

Functions

Link/Port Aggregation

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

100 Gbps traffic demultiplexer

If highly loaded 100 Gbps links have to be monitored the traffic can be easily demultiplexed into 48 low traffic 10 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

20 x 40 Gbps or 4 x 10 Gbps
4 x QSFP28 or zQSFP 100 Gbps (LR4)
4 x 10 Gbit SFP+
1 x 10/100/1000 Base-T (Management)
1 x RS232 Console

Configuration / Communication

Web, Telnet and SSH

Bandwidth

2.4 Tbps backplane
2300 million Packets per sec

Aggregation latency

Average < 1 μ s for 64-byte frames

MTBF

178,125 hours

Rugged 19" Housing

The Packetmaster is delivered in a rugged 19" 1U housing with precise connector labeling on the front panel.

Different Power Versions

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

The Cubro Packetmaster EX20400 is a reliable Network Packet Broker. Designed for high speed and lossless packet handling.

Cubro Packetmaster EX 20400

20 x 40 Gbps 4 x 100 Gbps NPB



The Packetmaster EX 20400 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 20400 allows you to filter and load-balance traffic from 10 or 100-Gbps link to multiple 1-Gbps monitoring tools or aggregate multiple 1-Gbps links to 10 or 100-Gbps monitoring tools. Packetmaster EX20400 also supports traffic modification as well as changing, removing and adding VLAN's, MPLS, VXLAN, NVGRE/MLAG/GENEVE

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 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 informations from a other packetmaster.



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



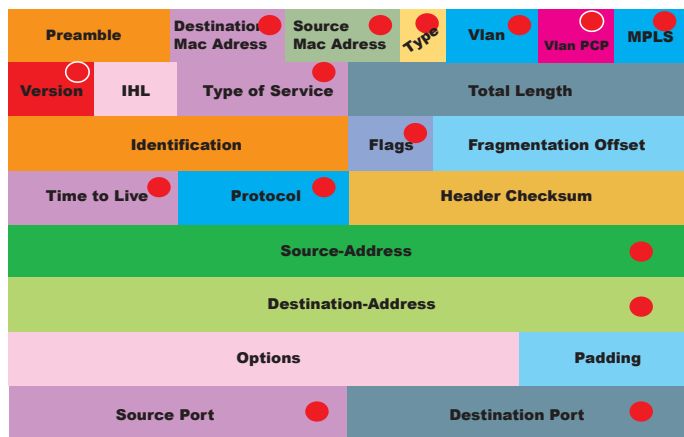
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www.cubro.net

General Functions

Aggregation: Traffic aggregation from many input ports to one or many output ports. This works also with different link speed up to 100 Gbps.

Filtering: 64000 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 EX20400 can send standard nFlow or sFlow CDRS to a collector devices to monitor the traffic processed by the EX 20400. These devices can produce graphs and SNMP traps for northbound signalization.

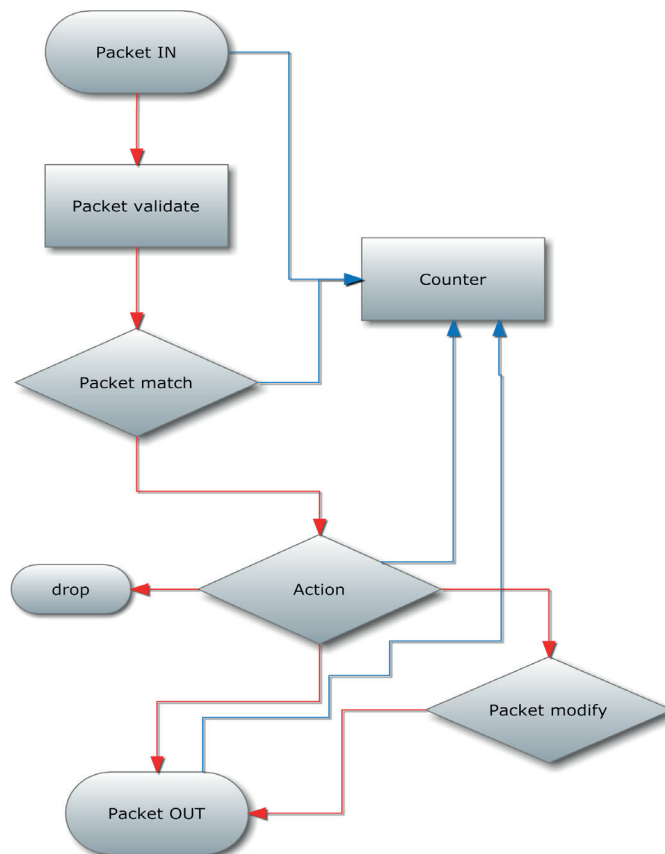
GRE Tunnel support: The device can work as end device for a GRE tunnel, for back hauling applications.

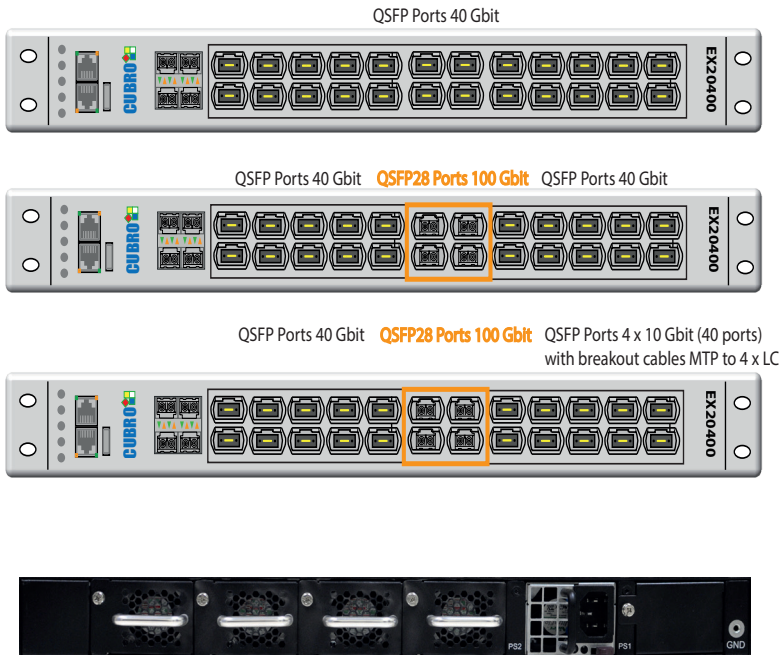
VXLAN Tunnel support: The device can work as end device for a VXLAN tunnel, for back hauling applications.

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.





Inputs*

20 x 40 Gbps / 10 Gbps full duplex QSFP Ports for any kind of QSFP

4 x 100 Gbps full duplex QSFP28 Ports for any kind of QSFP28

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

Outputs*

20 x 40 Gbps / 10 Gbps full duplex QSFP Ports for any kind of QSFP

4 x 100 Gbps full duplex QSFP28 Ports for any kind of QSFP28

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

Performance

Performance up to 2400 Gbps

2300 million packets/sec

Non blocking design

Boot time from power on to working 180 sec.

Packet delay through processing less than 1 μ s

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

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 : 9.4 kg

Airflow: Front -Back

Electrical Specifications:

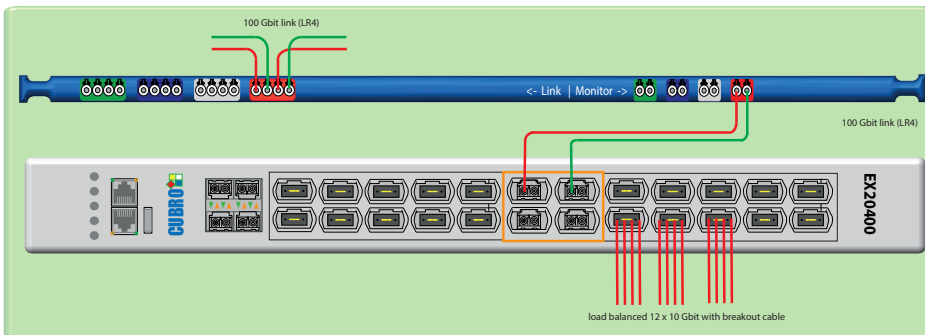
Input Power: 100-240V, 2A, 47-63Hz
 Maximum power consumption: 350W

Certifications

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

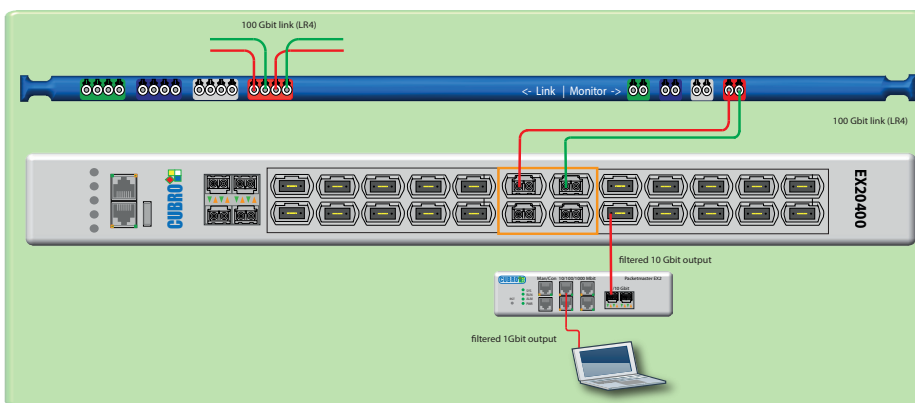


Applications



App: 100 Gbit load balancing

The EX 20400 is connected via the Cubro optical TAP to a 100 Gbit live link. Using the load balancing capability of the Packetmaster EX 20400, to load balance the 100 Gbit traffic to 12 x 10 Gbit ports.



App: 10 Gbit monitoring

The EX 20400 is connected via the Cubro optical TAP to a 100 Gbit live link. Using the filtering capability of the Packetmaster EX 20400, the user can select only the portion of the traffic which is needed to solve the network problem.

In combination with a Cubro EX2 it is possible to look into a 100 Gbit link with a standard PC and wireshark.

App: 504 ports 10 Gbit Cross connect

6 x EX 20400 are connect over the 100 Gbit links to generate a Cross connect with 504 ! 10 Gbit ports

