

# Cubro Packetmaster EX6

## PRODUCT REVIEW



The Packetmaster EX6 is a network packet broker and network controller switch that aggregates, filters and load balances network traffic sent to network monitoring, security and management tools. The EX6 allows you to filter and load-balance traffic from 10 Gbps link to multiple 1-Gbps monitoring tools or aggregate multiple 1-Gbps links to 10 Gbps monitoring tools. The EX6 also supports traffic modification as well as changing, removing and adding VLANs.

### Functions / Benefits:

- Lifetime of rules: Rules can be set with a live time counter, if the counter becomes 0 the rule will be removed automatically.
- Generate sFLOWS CDRS: The EX6 can send standard sFlow CDRS to collector devices to monitor the traffic processed by the EX6. These devices can produce graphs and SNMP traps for northbound signalization.
- GRE Tunnel support: The device can work as end device for a GRE tunnel, for back hauling applications.
- AAA Radius support: user identification.
- Stacking of units: One Packetmaster can control several other Packetmasters. This gives the possibility to extend the amount of ports per unit.

## Network Packet Broker (NPB) At a glance

### Definition

A network packet broker (NPB) is a tool that receives data from a number of network links, duplicates, aggregates and filters that data for the monitoring tools.

### Advantages of EX6

- Aggregation from many input ports to one or many output ports
- 2560 flow rules (filters) can be set in the unit
- L2 / L3 hash based load balancing, up to 10 load balancing groups
- No additional software costs, all applications included in the unit price

### Extended Functions:

The management host controller of every EX unit runs a full featured Debian Linux as operating system. On this host script languages like Python, Perl, TCL, or simple Linux shells are available to run 3rd party applications to extend the function of the Packetmaster. These applications can be developed by Cubro or the customer.

### Examples:



A python script reads files from a server and sets filters based on this changing data.



A python script changes the filters based on link load information 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 de-multiplexer	If highly loaded 10 Gbps links have to be monitored, the traffic can be easily de-multiplexed into 24 low traffic Gbps links.
Jumbo Frame Support	The Packetmaster supports jumbo Ethernet frames with a size of up to 12000 bytes
Support of IPv4 and IPv6	
Ports	48 x 10/100/1000 Mbps Base-T 4 x SPF+ 10 Gbps 1 x 10/100/1000 Base-T (Management) 1 x RS232 Console
Configuration / Communication	Telnet and SSH/Radius Support
Bandwidth	176 Gbps backplane 150 million Packets per/sec
Aggregation latency	Average 1 $\mu$ s for 64-byte frames
MTBF	196,750 hours
Rugged 19" housing	The Packetmaster is delivered in a rugged 19" 1U housing with precise connector labelling on the front panel.
Power	100- 230 VAC 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

## Electrical specifications:

AC  
 Input Power: 100-240V, 2A, 47-63 Hz  
 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 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 and / or output depending on the application and configuration

## OUTPUTS\*

48 x 1 Gbps 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  
 150 million packets/sec  
 Non-blocking design  
 Boot time from power on to working 280 sec  
 Packet delay through processing less than 1  $\mu$ s

## MANAGEMENT

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

## INDICATORS

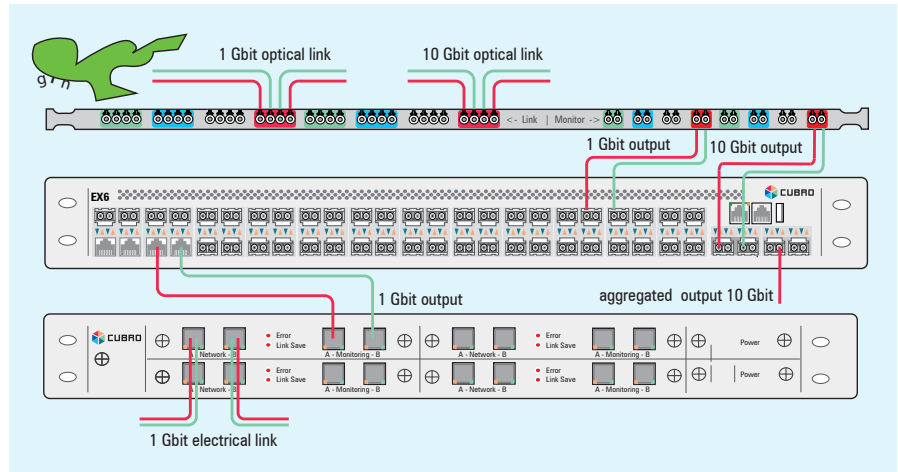
Per RJ45 port: Speed, Link/ Activity  
 Per SFP+ port: Status, Rx, Tx, Link  
 Per Device: Power, Status

# APPLICATIONS / SOLUTIONS



## Aggregation

Traffic aggregation from many input ports to one or many output ports. This works also with different link speed up to 40 Gbps.



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				



## Filtering

2560 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 super nets are supported.

### Available actions after a positive match include –

- Send out: to one or more ports - even the same as the input is possible.
- Drop: delete the specific packet
- Modify: modify specific fields in the matched packets, VLAN, MAC SRC, MAC DST, PORT, VLA, Priority and some more.
- Add VLAN: the unit can tag a VLAN on the input to separate the traffic after aggregation
- Strip VLAN: VLAN can be removed, Q in Q is supported
- Stacking of rules: this function gives the option to generate very complex filter rules.



## Load balancing

L2 / L3 hash based load balancing, up to 10 load balancing groups.

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## ORDERING INFORMATION

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

Product Components:

- Packetmaster EX6
- AC, DC power modules available
- Europe/US/UK power cords available

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