AGGREGATOR C64

DATA SHEET
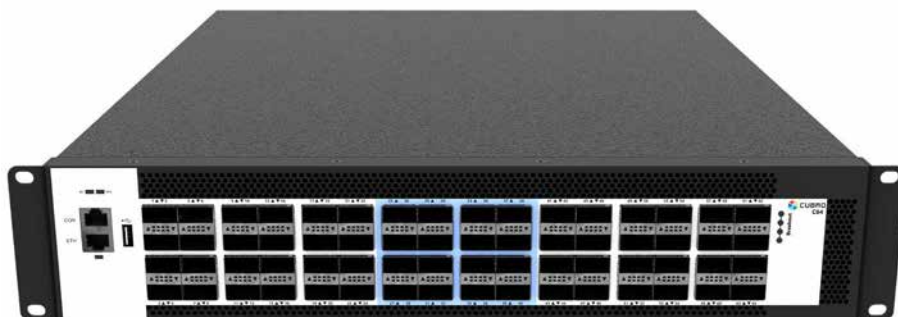
Network Packet Broker
At a glance

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 C64

- Filters and load-balances traffic from 1, 10, 25, 40 or 100 Gbps links to multiple monitoring tools
- Aggregates multiple 1 or 10 Gbps links to 25, 40, or 100 Gbps monitoring tools
- 16 x 40/100 Gbps (QSFP/QSFP28) with break-out to 4 x 10G/25G
- 48 x 40/100 Gbps (QSFP/QSFP28)
- Up to 7000 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 C64 is a high-performance network packet broker that aggregates, filters, duplicates, load balances network traffic to security, monitoring and management tools based on 7000 possible rules. The Aggregator C64 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 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	48 x 40/100 Gbps (QSFP/QSFP28) 16 x 40G/100 Gbps (QSFP/QSFP28) with break-out function to support 4 x 1/10/25 Gbps
Link/Port Aggregation	1:1; 1:n; n:1; n:n - at all port/link speeds
Jumbo Frame Support	Supports Jumbo Ethernet frames with a size of up to 9600 bytes
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 Addresses, IP Protocol type, Layer 4 Port Numbers
Tag Stripping	VLAN, MPLS
Throughput	Non-blocking architecture with 12.800 Gbit/s throughput
Buffer	36 Mbyte with intelligent buffer management to avoid congestion due to micro-bursts
Supervision/Logging	SNMPv2c and SNMPv3; Syslog and Web Log function
Unit Control	WebUI (HTTPS), CLI (SSH) and RestAPI via 10/100/1000B-T management interface
MTBF	162.213 hours
Electrical Power	Dual 100-240V AC or 36-72V DC available
Cubro Vitrum Support	Yes

Technical Data / Specifications

Ports*

16 x 40 Gbps / 100 Gbps full duplex Ports for any kind of QSFP/QSFP28 (Support breakout cables to 4 x 1/10G or 4 x 10/25G interface)
48 x 40 Gbps / 100 Gbps 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 12.800 Gbit/s
• 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 45ºC
Storage Temperature: -10ºC to 70ºC
Relative Humidity: 10% min, 95% max (non-condensing)

Mechanical specifications:

Dimension (WxDxH): 442 x 559 x 87 mm
Weight: 15.4 kg
Airflow: Front-back
(Also available with Back-to-Front cooling, please highlight this requirement during the order process)

Electrical specifications:

AC	Operating Voltage: 100~240V; 50/60Hz Maximum Voltage: 90~264V; 47~63Hz
DC	Maximum Voltage: -40~-72V

Maximum Power Consumption: 360W
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 C64 receives traffic from a single or multiple 1/10/25/40 or 100 Gbps link(s) via the monitoring ports of an inline tapping device. The incoming traffic can be further aggregated to a single or multiple outputs to connect analysers and monitoring tools as required.

In the below example the C64 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.
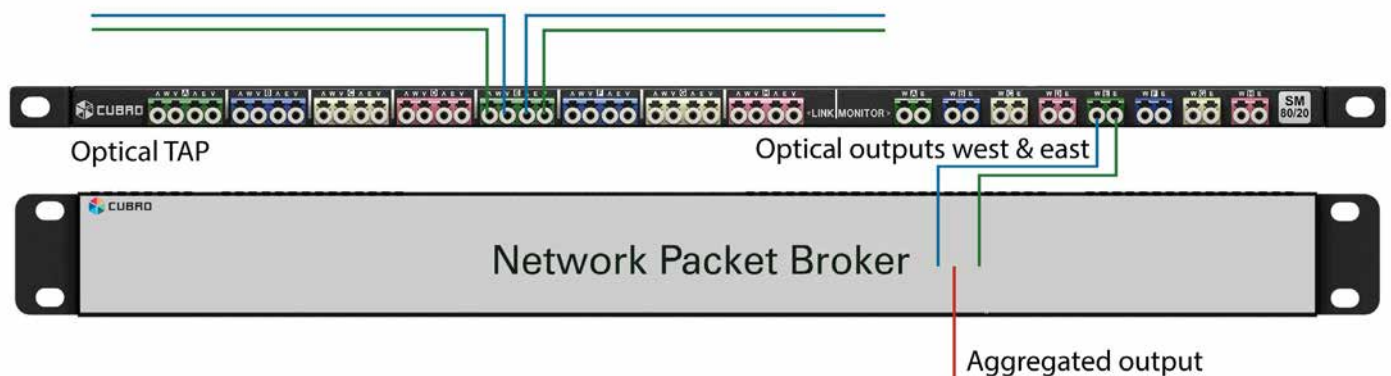
By utilizing the various filtering capabilities available on the C64, users are able to further reduce the traffic volume that needs to be processed, allowing for a more accurate and quick analysis and troubleshooting.

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

Filtering capabilities

The Aggregator C64 supports up to 7000 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 2.5	Layer 3	Layer 4
MAC Src / Dst	MPLS	IPv4 Src / Dst	Port Src / Dst
VLAN tag		IPv6 Src / Dst	
Ethertype		Protocol (TCP/UDP/SCTP)	

Session-aware Load-balancing

Load-balancing is a vital function to distribute traffic across different monitoring tools evenly and correctly. The Cubro C64 supports Session-Aware Load balancing that allows every packet belonging to the same conversation/flow to be sent to the same physical output port within a load-balancing group. This ensures that connected packet sniffer or other monitoring tools get every packet of a given conversation. The C64 maintains the association of packets with each flow or conversation between any two network endpoints such that all traffic from a given flow will be output from a consistent monitor port within a load balanced group.

Flow association is done by examining selected fields within each packet and performing a mathematical algorithm called hash key calculation. The result of the calculation is used to consistently separate and distribute traffic to specific ports within a load balanced group. Depending on the requirements, the C64 allows different hash key calculations methods ensuring that packets always arrive at the correct interface of the monitoring appliance.

Packets of a session stay together
session-aware

Other functions

- Active Tunnel Endpoint capability to receive and de-encapsulate GRE traffic
- Timestamping with 1ns resolution based on NTP or PTP
- Packet Truncation to forward only headers of a packet
- Filtering inside packet payload by means offset and pattern
- VLAN push for packet identification
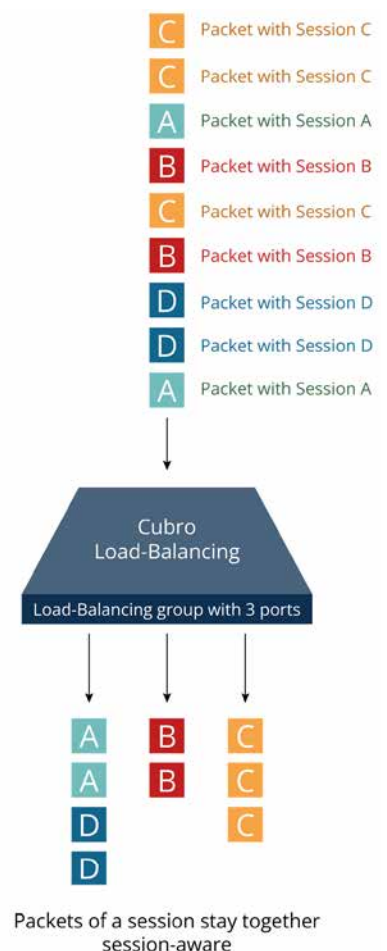
Ordering Information

Product Components:

- Cubro Aggregator C64
- AC/DC power supply modules
- Power cord
- Transceivers not included

Part Number	Description
CUB.AGG-C64	Aggregator C64, 64 x 40G/100G, Dual AC powered
CUB.AGG-C64-DC	Aggregator C64, 64 x 40G/100G, Dual DC powered

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