

Cubro Packetmaster EX 5-2



The Packetmaster EX-5 is a modern Network Packet Broker and network controller switch that aggregates, filters and load balances network traffic sent to network monitoring, security and management tools. Packetmaster EX-5 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. Packetmaster EX-5 also supports traffic modification as well as changing, removing and adding VLAN's.

No additional software costs all applications included in the unit price.

Extended Function:

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 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 sets filters based on this changing data.

A python script changes the filters based on link load information from an other packetmaster.



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

Functions & Features

Link/Port Aggregation

Aggregation many to any, and any to many at all link speeds

10 Gbps traffic demultiplexer

If highly loaded 10 Gbps links have to be monitored the traffic can be easily demultiplexed 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 Gbps 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 μ s for 64-byte frames

MTBF

196,750 hours

Power

230 VAC in single and dual power supply versions available.

Operating Temperature

0 to 45°C

Operating Humidity

90% maximum relative humidity

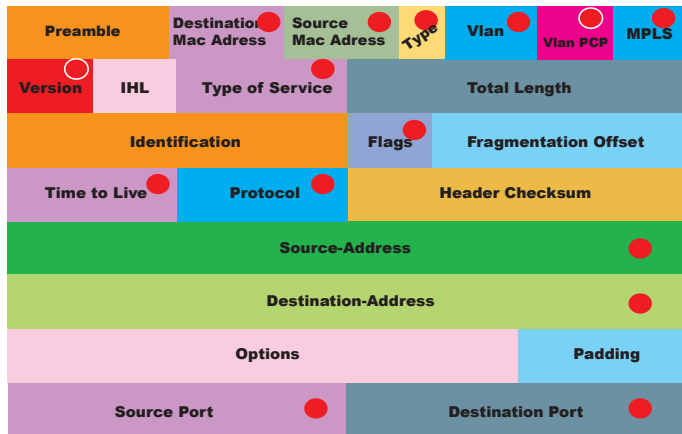
Dimension

W=435.00 mm, L=393.70 mm, H=42.80 mm

General Functions

Aggregation: Traffic aggregation from many input ports to one or many output ports. This works also with different link speed up to 10 Gbps.

Filtering: 12000 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 functions after a positive match are:

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, MPLS, MAC SRC, MAC DST, PORT, VLAN 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

Add MPLS: Add an MPLS Tag to a matched packet

Strip MPLS: Remove an MPLS Tag from a matched packet

Stacking of rules: this function gives the option to generate very complex filter rules.

Lifetime of rules: Rules can be set with a live time counter, if the counter becomes 0 the rule will be removed automatically

Generate nFLOWS and sFLOWS CDRS:

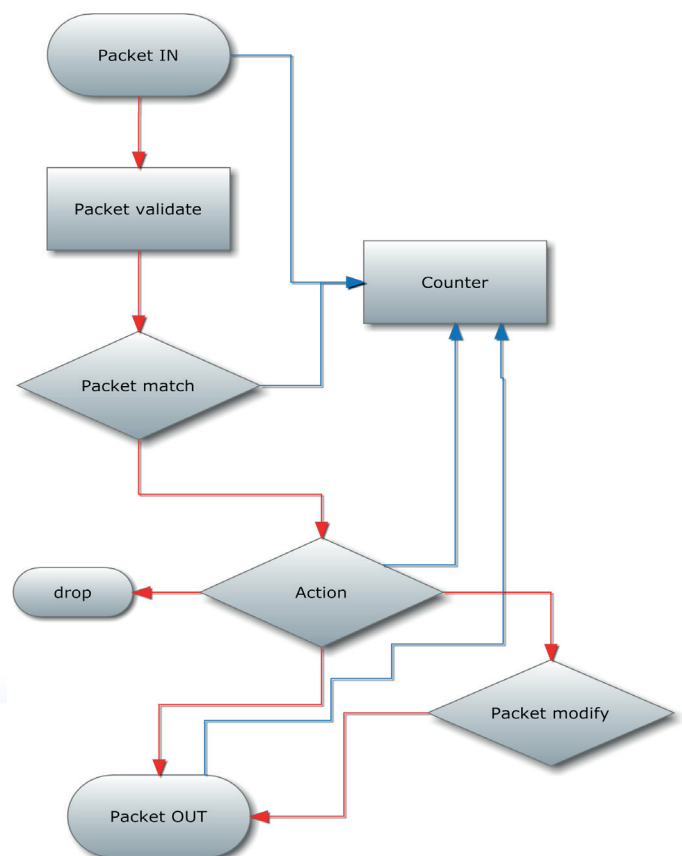
The EX 5 can send standard nFlow or sFlow CDRS to a collector devices to monitor the traffic processed by the EX 5. These devices can produce graphs and snmp traps for northbound signalization.

GRE Tunnel support: The device can work as end device for a GRE tunnel, for back hauling applications.

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

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.



Technical Data



Rule Name	Rule Priority	Out Port	Protocol	VLAN	MAC src	MAC dst	IP src	IP dst	Port src	Port dst	ICMP Type	ICMP Code	Actions	Packets	Bytes	Duration	Table	TCAM Flow
HLR_2	32768	1-4	ip				117.10.10.25	20.20.20.20					output 6	0	0	544276.640s	0	4
HLR_1	32768	1-4	ip										output 6	0	0	544483.207s	0	4
MGW_1	32768	1-4	udp				10.10.10.10		UDP 1608				output 5-6	0	0	696314.650s	0	4
MGW_2	32768	1-4	udp				10.10.15.15		UDP 1608				output 5-6	0	0	696384.500s	0	4
DPI_2_1	50000	1-4	udp				10.10.17.17		UDP 601				output 5-6	0	0	542825.052s	0	4
DPI_2_1	50000	1-4	udp				10.10.17.18		UDP 601				output 5-6	0	0	268613.522s	0	4
	32768												drop	0	0	1948.01s	0	1
DPI_1	32768	1-4		101									output 6	0	0	543049.434s	0	4
MGW_3	32768	1-4		33									drop	0	0	534567.736s	0	4
GGSN_1_SP	32768	2-3		123-129									output 6	0	0	543838.259s	0	10
GGSN_1_18P	32768	3		601-604									output 2	0	0	543842.798s	0	4
DPI_2	32768	1-4	ip				10.10.15.15						output 5	0	0	542320.039s	0	1
Proxy1	40000	1-4	udp							UDP 80			drop	0	0	696056.405s	0	4
Proxy1	40000	1-4	tcp							TCP 80			drop	0	0	696237.576s	0	4
Proxy1	32768	1-4	tcp							TCP 80			drop	0	0	696027.914s	0	4

Inputs*

48 x 10/100/1000 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 0/100/1000 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

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 (HxWxD): 42.8 x 435 x 393.7 mm
 Weight : 7.2 kg

Electrical Specifications:

Input Power: 100-240V, 2A, 47-63Hz
 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)

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 μs

Management

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

Indicators

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