cVu® NG/NGE Network Packet Broker Observability Nodes

High-Performance Core Packet Brokering with Advanced Packet Processing and Microburst Monitoring

cVu NG/NGE observability nodes enable you to:

- Provision network visibility with a scalable 2-in-1 solution option: brokering and monitoring

- Maximize the observability of your IT network infrastructure and application workloads by combining streaming network packet data and real-time analytics

- Know what is happening with lossless packet acquisition and high-resolution timestamping, performance KPIs, microburst profiling

- Strengthen the security posture by feeding network traffic to SOC and security analysts, analytics, and tools such as NDR

- Seamlessly expand visibility to hybrid-cloud and multi-cloud infrastructure using the physical and virtual nodes

- Gain IT operational efficiency to minimize outages and service disruptions with reliable real-time visibility into physical networks operating at up to 100 Gbps

- Centrally manageable through cPacket cClear® observability layer and integrated with cStor® packet capture & analysis observability nodes

Unified Observability for Complex Hybrid Environments

cPacket cVu NG/NGE series network packet broker (NPB) and monitoring observability nodes are purpose-built for high-performance 100Gbps and below core packet processing, network visibility, and data consolidation. These are cPacket's best-of-breed products built on a scalable distributed hardware architecture and years of software innovation. This includes cVu 16100NG, 8100NG, 4100NG, 3240NG, 2440NG, 560NGE, 400NGE-CX, and 400NGE nodes offering a combination of 100/40/25/10Gbps port densities providing great flexibility and investment protection. Rich network packet data from the nodes combined with real-time analytics, give IT network and security operations teams vital observability through network visibility and actionable intelligence. The cVu nodes are deployed out-of-band, so they do not interfere with the network forwarding plane.

Making IT infrastructure and application workloads observable and secure requires acquiring and analyzing network data. Packet brokering along with the network TAPs is necessary to acquire, process, and deliver the network packet data for analysis and inspection maximizing observability and operational efficiency.

The cVu NG/NGE observability nodes offer high-performance distributed architecture plus advanced packet processing features not typically implemented in other packet brokers in this class.

A two-tier scalable architecture is recommended for futureproofing where cVu AG/EAG and cVu NG/NGE nodes are deployed together. The cVu AG/EAG series nodes aggregate the cTap® series TAPs and tools with basic data manipulation (such as filtering, and decapsulation), while the cVu NG/NGE nodes provide advanced packet processing and manipulation services such as deduplication and microburst-monitoring).   At the same time, cPacket also provides the cVu®-V series packet brokering virtual nodes for virtualized east-west traffic and cloud deployments. The net result is complete 360-degree network visibility and overall observability.

The cVu nodes can also feed a copy of the selected network data to cPacket cStor® and cStor-V® series packet capture and analysis observability nodes for storing and analyzing the data for the long term. This may be required for latency or TCP analysis, multi-hop service troubleshooting, security forensics for incident response, or compliance reasons. Refer to the cStor data sheet for more details. All cPacket observability nodes including cVu series are provisioned, managed, and observed using cPacket cClear® observability platform, although they also have their own user interfaces (UI) for quick access.

Scalable Two-Tier Overlay Architecture

Your network is neither static nor homogenous, so cPacket offers multiple types of observability nodes to meet current and evolving needs. The number of TAP and SPAN points in a large network can generate a lot of network data to feed to the security and performance monitoring tools for observability and instrumentation. Moreover, the tool rail itself needs to scale and expand over time. Therefore, there is a need for

consolidating and delivering the network data for both aggregations uses. You can deploy cVu nodes in single and multi-tier topologies by combining AG/EAG models with NG/NGE models.

The cVu series product line includes the AG/EAG (cVu 32100AG and cVu 32100EAG), and NG/NGE (cVu 16100NG, 8100NG, 4100NG, 3240NG, 2440NG, 560NGE, 400NGE-CX, and 400NGE) nodes. Although in smaller networks, a single packet brokering layer may suffice, in any larger network, a more scalable two-tier architecture is recommended for future expansion without rewiring the network.

The NGE models have the following extra features and functionality:

- Software-defined port enablement so you can elastically extend the port density and cost per pay-as-you-grow
- Front and backports for uplink connectivity to 40/100Gbps network
- A mixture of smart ports and standard ports (aka "aggregation ports"); standard ports are often used for aggregation (even though the ports can be configured to transmit or receive) and smart ports are often used for delivery to tailor the packet streams to specific targets
- A mixture of ports that operate at different ingress and egress data rates

High-Performance Distributed Architecture

The cVu NG/NGE series observability nodes are a key component of the cPacket hybrid-cloud observability stack that delivers the industry's best packet brokering performance, features, and scalability for physical and hybrid-cloud IT environments. Purpose-built hardware ensures that all packet processing features on all ports work flawlessly and simultaneously without dropping packets when used as specified. Patented distributed processing using custom-developed ASICs and FPGAs are placed on each smart port to inspect and process packets at wire speed. This architecture offloads the internal switching to ensure that all packet processing features on all smart ports work flawlessly and simultaneously without dropping packets. The distributed processing architecture used in the cVu NG/NGE nodes delivers multi-port network traffic acquisition, aggregation, smart filtering, layer 2-7 inspection and protocol processing, load balancing, and forwarding. This architecture assures that you gain the scale and performance details in real-time to understand what is happening on every link in your network. This architecture also averts dropped packets and other problems that NPBs from other vendors have because their products use a single CPU for switching and packet processing. The cVu NG/NGE nodes provide the following functionality:

- Lossless packet acquisition, aggregation, and delivery
- High resolution (nanosecond) timestamping
- Advanced "smart" packet filtering and deduplication
- Packet inspection of OSI layers 2-3, including microburst profiling using cPacket cBurst feature
- Protocol performance analysis with metrics (TCP, UDP, custom)
- Adjusting data rates to bridge between sources and destinations that transmit and receive at different data rates (bridging is typically from faster to slower data rates)
- Packet replication and forwarding/delivery (data pipelining) to multiple target

High-Performance Lossless Network Data with Real-Time Monitoring

The cVu NG/NGE nodes are non-blocking when used as specified to losslessly acquire packets at varied wire data rates up to 100Gbps using TAP/SPAN/ERSPAN ports, and VXLAN and GRE tunnels. Losslessly acquiring network data is vital for security applications using NDR/XDR and SEIM tools because every packet is essential, and dropped packets are an exploitable vulnerability. Refer to specifications to see all supported features.

Purpose-bilt hardware acceleration on all or some I/O ports (resulting in "smart ports") accelerates packet processing, inspection, profiling, and analytics (note that the number of smart ports varies for each cVu model, refer to the specifications). Processing on smart ports eliminates the load on the internal switching so that all features can operate simultaneously at wire data rates. These features always work flawlessly at wire data rates without dropping packets. Smart ports reliably count, inspect, and generate KPI metrics for every packet. Output processing lets you customize the packet streams to meet the ingestion capabilities of each target. The programmability of the FPGAs enables adding packet processing and protocol analytics for standard and custom TCP and UDP protocols to our library.

The cVu NG NPBs include all the features of AG NPBs (refer to the cVu AG data sheet). They also have high-fidelity detailed performance and microburst profiling millisecond resolution for KPIs and microbursts, protocol analysis, advanced ("smart") filtering that includes deduplication, truncation, data rate adjustment, and more.

Observability, visibility, and customizable network data are losslessly acquired and derived from custom vantage points in physical and hybrid-cloud IT environments and reliably and simultaneously delivered to multiple targets such as:

- Security and IT operations analysts and security tools they use
- Packet capture and analytics nodes such as cPacket cStor and cStor-V nodes
- Network TCP Analytics such as the cClear® and cClear®-V physical and virtual observability nodes that include interactive data visualizations compiled into customizable dashboards

High-Fidelity Observability of Your IT Network

All cVu NG/NGE nodes facilitate pipelining of network packets from multiple sources to multiple targets. They also provide unbiased traffic details that help pinpoint, troubleshoot, and resolve IT problems, minimize outages, and help strengthen IT infrastructure resilience to cyberattacks when used with security analytics and tools such as Network/Extended Detection and Response solutions (NDR, XDR). Details captured by monitoring traffic include protocol and traffic KPIs. Results are available by API and are presented via customizable alerts and interactive visualizations compiled into customizable dashboards using the cClear observability platform. Key performance indicators identify "top talkers," traffic spikes and microbursts, over-subscription, and data loss at the network packet level (i.e., dropped, and lost network packets).

The cVu NG/NGE nodes use accurate PTP/PPS time information to help measure KPIs such as one-way and roundtrip latencies. The network packet data and KPIs provide network-perspective visibility necessary to know what is happening with your IT infrastructure, including the network and application workloads.

Microbursts often foretell capacity shortcomings and other problems. The cVu NG/NGE nodes include the industry's most unique microburst detection and profiling feature, called cBurst, which provides precise details. Data and visualizations reveal the total burst load over time so that sensitive environments such as financial trading exchanges can accurately plan and optimize network capacity to handle steady-state traffic and traffic bursts.

The combination of network packet data, KPIs, analytics results, intuitive visualizations, and actionable alerts provides observability from the network perspective to always know what to do to ensure the availability, responsiveness, and security of your IT network, infrastructure, and application workloads.

Specialized Features for Financial Services, HFT/HPC, Government, Healthcare, etc.

The cVu observability nodes are designed to meet specific procurement and use case requirements of financial enterprises, and high-frequency trading. high-performance computing, government, and education organizations. All models are engineered and manufactured for TAA compliance and select models and have FIPS 140 Level-2 cryptography. Protocol analytics supports industry and application-specific use cases such as profiling microbursts and market-feed data gaps (i.e., the cMDF Market Data Feed Analytics feature).

Enterprises in all industries rely on their networks to connect data centers, compute and storage farms, information sources, customers, suppliers, and other stakeholders. The proven reliability, flexibility, and high-fidelity capabilities are leveraged by many organizations, including financial services, healthcare, retail, manufacturing, Internet Service Providers, managed-services providers, telecommunications, and others.

Hybrid-Cloud IT Infrastructure

You can seamlessly extend the network visibility to span physical plus multi-cloud environments using the cPacket observability nodes. A single instance of cClear (or cClear-V) observability platform manages the full hybrid-cloud deployment, with customizable off-the-shelf dashboards that show traffic, analytics results, and other network-centric KPIs.

The cPacket hybrid-cloud observability is a full-stack solution. It includes the following components that maximize the observability of your IT network with network packet pipelining, analytics, actionable alerts, and visualizations:

- cVu packet broker and monitoring observability nodes – provide network data consolidation, packet processing, pipelining with lossless acquisition and KPIs for certain real-time monitoring.
- cStor packet capture and analysis observability nodes – provide lossless packet capture with on-board/off-board storage and historic KPIs; all of which can be accessed by queries, streaming, and as exported PCAP files.
- cClear observability platform – provides analytics, additional KPIs, alerts, and interactive visualizations via customizable dashboards. It also hosts the user interface for managing the observability nodes.

Deployment

The cVu NG/NGE observability nodes are available in industry-standard 1 or 2RU chassis, rack-installable and designed to readily fit into any data center, campus, remote site, or telco environment and offer configurable mix-and-match port data rates ranging from 10Gbps to 100Gbps. Industry-standard transceivers (QSFP28, QSFP+, SFP28, and SFP+) are used for full interoperability and compatibility with other vendors' monitoring fabric, averting vendor lock-in.

Figure 1: Reference Design for Complete Observability of North-South and East-West Network Traffic

Typical deployment in an on-premises network such as a data center for north-south traffic visibility in an out-of-band fashion. The cTAP series TAPs passively acquire and feed data from strategic vantage points to a cVu node. Network packets are timestamped, inspected, filtered, replicated, and intelligently forwarded to specific targets upon ingress (features vary by model, refer the specifications).

Figure 2(a): Reference Design for a 2-Tier Scalable Observability Architecture
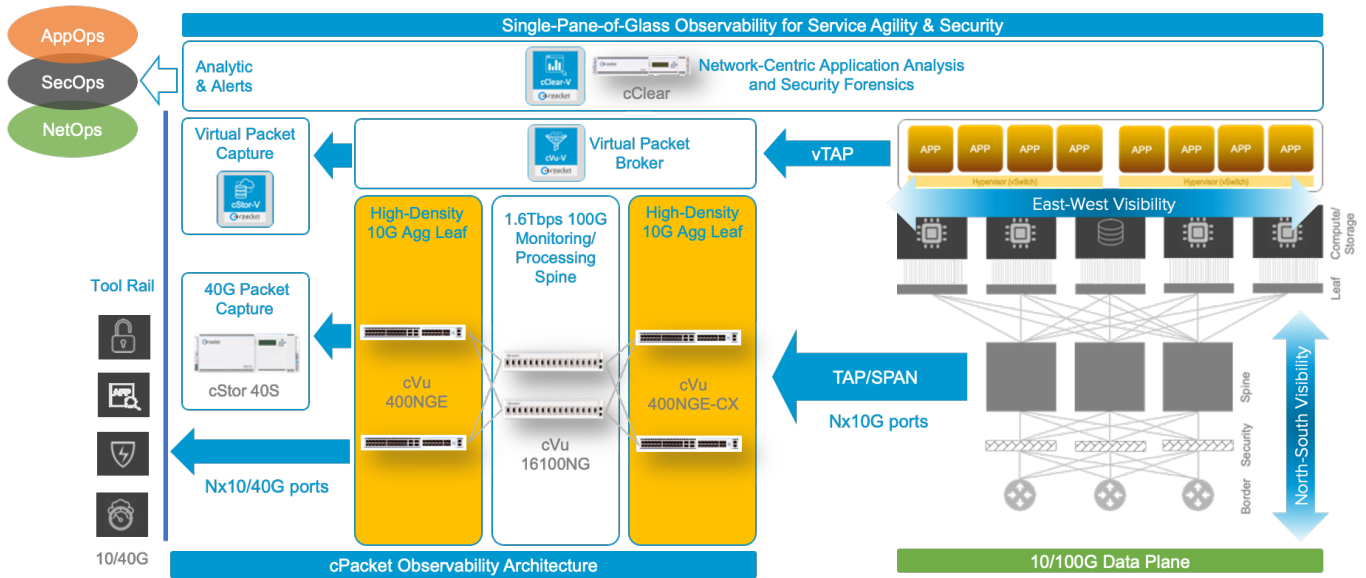
Figure 2(b): Reference Design for a 2-Tier Scalable Observability Architecture

For high-density deployments, cVu AG/EAG nodes should be used to acquire and aggregate network packet data from many ports. Using both cVu AG/EAG and cVu NG/NGE nodes is ideal for optimizing cost-per-port and separate receiver targets that ingest data at rates slower than the core network. You can achieve such goals by implementing a two-tier architecture to cost-effectively scale by aggregating traffic using AG/EAG nodes in the first tier and performing advanced real-time processing and packet streaming delivery using NG/NGE nodes in the second tier, as shown in Figure 2.

All cPacket physical and virtual nodes seamlessly interoperate to seamlessly scale across distributed hybrid-cloud environments. IT operations and security teams gain holistic single-pane-of-glass observability into any IT network and the infrastructure it supports. Other components consume the high-resolution analytics results and KPIs specifically the cStor® and cClear® physical and virtualized nodes. The analytics results and KPIs are also available to other devices, dashboards, and software via a RESTful API for further analysis, visualization, and incorporation into other IT tools.

Technical Specifications

Key Features:

	cVu 160NG	cVu 240NG	cVu 400NGE	cVu 400NGE-CX	cVu 560NGE
Traffic Aggregation/Replication	Yes	Yes	Yes	Yes	Yes
Packet Slicing/Truncation	Yes	Yes	Yes	Yes	Yes
Advanced Load Balancing	Yes	Yes	Yes	Yes	Yes
VXLAN/MPLS/VNTag Stripping	Yes	Yes	Yes	Yes	Yes
VLAN Tag with Inner VLAN Filtering	Yes	Yes	Yes	Yes	Yes
Smart Filtering	Yes	Yes	Yes	Yes	Yes
High-Resolution Counters (HRC KPI)	Yes	Yes	Yes	Yes	Yes
Microburst Analysis (cBurst)	Yes	Yes	Yes	Yes	Yes
Packet Deduplication	Yes	Yes	Yes	Yes	Yes
Packet Size Byte Counter Insertion	Yes	Yes	Yes	Yes	Yes
MAC-in-MAC DC Decapsulation	Yes	Yes	Yes	Yes	Yes
Timestamping with External PPS	Yes	Yes	Yes	Yes	Yes
Timestamping with PTP/NTP	Yes	Yes	Yes	Yes	Yes
Time Sync Management (PTP/NTP)	Yes	Yes	Yes	Yes	Yes
Role-Based Administration	Yes	Yes	Yes	Yes	Yes
Software Upgrade/Restore	Yes	Yes	Yes	Yes	Yes
GUI, Serial Console and CLI	Yes	Yes	Yes	Yes	Yes
SNMPv2c and MIB	Yes	Yes	Yes	Yes	Yes
Optical Transceiver Diagnostics	Yes	Yes	Yes	Yes	Yes
TACACS+/RADIUS Authentication	Yes	Yes	Yes	Yes	Yes
Unified Management (requires cClear)	Yes	Yes	Yes	Yes	Yes
Certified FIPS 140 Level 2 Cryptography	No	No	No	No	No
TAA Compliance	Yes	Yes	Yes	Yes	Yes

	cVu 2440NG	cVu 3240NG	cVu 4100NG	cVu 8100NG	cVu 16100NG
Traffic Aggregation/Replication	Yes	Yes	Yes	Yes	Yes
Packet Slicing/Truncation	Yes	Yes	Yes	Yes	Yes
Advanced Load Balancing	Yes	Yes	Yes	Yes	Yes
VXLAN/MPLS/VNTag Stripping	Yes	Yes	Yes	Yes	Yes
VLAN Tag with Inner VLAN Filtering	Yes	Yes	Yes	Yes	Yes
Smart Filtering	Yes	Yes	Yes	Yes	Yes
High-Resolution Counters (HRC KPI)	Yes	Yes	Yes	Yes	Yes
Microburst Analysis (cBurst)	Yes	Yes	Yes	Yes	Yes
Packet Deduplication	Yes	Yes	Yes	Yes	Yes
Packet Size Byte Counter Insertion	Yes	Yes	Yes	Yes	Yes
MAC-in-MAC DC Decapsulation	Yes	Yes	Yes	Yes	Yes
Timestamping with External PPS	Yes	Yes	Yes	Yes	Yes
Timestamping with PTP/NTP	Yes	Yes	Yes	Yes	Yes
Time Sync Management (PTP/NTP)	Yes	Yes	Yes	Yes	Yes
Role-Based Administration	Yes	Yes	Yes	Yes	Yes
Software Upgrade/Restore	Yes	Yes	Yes	Yes	Yes
GUI, Serial Console and CLI	Yes	Yes	Yes	Yes	Yes
SNMPv2c and MIB	Yes	Yes	Yes	Yes	Yes
Optical Transceiver Diagnostics	Yes	Yes	Yes	Yes	Yes
TACACS+/RADIUS Authentication	Yes	Yes	Yes	Yes	Yes
Unified Management (requires cClear)	Yes	Yes	Yes	Yes	Yes
Certified FIPS 140 Level 2 Cryptography	No	No	No	No	Yes

TAA Compliance	Yes	Yes	Yes	Yes	Yes

Interface and Connectivity:

	cVu 160NG	cVu 240NG	cVu 400NGE	cVu 400NGE-CX	cVu 560NGE
10 GbE Ports (SFP+), front panel	16	24	Smart: 24 Standard: 16	Smart: 24 Standard: 16	Smart: 24 Standard: 16
40 GbE Ports (QSFP+), front panel	N/A	N/A	Smart: 4*	Smart: 4*	Smart: 4*
40 GbE Ports (QSFP+), back panel	N/A	N/A	N/A	N/A	Standard: 4*
100 GbE Ports (SFP+), back panel	N/A	N/A	N/A	Standard: 2	N/A
Max Monitoring Rate	10Gbps	10Gbps	40Gbps	100Gbps	40Gbps
Management Interface	Ethernet/Serial (RJ45)	Ethernet/Serial (RJ45)	Ethernet/Serial (RJ45)	Ethernet/Serial (RJ45)	Ethernet/Serial (RJ45)
Timing/Synchronization	PPS (SMA) PTP/NTP	PPS (SMA) PTP/NTP	PPS (SMA) PTP/NTP	PPS (SMA) PTP/NTP	PPS (SMA) PTP/NTP

* Each 40G port can be fanned out to 4 ports of 10G using QSFP+/QSFP28 breakout box/cable

	cVu 2440NG	cVu 3240NG	cVu 4100NG	cVu 8100NG	cVu 16100NG
1 GbE Ports (SFP)	N/A	N/A	N/A	N/A	N/A
10 GbE Ports (SFP+)	96*	128*	16*	32*	64*
40 GbE Ports (QSFP+)	24	32	4	8	16
100 GbE Ports (QSFP28)	N/A	N/A	4	8	16
Max Monitoring Rate	40 Gbps	40 Gbps	100 Gbps	100 Gbps	100 Gbps
Management Interface	Ethernet/Serial (RJ45)	Ethernet/Serial (RJ45)	Ethernet/Serial (RJ45)	Ethernet/Serial (RJ45)	Ethernet/Serial (RJ45)
Timing/Synchronization	PPS (SMA) PTP/NTP	PPS (SMA) PTP/NTP	PPS (SMA) PTP/NTP	PPS (SMA) PTP/NTP	PPS (SMA) PTP/NTP

* Using QSFP+/QSFP28 breakout box/cable; future check with cPacket Networks or your sales representative for availability

Dimensions and Weight:

	cVu 160NG	cVu 240NG	cVu 400NGE	cVu 400NGE-CX	cVu 560NGE
Height/Rack Unit	1.7" (4.3 cm) 1U	1.7" (4.3 cm) 1U	1.7" (4.3 cm) 1U	1.7" (4.3 cm) 1U	1.7" (4.3 cm) 1U
Width	16.6" (43 cm)	16.6" (43 cm)	16.6" (43 cm)	16.6" (43 cm)	16.6" (43 cm)
Depth	28.1" (72 cm)	28.1" (72 cm)	28.1" (72 cm)	28.1" (72 cm)	28.1" (72 cm)
Weight	40 lb (18.6 kg)	40 lb (18.6 kg)	32 lb (14.5 kg)	32 lb (14.5 kg)	32 lb (14.5 kg)

	cVu 2440NG	cVu 3240NG	cVu 4100NG	cVu 8100NG	cVu 16100NG
Height/Rack Unit	3.5" (8.9 cm) 2U	3.5" (8.9 cm) 2U	3.5" (8.9 cm) 2U	3.5" (8.9 cm) 2U	3.5" (8.9 cm) 2U
Width	17.0" (43 cm)	17.0" (43 cm)	16.5" (42 cm)	16.5" (42 cm)	16.5" (42 cm)
Depth	29.0" (74 cm)	29.0" (74 cm)	28.25" (72 cm)	28.25" (72 cm)	28.25" (72 cm)
Weight	80 lb (36.3 kg)	80 lb (36.3 kg)	46 lb (20.8 kg)	50 lb (22.6 kg)	56 lb (25.5 kg)

Operating Conditions:

	cVu 160NG	cVu 240NG	cVu 400NGE	cVu 400NGE-CX	cVu 560NGE
Operating Temperature	32° F – 104° F 0° C – 40° C	32° F – 104° F 0° C – 40° C	32° F – 104° F 0° C – 40° C	32° F – 104° F 0° C – 40° C	32° F – 104° F 0° C – 40° C
Operating Humidity	10% – 90%	10% – 90%	10% – 90%	10% – 90%	10% – 90%
Certifications	FCC Class A EN 55022 Class A	FCC Class A EN 55022 Class A	FCC Class A EN 55032 Class A EN 62368-1	FCC Class A EN 55032 Class A EN 62368-1	FCC Class A EN 55032 Class A EN 62368-1

	cVu 2440NG	cVu 3240NG	cVu 4100NG	cVu 8100NG	cVu 16100NG
Operating Temperature	32° F – 104° F 0° C – 40° C	32° F – 104° F 0° C – 40° C	32° F – 104° F 0° C – 40° C	32° F – 104° F 0° C – 40° C	32° F – 104° F 0° C – 40° C
Operating Humidity	10% – 90%	10% – 90%	10% – 90%	10% – 90%	10% – 90%
Certifications	FCC Class A EN 55022 Class A	FCC Class A EN 55022 Class A	FCC Class A FCC Class CE	FCC Class A FCC Class CE	FCC Class A FCC Class CE

Power and Cooling:

	cVu 160NG	cVu 240NG	cVu 400NGE*	cVu 400NGE-CX	cVu 560NGE*
Airflow	Front-to-Back	Front-to-Back	Front-to-Back	Front-to-Back	Front-to-Back
Power Redundancy	1+1 AC/DC 100-240 VAC 50-60 Hz	1+1 AC/DC 100-240 VAC 50-60 Hz	1+1 AC/DC 100-240 VAC 50-60 Hz	1+1 AC/DC 100-240 VAC 50-60 Hz	1+1 AC/DC 100-240 VAC 50-60 Hz
Max. Power Consumption	650 W	650 W	650 W	650 W	650 W
Heat Dissipation	2216 BTU/hour	2216 BTU/hour	2216 BTU/hour	2216 BTU/hour	2216 BTU/hour

* Preliminary, subject to change

	cVu 2440NG	cVu 3240NG	cVu 4100NG	cVu 8100NG	cVu 16100NG
Airflow	Front-to-Back	Front-to-Back	Front-to-Back	Front-to-Back	Front-to-Back
Power Redundancy	1+1 AC/DC 100-240 VAC 50-60 Hz	1+1 AC/DC 100-240 VAC 50-60 Hz	1+1 AC/DC 100-240 VAC 50-60 Hz	1+1 AC/DC 100-240 VAC 50-60 Hz	1+1 AC/DC 100-240 VAC 50-60 Hz
Max. Power Consumption	1700 W	1700 W	1100 W	1350 W	1800 W
Heat Dissipation	5797 BTU/hour	5797 BTU/hour	3751 BTU/hour	4603 BTU/hour	6138 BTU/hour

Product SKU:

CP_CVU_160NG	cPacket cVu 160NG advanced network packet broker and monitoring observability node, 160Gbps for capacity with 16x10GbE SFP+ ports in 2RU. Redundant AC power supplies. Maintenance is not included.
CP_CVU_240NG	cPacket cVu 240NG advanced network packet broker and monitoring observability node, 240Gbps forwarding capacity with 24x10GbE SFP+ ports in 2RU. Redundant AC power supplies. Maintenance is not included.
CP_CVU_400NGE	cPacket cVu 400NGE advanced network packet broker and monitoring observability node with 24x10GbE SFP+ and 4x40GbE QSFP+ smart ports; additional 16x10GbE aggregation ports in 1RU. Includes base license with 16 x 10GbE SFP+ smart ports enabled. Redundant AC power supplies. Maintenance not included. Additional port licenses sold separately.
CP_CVU_400NGE-CX	cPacket cVu 400NGE-CX advanced network packet broker and monitoring observability node, 400Gbps forwarding capacity with 2X100GbE, 4x40GbE QSFP+, and 24x10GbE SFP+ ports in 1RU. Includes base license with 16 x 10GbE SFP+ smart ports enabled. Redundant AC power supplies. Maintenance not included. Additional port licenses sold separately.
CP_CVU_560NGE	cPacket cVu 560NGE advanced network packet broker and monitoring observability node, 560Gbps forwarding capacity with 8x40GbE QSFP+ and 24x10GbE SFP+ ports in 1RU. Includes base license with 16 x 10GbE SFP+ smart ports enabled. Redundant AC power supplies. Maintenance not included. Additional port licenses sold separately.
CP_CVU_2440NG	cPacket cVu 2440NG advanced network packet broker and monitoring observability node, 960Gbps forwarding capacity with 24x40GbE QSFP+ ports in 2RU. Quadruple AC power supplies. Maintenance is not included.
CP_CVU_3240NG	cPacket cVu 3240NG advanced network packet broker and monitoring observability node, 1.28Tbps forwarding capacity with 32x40GbE QSFP+ ports in 2RU. Quadruple AC power supplies. Maintenance is not included.
CP_CVU_4100NG	cPacket cVu 4100NG advanced network packet broker and monitoring observability node, 400Gbps forwarding capacity with 4x100GbE QSFP28 ports in 2RU. Redundant AC power supplies. Maintenance is not included.
CP_CVU_8100NG	cPacket cVu 8100NG advanced network packet broker and monitoring observability node, 800Gbps forwarding capacity with 8x100GbE QSFP28 ports in 2RU. Redundant AC power supplies. Maintenance is not included.
CP_CVU_16100NG	cPacket cVu 16100NG advanced network packet broker and monitoring observability node, 1.6Tbps forwarding capacity with 16x100GbE QSFP28 ports in 2RU. Quadruple AC power supplies. Maintenance is not included.

You can learn more about cVu observability nodes at https://www.cpacket.com/products/cvu/

About cPacket Networks