CUBRO NETWORK VISIBILITY

SIMPLE | SCALABLE | SUSTAINABLE

Cubro Packetmaster AGG-32100

PRODUCT OVERVIEW

The Packetmaster AGG-32100 is a high performance Layer 4 network packet broker that aggregates, filters, duplicates, and load balances network traffic to security, monitoring and management tools based on 4000 possible ACL rules. The Packetmaster AGG-32100 is based on a programmable switching fabric. It is built with an advanced Cavium multi-core host controller. This platform allows all filtering features to be implemented at the hardware level for unmatched throughput and performance.

Functions / Benefits:

- Easy to configure via secure Web GUI

- Load balancing: hash-based, session aware load balancing, up to 128 load balancing groups

- Cubro Vitrum Management Suite: The AGG-32100 is fully compatible with Cubro Vitrum, a centralized management platform for all Cubro network visibility solutions.

- Filtering on multiple parameters up to OSI Layer 4 including VLAN tags, IP addresses and TCP / UDP port numbers.

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 AGG-32100

- Filters and load-balances traffic from 10, 25, 40, or 100 Gbps links to multiple monitoring tools

- Aggregates multiple 10 Gbps links to 25, 40, or 100 Gbps monitoring tools

- 32 x 40/100 Gbps (QSFP/QSFP28)

- QSFP28 ports support breakout to 4 x 10/25G

- Up to 4000 parallel rules

- Packet slicing support (64B, 128B, 192B)

- IPv6 support

- No additional port licensing fees or software feature licensing. All features and applications included in the unit price.

- 2-year base warranty period

PRODUCT CAPABILITIES / FEATURES

Link/Port Aggregation	Aggregation many to any, and any to many at all link speeds
100 Gbps traffic demultiplexer	Traffic can be easily distributed across 10G, 25G, and 40G links to monitor highly loaded 100 Gbps links.
Jumbo Frame Support	The Packetmaster supports jumbo Ethernet frames with a size of up to 16000 bytes.
Support of IPv4 and IPv6	Yes
Ports	32 x QSFP 40 Gbps or QSFP28 100 Gbps 1 x 10/100/1000 Base-T (Management) 1 x RS232 Console
Configuration / Communication	Web GUI, SNMPv2
Performance	6,4 Tbps backplane 100 % throughput without any packet loss
Aggregation latency	Average < 700 ns for 64-byte frames
MTBF	201.743 hours
Packet Buffer	24 MB
Different Power Versions	Dual 100-240 V AC or DC power version available Supplied with two redundant power supply modules. The modules are hot-swappable.

TECHNICAL DATA / SPECIFICATIONS
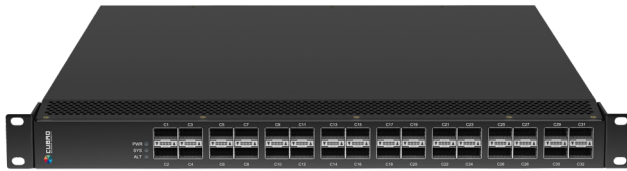
Operating specifications:

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): 490 x 593 x 42,8 mm
Weight: 10,0 kg
Airflow: Front-back

Electrical specifications:

Input Power: 100-240V
Maximum Power Consumption: 220W
Power Supply Module: 2 (redundant & hot- swappable)

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*

32 x 40 Gbps / 100 Gbps full duplex Ports for any kind of QSFP/QSFP28

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

*All QSFP/ QSFP 28 ports support breakout cables to 4x10G or 4x25G interfaces

OUTPUTS*

32 x 40 Gbps / 100 Gbps full duplex Ports for any kind of QSFP/QSFP+

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

*All QSFP/ QSFP 28 ports support breakout cables to 4x10G or 4x25G interfaces

PERFORMANCE

Performance up to 6,4 Tbps
Non-blocking design
Boot time from power on to working 180 sec
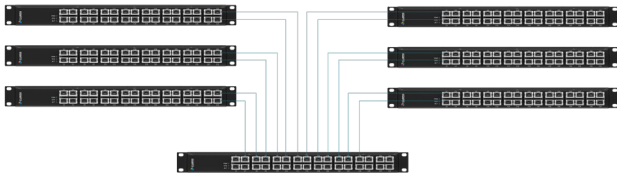Packet delay through processing constant at 700 ns

MANAGEMENT

Management Port: (1) RJ45 10/100/1000 Mbit Configuration

APPLICATIONS / SOLUTIONS

Cross connect

### 100 Gbps port cross connect with central unit

In this application 6 x AGG-32100s are connected to a central unit with 186 available 100 Gbps ports (31 available ports per device).

The interconnection between the devices can be done with one link or more depending on the bandwidth required.

The table shows the number of units that can be interconnected and the number of ports available.
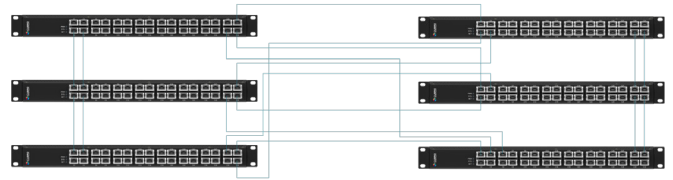
Amount of units	100 Gbps (inteconnect)	200 Gbps (inteconnect)	300 Gbps (inteconnect)	400 Gbps (inteconnect)
6	186 ports	180 ports	174 ports	168 ports
7	217 ports	210 ports	203 ports	196 ports
8	248 ports	240 ports	232 ports	224 ports
9	279 ports	270 ports	261 ports	252 ports
10	310 ports	300 ports	290 ports	XXX
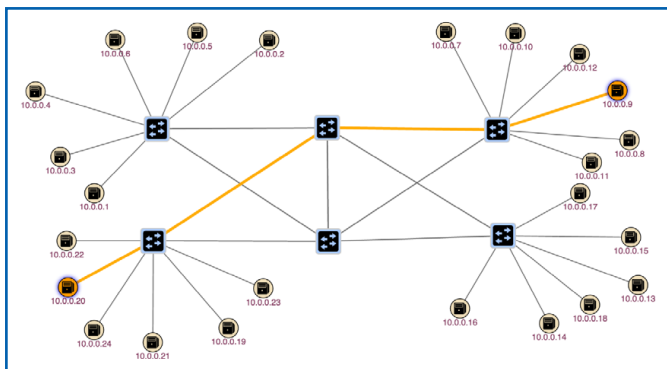
The entire solution is managed by Cubro Vitrum, a server-based network management software. The visualisation of the software platform gives a better overview of the network and its traffic. The batch backup, upgrade and the error center allow for easy management of Cubro's devices.

Additionally, it is also capable of including third party devices in the visualisations. Kibana and Grafana integration allow the user to create and customize graphical dashboards that show all the necessary information at one glance.

Application 100 Gbps port cross connect full mesh

In this application 6 x AGG-32100s are connected to a fully meshed cross connect with 162 available 100 Gbps ports (27 available ports per device). The interconnection between the devices can be done with one link or more depending on the bandwidth that is needed.

The table shows how many units can be interconnected and how many ports are available.

Amount of units	100 Gbps (inteconnect)	200 Gbps (inteconnect)	300 Gbps (inteconnect)	400 Gbps (inteconnect)
6	162 ports	132 ports	102 ports	72 ports
7	182 ports	140 ports	98 ports	56 ports
8	200 ports	144 ports	88 ports	32 ports
9	192 ports	128 ports	72 ports	XXX

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ISO 9001/14001

DATA SHEET
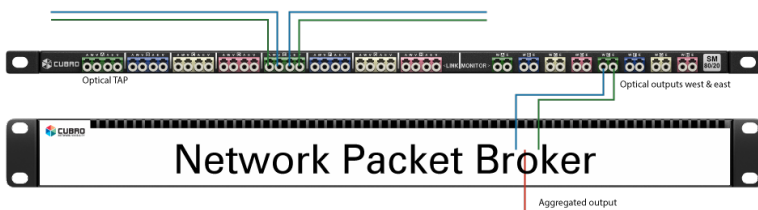
APPLICATIONS / SOLUTIONS

Load balancing

The AGG-32100 is connected inline to a 100 Gbit live link. The Packetmaster AGG-32100 can load balance 100 Gbit traffic to several 10, 25, or 40 Gbit ports.

Network Packet Broker

Traffic load balanced to 4x IDS
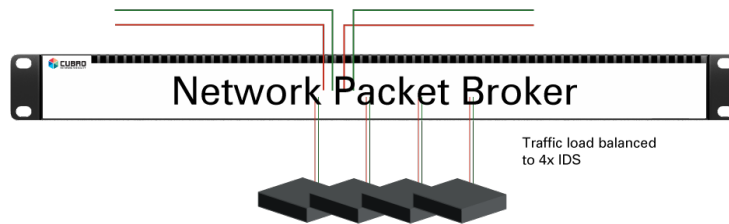
Aggregation

The AGG-32100 receives traffic from a 100G live link via the monitor ports of an inline TAP.

The AGG-32100 aggregates the Tx and the Rx sides of the duplex link to a single 100 Gbit port for monitoring purposes. By utilizing the filtering abilities of the AGG-32100 the user can isolate only the traffic necessary to troubleshoot the network problem.

Optical TAP

Optical outputs west & east

Network Packet Broker

Aggregated output

Monitoring and trouble shooting

The Packetmaster AGG-32100 supports 4000 filters that can classify traffic. These filters can be used to redirect a selected part of the traffic to a low bandwidth monitoring tool, such as a 10G packet analyzer to troubleshoot an issue on a 100 Gbit link (such as a routing problem).

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

ADVANCED FUNCTION DESCRIPTION

AGG-32100

Session meets packet:

Packet based filtering is not always sufficient. Session based filtering cannot be done with ASIC or FPGA and normal CPU is not capable of handling Terabits of traffic.

The combination of an AGG-32100 with an EXA24160 (Sessionmaster) is an extremely powerful solution for Layer 7 session-aware applications.

EXA24160

Application based filtering:

The combination of AGG-32100 and EXA24160 offers a powerful solution for layer 7 session-aware filtering. This means it is possible to filter on applications, keywords, or any wanted Regex. This shown application can support up to multiple 100 Gbps traffic, depending on how many session fabrics are used.

The AGG-32100 aggregates, filters and load balances the traffic and forwards the traffic to the session fabric. The session fabric analyzes the traffic and tags it based on application key before forwarding it back to AGG-32100. The traffic is sent to other tools for more inspection.

ORDERING INFORMATION

Product Components:

- Cubro Packetmaster AGG-32100
- AC or DC power supply modules
- Power cord
- Transceivers not included

Part Number	Description
CUB.AGG-32100	Packetmaster AGG-32100, 32x40/100G, AC powered
CUB.AGG-32100-DC	Packetmaster AGG-32100, 32x40/100G, DC power ed

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