AGGREGATOR C32

DATA SHEET

Advanced Network Packet Broker
At a glance

Definition

A Network Packet Broker 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 C32

- Filters and load-balances traffic from 10, 25, 40 or 100 Gbps links to multiple monitoring tools
- Aggregates multiple 10 and 25 Gbps links to 40, or 100 Gbps monitoring tools
- 16 x 40/100 Gbps (QSFP/QSFP28) with break-out to 4 x 10G/25G
- 16 x 40/100 Gbps (QSFP/QSFP28)
- Up to 4000 parallel rules
- 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 Overview

The Aggregator C32 is a high-performance network packet broker that aggregates, filters, duplicates, load balances network traffic to security, monitoring and management tools based on 4000 possible rules. The Aggregator C32 supports OSI Layer 2, Layer 3 and Layer 4 header modifications including stripping, adding, and modifying VLAN tags, MAC addresses, IP addresses and Port numbers.

Functions / Benefits:

- 40G & 100G Aggregation (n:1, 1:n; n:n)
- Easy to configure via secure Web GUI, CLI and REST API
- Load balancing: L2 / L3 / L4 hash-based, session aware load balancing
- Filtering on multiple parameters up to including VLAN tags, IP addresses and TCP / UDP port numbers and much more.
- Header Modification of OSI Layer 2 to 4
- SNMPv2c and SNMPv3 support

Product Capabilities / Features

Number of Ports	16 x 40/100 Gbps (QSFP/QSFP28) 16 x 40G/100 Gbps (QSFP/QSFP28) with break-out function to 4 x 10G/25G
Link/Port Aggregation	1:1; 1:n; n:1; n:n - at all port/link speeds
Traffic distribution/load balancing	Traffic can be easily distributed to single ports, parallel ports or load-balancing groups
Filtering	Up to OSI Layer 4 including MAC, VLAN, Ethertype, IPv4/IPv6, Protocol type, Layer 4 Port Numbers
Tag Stripping	VLAN
Throughput / Latency	Non-blocking architecture with 6,4 Tbit/s throughput
Latency	< 700ns
Buffer	36 Mbyte with intelligent buffer management to avoid congestion due to micro-bursts
Jumbo Frame Support	Supports Jumbo frames with a size of up to 9600 bytes
MTBF	201.743 hours
Supervision/Logging	SNMPv2c and SNMPv3; Syslog and Web Log function
Unit Control	WebUI (HTTPS), CLI and RestAPI via 10/100/1000B-T management interface
Electrical Power	Dual 100-240V AC or 36-72V DC available

Technical Data / Specifications

Inputs*

16 x 40 Gbps / 100 Gbps full duplex Ports for any kind of QSFP/QSFP28
(Support breakout cables to 4x10G/25G interface)

16 x 40G/100G full duplex Ports for any kind of QSFP28
*Each port can be input and / or output depending on the application and configuration

Outputs*

16 x 40 Gbps / 100 Gbps full duplex Ports for any kind of QSFP/QSFP28
(Support breakout cables to 4x10G/25G interface)
16 x 40G/100G full duplex Ports for any kind of QSFP28
*Each port can be input and / or output depending on the application and configuration

Performance

- Performance up to 6,4 Tbps
- Throughput up to 3,5B packets per second
- Non-blocking design
- Boot time from power on to working 120 sec

Management

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

Operating specifications:

Operating Temperature: 0ºC to 40ºC
Storage Temperature: -10ºC to 70ºC
Relative Humidity: 10% min, 95% max (non-condensing)

Mechanical specifications:

Dimension (WxDxH): 440 x 480 x 44 mm
Weight: 9,2 kg
Airflow: Front-back

Electrical specifications:

Input Power: 100-240V
Maximum Power Consumption: 224W
Power Supply Module: 2 (redundant & hot- swappable)

Certifications:

Compliance and Safety: EN 61000-3-2:2019; EN 61000-3-3:2013/A1:2019;
                                          EN 62368-1:2014; EN 55035/2017/A11:2020;
                                          EN 55032:2015/A1:2020
EU Directives compliance: 2014/35/EU and 2014/30/EU
RoHs Compliance: RoHS 6

Applications / Solutions

Aggregation

The C32 receives traffic from a single or multiple 40/100 Gbps link (s) via the monitoring ports of an inline tapping device. The incoming traffic can be further aggregated to single or multiple outputs to connect analysers and monitoring tools as required.

In the below example the C32 aggregates up-and downstream traffic of a 100 Gbit link to a single output port for more economical usage of connected traffic probes/analytics systems.
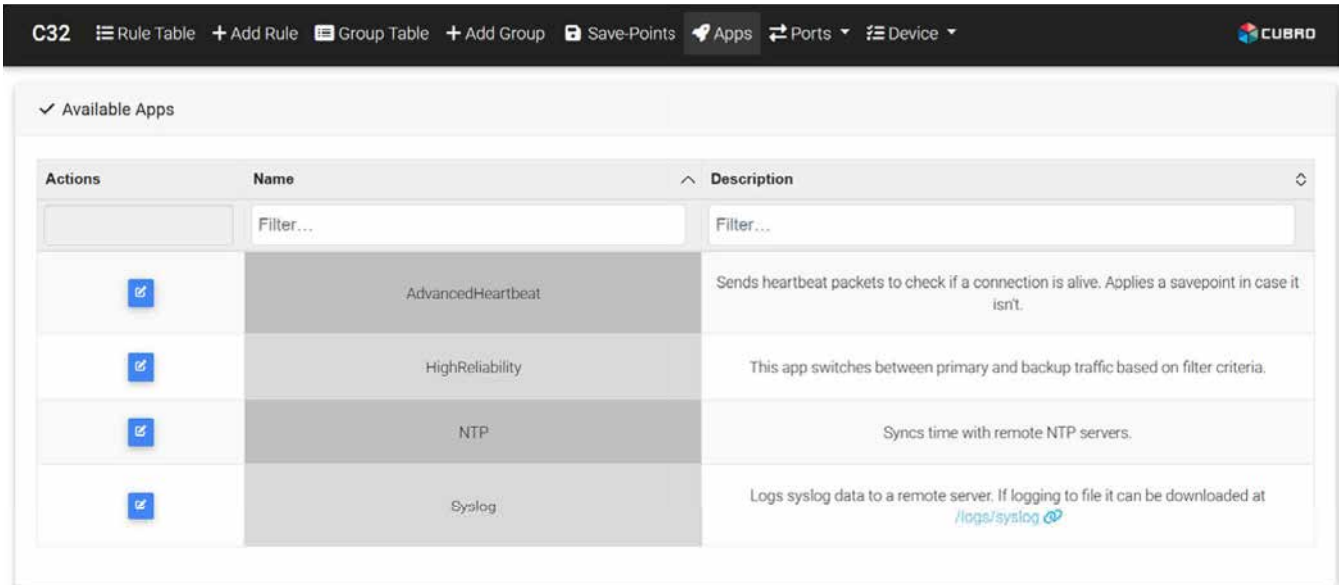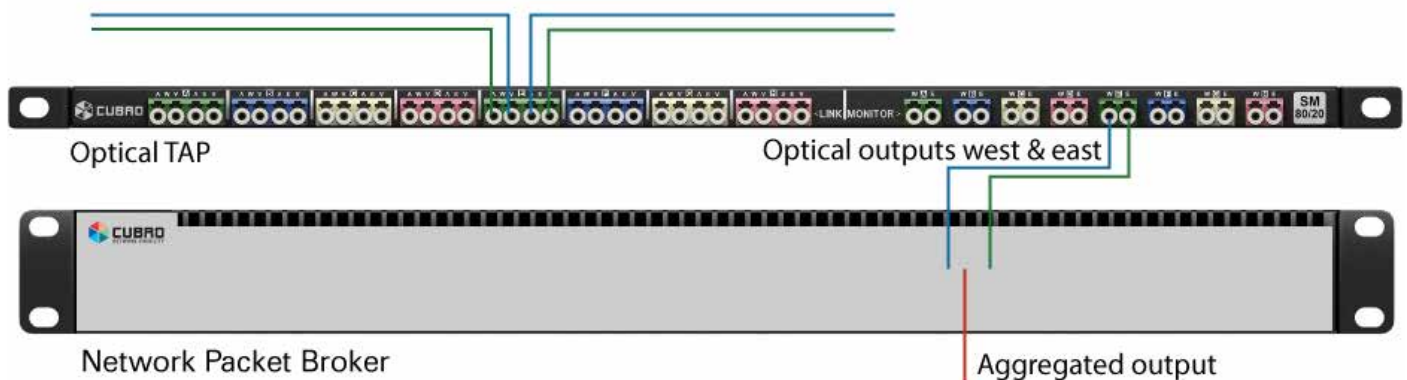

By utilizing the various filtering capabilities available on the C32, users are able to further reduce the traffic volume that needs to be processed, allowing for a more accurate and quick analysis.

Furthermore, incoming traffic can be VLAN-tagged per physical port for easy identification of the original physical port of a packet.
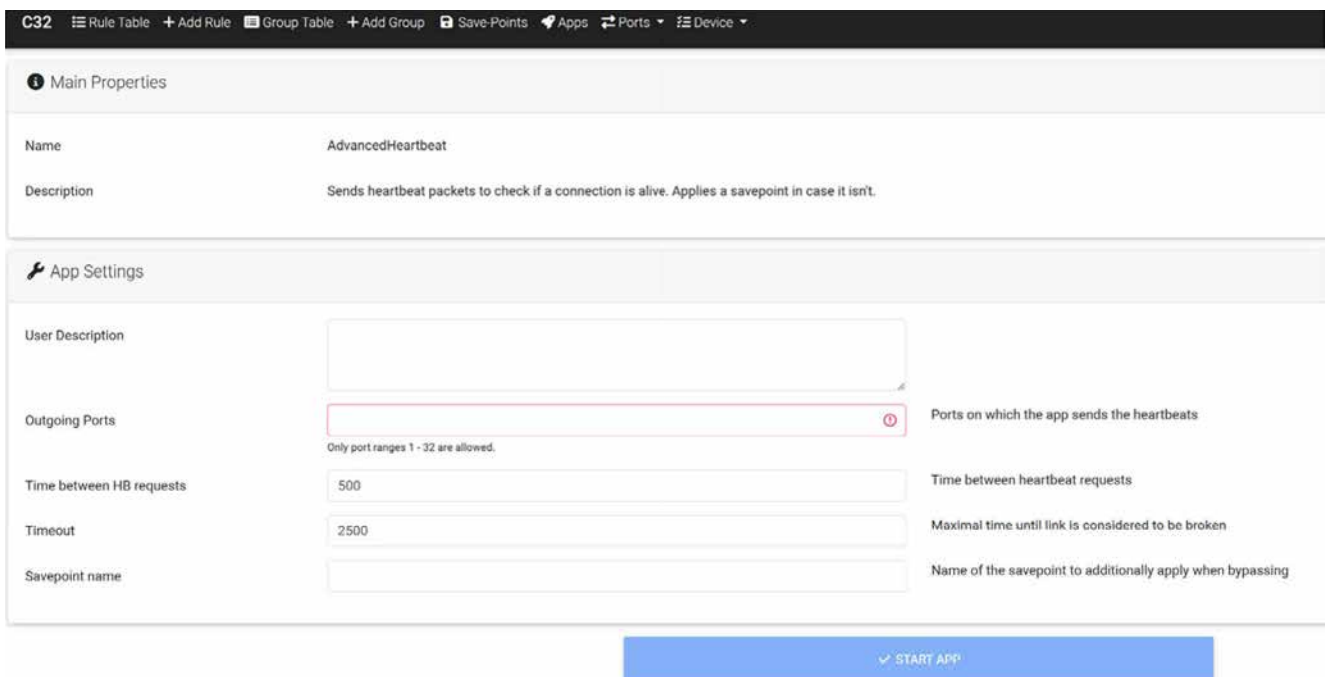
Predefined Apps for Easy Configuration

The Cubro C32 supports predefined apps for quick and easy configuration.

The built-in Advanced Heartbeat App generates heartbeat packets to monitor the status of a connected inline device, such as an Intrusion Detection System (IDS). The C32 verifies that heartbeat packets pass through the inline device, ensuring it is functioning properly. If the heartbeats fail, a predefined setup can be triggered to reroute traffic to an alternative destination - for example, bypassing the inline device.
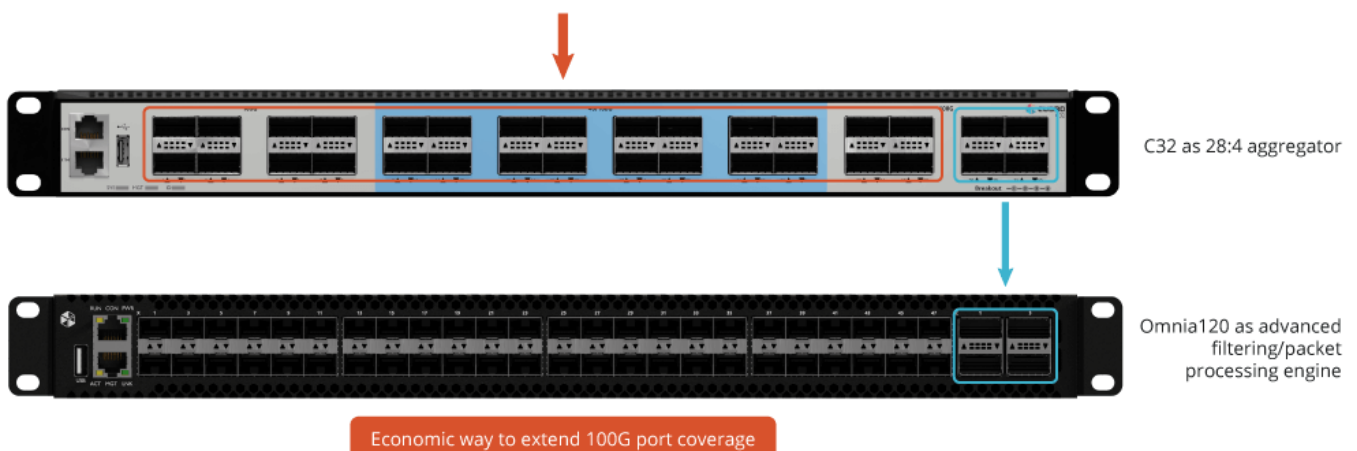
Filtering capabilities

The Aggregator C32 supports up to 4000 parallel running IPv4/IPv6 filters. These filters can be used to redirect a selected part of the incoming traffic to a low bandwidth monitoring tool. Filtering parameters include:

Layer 2	Layer 3	Layer 4
MAC Src / Dst	IPv4 Src / Dst	Port Src / Dst
VLAN tag	IPv6 Src / Dst	
Ethertype	Protocol (TCP/UDP/SCTP)	

Extending 100G interfaces for "advanced" NPB functions

The Cubro C32 further enhances and extends the capabilities of Cubro´s advanced Network Packet Brokers such as the Omnia120 or the EXA32100A. The straight-forward and transparent design of the C32 allows it to extend the 100G port coverage of those solutions. Thus, the combination of the C32 and Omnia120 is a perfect solution for more advanced use-cases such as keyword or Regex filtering for multiple 100Gbit/s links.

C32 as 28:4 aggregator

Omnia120 as advanced filtering/packet processing engine

Economic way to extend 100G port coverage

Ordering Information

Product Components:

- Cubro Aggregator
- AC/DC power supply modules
- Power cord
- Transceivers not included

Part Number	Description
CUB.AGG-C32	Aggregator C32, 16x40G/100G and 16x100G, Dual AC powered
CUB.AGG-C32-DC	Aggregator C32, 16x40G/100G and 16x100G, Dual DC powered

Spare parts:

Part Number	Description
CUB.PM-DC-E	DC Power supply module for CUBRO EXA32100A/EX48600/OMNIA120/EX48200/C32 Series
CUB.PM-AC-E	AC Power supply module for CUBRO EX32100A/EX48600/OMNIA120/EX48200/C32 Series

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