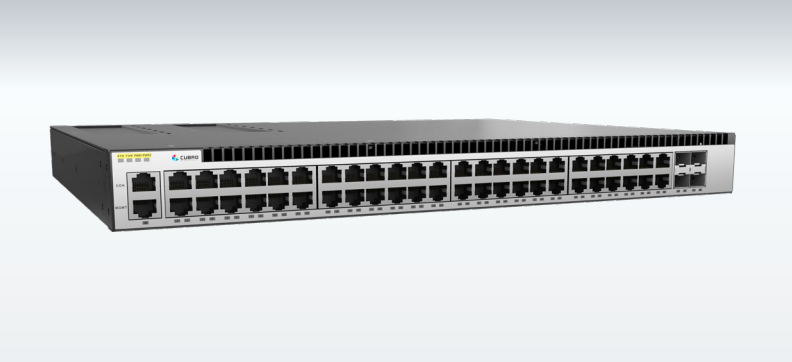
CUBRO
NETWORK VISIBILITY
SIMPLE | SCALABLE | SUSTAINABLE

DATA SHEET

Cubro Packetmaster EX5-2

PRODUCT OVERVIEW



The Packetmaster EX5-2 is a modern network packet broker and network controller switch that aggregates, filters, duplicates and load balances network traffic sent to the network monitoring, security and management tools. The Packetmaster EX5-2 filters and load balances traffic from 10Gbps link to multiple 1 Gbps monitorng tools or aggregates multiple 1 Gbps links to 10 Gbps monitoring tools. The Packetmaster series supports OSI Layer 2, Layer 3 and Layer 4 header modification including stripping, adding, and modifying VLAN tags, 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 EX5-2 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 EX5-2, 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: EX5-2 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 EX5-2

- 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-T 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 2000 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 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 collects counters and writes them to an SQL database for later analysis.

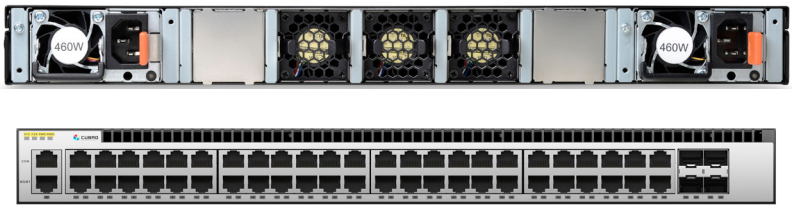
A Python script dynamically changes filters based on link load data collected from another Packetmaster.

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 24 low traffic Gbps links 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 10/100/1000 Mbps Base-T 4 x SFP/SFP+ 1/10 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 μs for 64-byte frames
MTBF	196,750 hours
Different Power Versions	100-230 VAC in single and dual power supply versions available 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 (WxDxH): 484 x 380 x 43 mm
Weight: 5,5 kg
Airflow: Front-back

Electrical specifications:

Input Power: 100-240V
Maximum Power Consumption: 60W

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 10/100/1000 Mbps 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 10/100/1000 Mbps 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 μs

MANAGEMENT

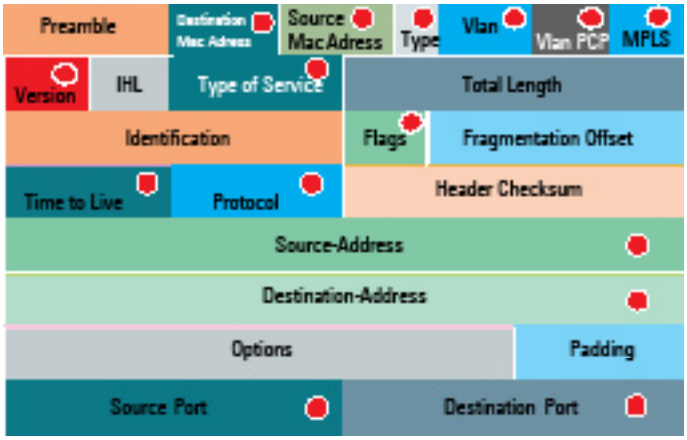
RJ45 10/100 Mbps; ssh and/or Web GUI

RS-232 Serial; CLI

APPLICATIONS / SOLUTIONS

Aggregation

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



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

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 EX5-2 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-EX5-2	Packetmaster EX5-2, 48x1G Base-T and 4x10G 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)

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