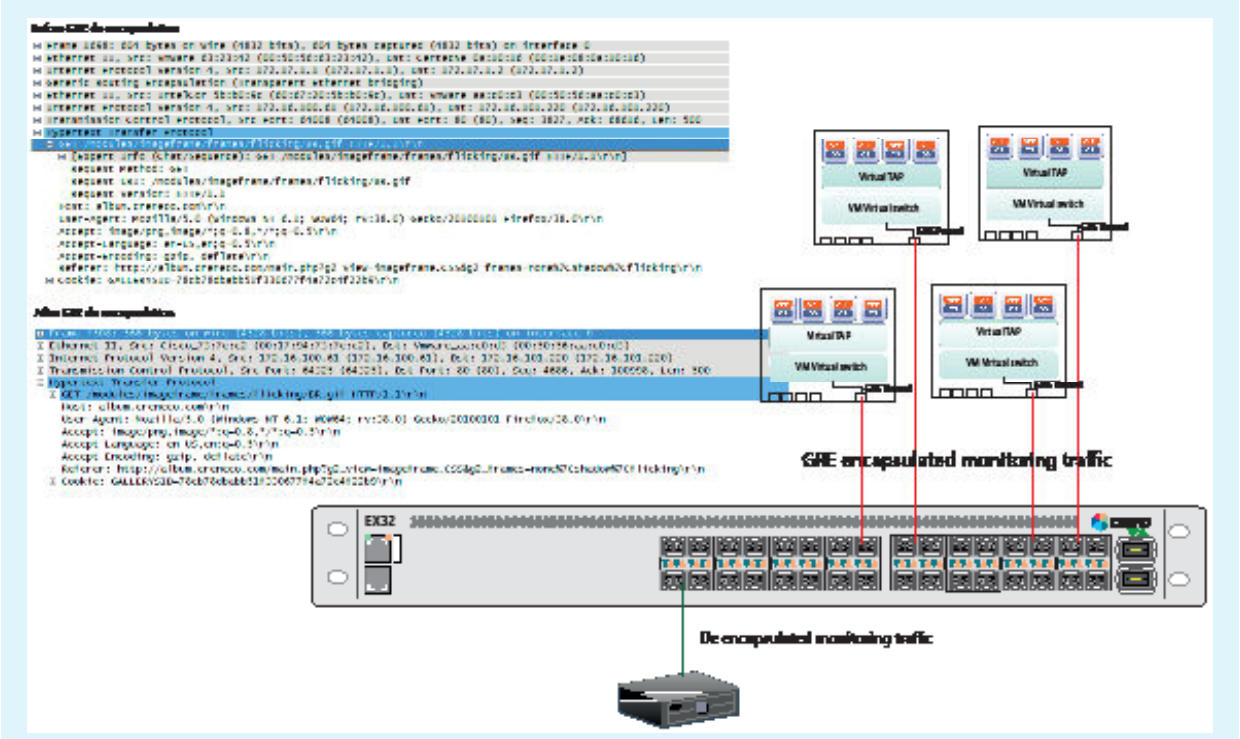
APPLICATIONS / SOLUTIONS

10 Gbit Aggregation

The EX32+ receives traffic from multiple 10G links via monitor ports of in-line TAPs. The EX32+ allows the user to aggregate up to sixteen 10G links to two 40G outputs for monitoring purposes. Using the filtering capabilities of the EX32/32+, the user can isolate only the traffic required to troubleshoot a network issue.



GRE decapsualtion in hardware up to 10 Gbit linespeed

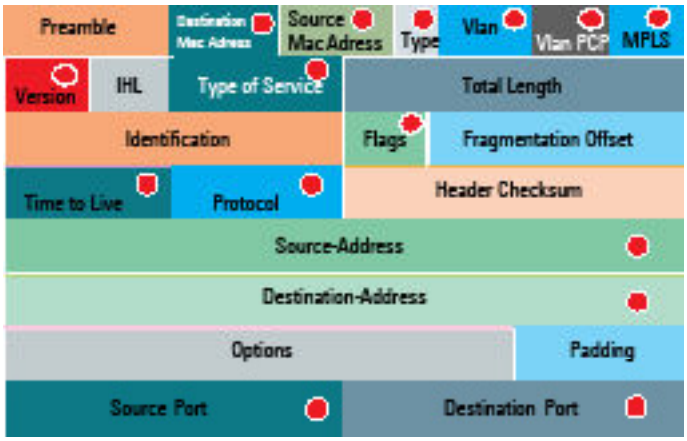


40 Gbit load balancing

The EX32+ is connected in-line to a 40 Gbps live link. The user can load balance the 40 Gbps traffic across several 10 Gbps ports by using the session aware load balancing capability of the Packetmaster.

Filtering

4500 flow rules (filters) can be set in the unit. The fields marked with the red dots can be used as a match for a packet, stand-alone, combined or with wild cards. For IP Src and IP Dst supernets are supported.



Available actions after a positive match include:

- **Output**: Forward the traffic to one or more ports (even the input port)
- **Drop**: Drop (discard) the traffic
- **Modify**: Modify header information such as VLAN tag, MPLS label, source MAC, destination MAC, source IP, destination IP, source Port, and destination Port.
- **Add VLAN tag**: The Packetmaster EX units can add or append VLAN tags to the filtered traffic to separate or identify it after aggregation/output. (Up to six VLAN tags are possible).
- **Strip VLAN**: Remove VLAN tag(s) (Q in Q support).
- **Add MPLS**: Add an MPLS Tag to a matched packet
- **Strip MPLS**: Remove an MPLS Tag from a matched packet
- **Rule Priority/Rule Stacking**: The ability to prioritize filtering rules allows for very complex filtering possibilities.

ORDERING INFORMATION

Part Number	Description
CUB.PM-EX32	Packetmaster EX32, 32x10G Network Packet Broker
CUB.PM-EX32+	Packetmaster EX32+, 32x10G and 2x40G Network Packet Broker
CUB.PM-DC-B	DC Power supply module for Cubro Packetmaster EX5-2/12/32/32+
CUB.RR19-1U	Universal Rackrail Kit for 1U 19" units (Packet/Sessionmaster)

Product Components:

- Packetmaster EX32/32+
- AC, DC power modules available
- Europe/US/UK power cords available

For more information please check our website **www.cubro.com**