

# Cubro Packetmaster EX6-3

## PRODUCT REVIEW



The Packetmaster EX6-3 is a unit from Cubro's first Hybrid Network Packet Broker family. It combines a packet broker with traditional features of a network switch. This unique setup makes the solution more flexible compared to conventional solutions where each component is a separated hardware. The unit can be used inline and filter out specific traffic and send it to a probe.

The EX6-3 also offers DPI functionality which provides a per port statistic of the traffic. This additional feature allows to analyze traffic and build up different filter scenarios. Cubro DPI is based on an annual subscription and can differentiate between 4000+ different signatures.

### Functions / Benefits:

- Filtering and Load Balancing from L2 to L4
- Cubro DPI and Capture functionality for advanced analyzing
- Easy to configure: Via Web GUI
- GRE / VXLAN Tunnel support: The Packetmaster EX6-3, like all Packetmaster Series NPBs, can function as a GRE / VXLAN tunnel endpoint.
- Session aware load balancing, up to 15 load balancing groups
- Cubro Vitrum Management Suite: EX6-3 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 EX6-3

- Filters and load balances traffic from 10 Gbps links to multiple 1 Gbps monitoring tools
- Aggregates multiple 1 Gbps links to 10 Gbps monitoring tools
- 48 x 10/100/1000 Base-X (SFP) ports  
4 x 1/10 Gbps (SFP/SFP+)
- Supports traffic modifications up to layer 4 as well as changing, removing and adding VLAN and GRE tags/tunnels
- Up to 4500 parallel rules
- IPv6 support
- 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 utilities, 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 Python script reads files from a server and creates filters based on this changing 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
10 Gbps traffic demultiplexer	The traffic can be easily demultiplexed into 48 lower speed Gbps ports to monitor highly loaded 10 Gbps links.
Jumbo Frame Support	The Packetmaster supports jumbo Ethernet frames with a size of up to 12000 bytes
Support of IPv4 and IPv6	Yes
Ports	48 x SFP 1 Gbps 4 x SFP+ 10 Gbps 1 x 10/100/1000 Base-T (Management) 1 x RS232 Console
Configuration / Communication	Web GUI, CLI via SSH or Telnet, REST API, SNMP, RADIUS
Bandwidth	176 Gbps backplane 100 % throughput without any packet loss
Aggregation latency	Average 1 $\mu$ s for 64-byte frames
MTBF	196,750 hours
Different Power Versions	100- 230 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: 7,4 kg  
Airflow: Front-back

## Electrical specifications:

Input Power: 100-240V  
Maximum Power Consumption: 170W

## 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\*

48 x 1 Gbps full duplex SFP Ports for any kind of SFP  
4 x 10 Gbps full duplex SFP+ Ports  
\* Each port can be input and / or output depending on the application and configuration

## OUTPUTS\*

48 x 1 Gbps full duplex SFP Ports for any kind of SFP  
4 x 10 Gbps full duplex SFP Ports for any kind of SFP/SFP+  
\* Each port can be input or / and output depending on the application and configuration

## PERFORMANCE

Performance up to 176 Gbps  
Non-blocking design  
Estimated boot time up to 280 sec  
Packet delay through processing less than 1  $\mu$ s

## MANAGEMENT

RJ45 10/100 Mbps; ssh and/or Web GUI  
RS-232 Serial; CLI

# APPLICATIONS / SOLUTIONS



## Filtering

2000 flow rules (filters) can be set in the unit. The red dot marked fields 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.

Preamble		Destination MAC Address	Source MAC Address	Type	Vlan	Vlan PCP	MPLS
Version	IHL	Type of Service		Total Length			
Identification				Flags	Fragmentation Offset		
Time to Live	Protocol	Header Checksum					
Source-Address							
Destination-Address							
Options						Padding	
Source Port				Destination Port			

### 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)
- Rule Priority/Rule Stacking: The ability to prioritize filtering rules allows for very complex filtering possibilities.



## Session Aware Load Balancing

The EX6-3 supports Session Aware Load balancing by means of selectable hash-criteria. Thus, every packet that belongs to the same conversation/flow is sent to the same output port within a load-balancing group.

## ORDERING INFORMATION

Part Number	Description
CUB.PM-EX6-3	Packetmaster EX6-3, 48x1G and 4x10G Network Packet Broker
CUB.PM-DC-A	DC Power supply module for Cubro Packetmaster EX6-3
CUB.RR19-1U	Universal Rackrail Kit for 1U 19" units (Packet/Sessionmaster)
CUB.DPI-EX6-3	DPI License for Packetmaster EX6-3

For more information please check our website [www.cubro.com](http://www.cubro.com)