

Overview

As network environments grow more complex, the demand for traffic visualization is now universal. However, traditional dedicated network packet brokers (NPBs) impose heavy capital and operating expenses on operators.

Asterfusion PB-APP disrupts this model. Powered by AsterNOS (our enterprise SONiC distribution) and commercial switching silicon, this containerized application delivers high-performance traffic orchestration. With its intuitive Web UI, configuring, maintaining, and visualizing complex NPB filtering rules has never been easier.

Key Benefits

- **Deep Multi-Tunnel Parsing**

Decapsulates GRE, VXLAN, GTP-U, MPLS, ERSPAN, IPinIP, CFP and PPPoE tunnels. Matches inner-layer 5-tuple metrics for traffic filtering and load balancing.

- **Multi-Dimensional Precision ACL**

Provides L2–L4 full-dimension precision filtering to capture critical traffic. Supports L2, L3, L3V6, EX, EM, and EMV6 ACL types with rich criteria including 5-tuple, VLAN, MAC, port range, TCP flags, VNI, DSCP, and inner/outer IP.

- **Traffic Replication & Distribution**

Replicates a single traffic source into multi-path line-rate outputs to feed multiple analysis systems simultaneously. Supports distribution across single ports, LAGs, or combined port+LAG outputs.

- **Flexible Load Balancing (LAG)**

Features Static, Elastic, Weighted, and Standby LAG modes for zero-disruption failover. Supports custom hash keys, symmetric hashing, and hash seeds to maximize probe bandwidth utilization.

- **Nanosecond Timestamping**

Appends packet-level nanosecond timestamps to headers using IEEE 1588v2 PTP synchronization. Provides exact network timing traceable for performance profiling, security auditing, and fault demarcation.

- **Role-Based Traffic Isolation**

Manages ports by roles via four operational modes: Network, Service, Tool, and Hybrid. Securely isolates production traffic from analysis traffic to eliminate any risk of packet reinjection.

- **Non-Intrusive Port Mirroring**

Supports local SPAN, RSPAN and ERSPAN for full-traffic capture without impacting production lines. Includes hardware packet truncation (down to 128B) to reduce backend processing burdens.

- **Non-Blocking Line-Rate Forwarding**

Guarantees hardware-speed processing and zero packet loss with non-blocking 1G/10G/25G/100G/400G/800G wire-speed forwarding across all ports, even under line-rate short packets and massive ACL databases.

- **Robust Interface Capabilities**

Built for complex network adaptation with high-performance physical layer features. Ready-to-use port breakout (splitting), FEC tuning, loopback testing, and delayed link activation.

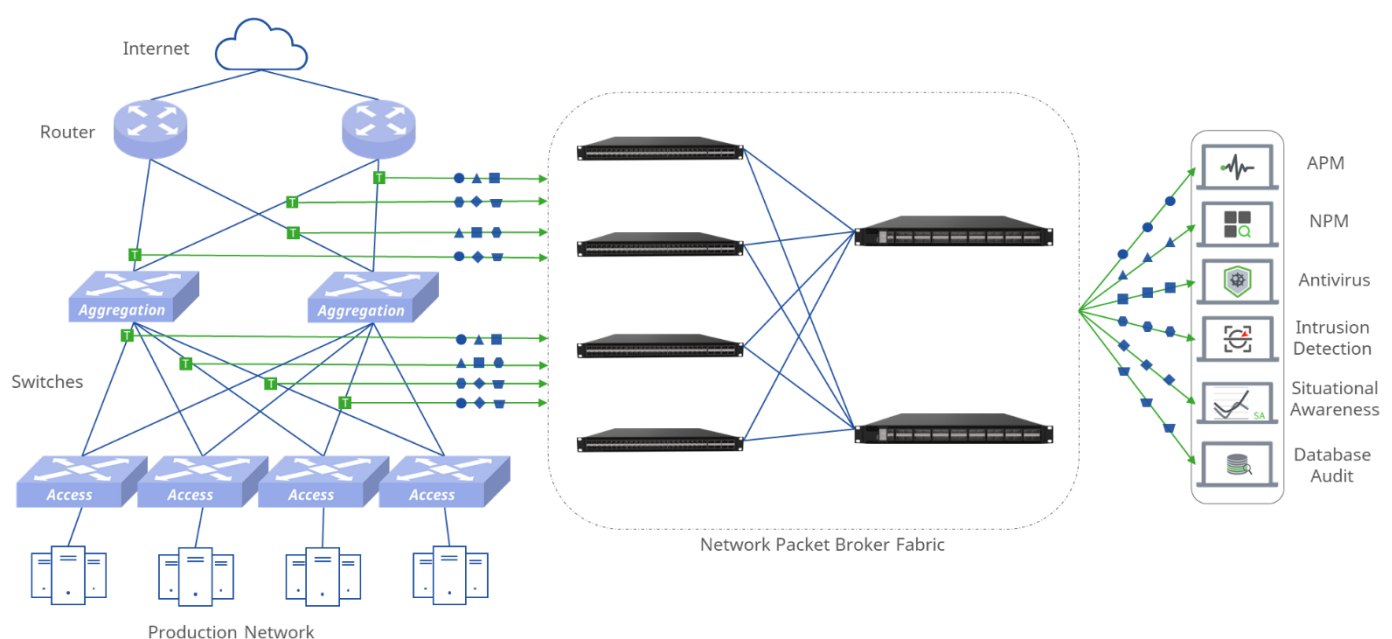
Combines visualized control with seamless O&M platform integration. Features a drag-and-drop policy workflow with real-time hit counters, supporting native integration with SNMP, Syslog, and Prometheus/Grafana stacks.

Deployment

PB-APP is capable of both passive mode and inline mode deployment, delivering a flexible and cost-effective next-generation network monitoring and visualization platform.

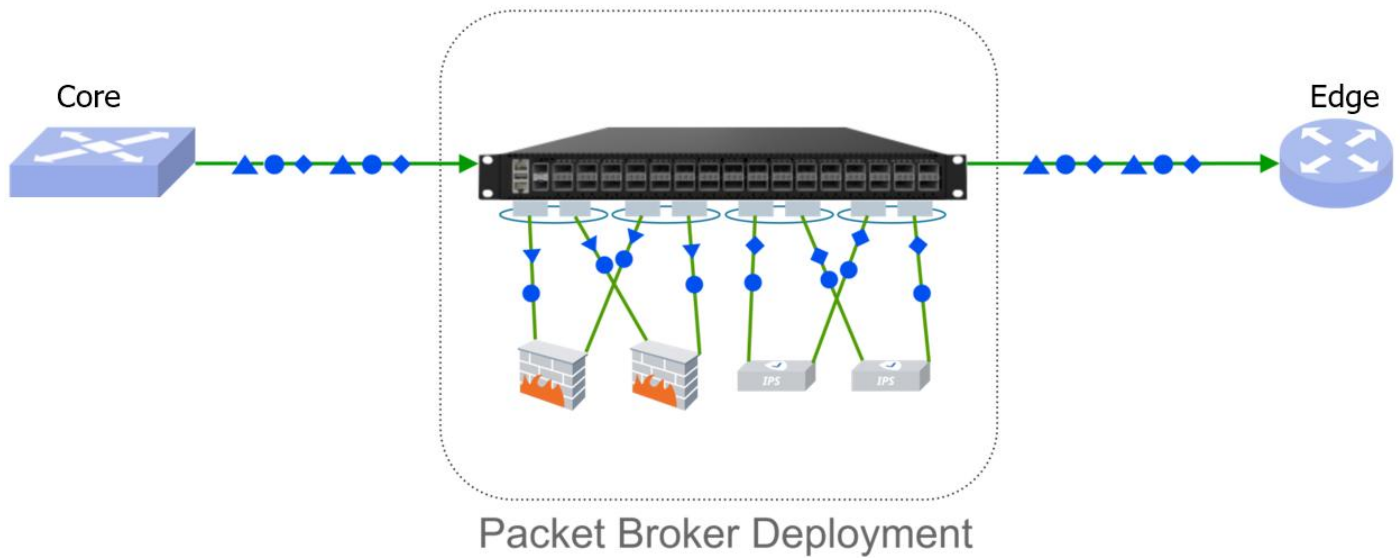
1. Passive Mode

In Passive Mode, the Packet Broker passively monitors network traffic without being in the direct data path.



2. Inline Mode

In Inline Mode, the Packet Broker is placed directly in the data path, enabling active traffic manipulation and security enforcement. This deployment model reduces optical transceiver consumption, and meanwhile enables traffic security service chaining.



Software Features

Level1	Level2	Level3	Level4
Interface	Ethernet Port	1G/10G	
		25G	
		40G	
		100G	
		400G	
		800G	
	Management	Breakout Mode	4*10G/1G
			4*25G
			4*100G, 2*200G
			2*400G, 4*200G, 8*100G
		Startup & Shutdown	
		Startup Delay	
		FEC	
		Loopback	
		Port Staic	Packets & Bytes
			Multicasts Packets
			Error & Drop & Over Packets
			Speed & Utilization Ratio
			V4/V6 Packets
		Port Threshold Alarm	
		Module Information Acquisition	In-Position Information
			Manufacturer Information
			Optical Power Information

		Port Type	Relevant Threshold Information
			Service
			Network
			Tool
			Hybrid
		Input/Output Multiplexing	
		Traffic Statistics Export	
		Network Config	MAC
			IP
		Batch Port Configuration	
		Show/Hide Columns	
	Hash Mode	Global Hash	Src-dst-ip
			Src-dst-ip-port
			Src-dst-mac
			Src-dst-mac-ip
			Src-dst-mac-ip-port
		Custom Hash	Src-ip
			Dst-ip
			Src-port
			Dst-port
			Src-mac
			Dst-mac
			Symmetry MAC
			Symmetry IPv4
			Symmetry IPv6

			Symmetry L4
			Custom Symmetry Src IPv4
			Custom Symmetry Dst IPv4
			Custom Symmetry Src IPv6
			Custom Symmetry Dst IPv6
	Tunnel Stripping	CFP	
		ERSPAN	
		GRE	
		GTP	
		IPinIP	
		PPPoE	
		MPLS	
		VXLAN	
	Rule Type (Ingress)	L2 Rule Filtering	Adjust Priority Based on A Specific Policy
			Source MAC
			Outer VLAN
			EtherType
			VLAN Priority
			Any Combination of The Above Fields
		L3/L3V6 Rule Filtering	IP Version
			Outer VLAN
			Source IP Support Mask
			Destination IPv6 Support Mask
			Destination IPv4 Support Mask
			Source Port

			Destination Port
			IP Protocol
			IPv4 Frag
			DSCP
			ICMP-Type
			VLAN Priority
			Source MAC
			Any Combination of The Above Fields
		EX Rule Filtering	Destination MAC
			Source MAC
			Source IPV4
			Outer VLAN
			EtherType
			VNI
			TCP Flag
			Inner Source/Destination IP, Port, Protocol Number
			Any Combination of The Above Fields
	Rule Type (Egress)	EM/EMV6 Rule	Source/Destination IP, Port, Protocol Number
			Choose Either EM or EMV6 Key to Combine.
		L3/L3V6 Rule Filtering	Source IP Support Mask
			Destination IP Support Mask
			Protocol Number
			Source Port
			Destination Port

			Outer VLAN
			VLAN Priority
			Any Combination of The Above Fields
	Port Range Matching		
	Match Mode	Inner Layer Matching after Tunnel Stripping	
		Inner Layer Matching in MPLS Tunnels	
		Filtering in The TX Direction at The Port	
	Action	Add/Modify/Delete Outer VLAN in Forward Mode	
		Add Timestamping	
		Dst MAC Modification	
	Rule Management	Rule Search	
		Rule Hit Num Reflush/Clean	
		Rule Hit Bytes Reflush/Clean	
		Show/Hide Columns	
		Select All Rules	
		Deselect All Rules	
		Select Range Rules	
		Adjust Priorities	Highest Priority
			Lowest Priority
			Adjust Priority Based on A Specific Policy
Forward Policy	Mirror	Ports SPAN to Ports	
		Ports SPAN to Port	
		Ports RSPAN to Port	

		Ports ERSPAN to L3 Port	
		Ports/LAG SPAN to Ports with ACL	
		Ports/LAG RSPAN to Port with ACL	
		Truncation of 128 bytes	
	Replication	Ports/LAG Copy to LAG with ACL	
		Ports/LAG Copy to Ports with ACL	
		Ports/LAG Copy to Ports +LAG with ACL	
	Forward	Ports/LAG Forward to LAG with ACL	
		Ports/LAG Forward to Port with ACL	
		Ports/LAG Forward to Drop with ACL	
	Management	Enable/Disable Policy	
		Set Color For Policy	
		Copy A Set of Forwarding Policies for Re-Editing	
		Policy Hit Num	
		Reflush/Clean	
		Policy Hit Bytes	
Load Balancing	Mode	Flexible Mode	
		Static Mode	
		Weight Mode	
		Standby Mode	Port Priority
			LACP Port Preemption
			Rate-First
			Priority-First

			Port Preemption Delay Configuration
	Management	Fixed Load Balancing Members	
		Hash Seed	
Management & Monitoring	Device Management	User Interface	Console
			SSH
			Telnet
			CLI
			RESTful API
			WEB UI
			Radius
			Tacas
			Local AAA
	Online Update		
	Online Capture		
	Time Sync	PTP	
		NTP	
	License		
	DevOps	Ansible	
	LLDP		
	File Transfer	FTP	
		TFTP	
	Status Monitoring	Millisecond Level Traffic Monitor	
		Temperature Information	
		Fan Information	

		Power Supply Information	
		Version Information	
		System Time	
		Displaying Management Port Information	
		Display CPU/Memory Usage Status	
	Alarms	Temperature Alarms	
		Power Out of position Alarms	
		Fan Out of Position Alarms	
		Traffic Overflow Alarms	
		SNMP	
		Syslog	
		Exporter to Prometheus	

Hardware Specifications

Product Model		PX102S-8GT-M	PX102S-16GT-M
Network Interface	1G(RJ45)	8	16
	10G(SFP+)	2	2
Switching Chip	Chip Model	Marvell Prestera (AlleyCat 5Y)	
	Switching Capacity	72Gbps	
	Wildcard Filter	3K	
CPU	CPU	Cortex-A55	
Memory	Memory	4GB DDR4	
Flash	Flash	32GB EMMC	
Variants	Variants	PTP	PTP
Management Interface	USB	1xUSB2.0	
	Console	1xConsole RJ45	
Dimensions	Dimensions (WxHxD mm)	215x44x310	
	Weight	2.2kg	
Electrical Characteristics	Maximum Power Consumption	18W	21W
	Power and Fan	1 Fixed Power Module, 2 Fixed Fan Modules	
	Input Voltage	100-240V AC	
Operating Conditions	Operating Temperature	0-45°C	
	Relative Humidity	5%-90% (Non-Condensing)	

Product Model		PX206P-24S-M	PX206P-48S-M	PX202P-24Y-M
Network Interface	10G(SFP+)	24	48	-
	25GE(SFP28)	-	-	24
	100G(QSFP28)	6	6	2
Switching Chip	Chip Model	Marvell ArmStrongLP		Aldrin 3
	Switching Capacity	1.09Tbps		800Gbps
	Wildcard Filter	4.5K		13K
CPU	CPU	OCTEON CN9130		
Memory	Memory	4GB DDR4		
Flash	Flash	32GB EMMC		
Variants	Variants	PTP		
Management Interface	USB	1xUSB2.0		
	Console	1xConsole RJ45		
	MGMT	1xMGMT RJ45		
Dimensions	Dimensions (WxHxD mm)	440x44x470		
	Weight	9kg	9.1kg	8.6kg
Electrical Characteristics	Maximum Power Consumption	165W	187W	168W
	Power and Fan	1+1 Power Modules, 2+1 Fan Modules Hot-swappable		
	Input Voltage	100-240V AC		
Operating Conditions	Operating Temperature	0-45°C		
	Relative Humidity	5%-90% (Non-Condensing)		

Product Model		PX308P-48Y-M	PX532P-M	PX732Q-M
Network Interface	10G(SFP+)	-	2	2
	25G(SFP28)	48	-	-
	100G(QSFP28)	8	32	-
	400G(QSFP-DD)	-	-	32
Switching Chip	Chip Model	Marvell Prestera (Falcon)		
	Switching Capacity	2.0Tbps	3.2Tbps	12.8Tbps
	Wildcard Filter	4.5K		
CPU	CPU	Pentium D1508		
Memory	Memory	16GB DDR4		
Flash	Flash	256GB M.2 SATA		
Variants	Variants	PTP		
Management Interface	USB	1xUSB2.0		
	Console	1xConsole RJ45		
	MGMT	1xMGMT RJ45		
Dimensions	Dimensions (WxHxD mm)	440x44x515		
	Weight	11.1kg	12kg	12.4kg
Electrical Characteristics	Maximum Power Consumption	480W		1000W
	Power and Fan	1+1 Power Modules, 3+1 Fan Modules Hot-swappable	1+1 Power Modules, 4+1 Fan Modules Hot-swappable	1+1 Power Modules, 5+1 Fan Modules Hot-swappable
	Input Voltage	100-240V AC		
	Operating Temperature	0-45°C		
Operating Conditions	Relative Humidity	5%-90% (Non-Condensing)		

Product Model		PX564P-N	PX664D-N	PX864E-N
Network Interface	10G(SFP+)	2	2	2
	100G(QSFP28)	64	-	-
	200G(QSFP56)	-	64	-
	800G(OSFP)	-	-	64
Switching Chip	Chip Model	Marvell Teralynx		
	Switching Capacity	6.4Tbps	12.8Tbps	51.2Tbps
	Wildcard Filter	21K		48K
CPU	CPU	Intel Xeon-D or Marvell OCTEON 10		
Memory	Memory	16GB DDR4		32GB DDR4
Flash	Flash	256GB M.2 SATA		
Variants	Variants	PTP		
Management Interface	USB	1xUSB2.0		
	Console	1xConsole RJ45		
	MGMT	1xMGMT RJ45		
Dimensions	Dimensions (WxHxD mm)	440×87×560	440×87×560	440×87×650
	Weight	16kg	16kg	25kg
Electrical Characteristics	Maximum Power Consumption	850W	950W	2400W
	Power and Fan	1+1 Power modules, 3+1 Fan modules Hot-swappable	1+1 Power Modules, 3+1 Fan Modules Hot-swappable	1+1 Power Modules, 3+1 Fan Modules Hot-swappable
	Input Voltage	100-240V AC		
Operating Conditions	Operating Temperature	0-45°C		
	Relative Humidity	5%-90% (Non-Condensing)		

Ordering Information

Part Number	Description
PX102S-8GT-M	Network packet broker, 8x1GBase-T, 2x10G SFP+, fixed 1xPSU, fixed 2xFAN, front-to-power airflow, preloaded perpetual license PB-APP
PX102S-16GT-M	Network packet broker, 16x1GBase-T, 2x10G SFP+, fixed 1xPSU, fixed 2xFAN, front-to-power airflow, preloaded perpetual licensed PB-APP
PX206P-24S-M	Network packet broker, 24x10G/1G SFP+, 6x100G QSFP28, hot-swappable 1+1 PSU, hot-swappable 3+1 FANs, front-to-power airflow, preloaded perpetual license PB-APP
PX206P-48S-M	Network packet broker, 48x10G/1G SFP+, 6x100G QSFP28, hot-swappable 1+1 PSU, hot-swappable 3+1 FANs, front-to-power airflow, preloaded perpetual license PB-APP
PX202P-24Y-M	Network packet broker, 24x25G/10G/1G SFP28, 2x100G QSFP28, hot-swappable 1+1 PSU, hot-swappable 3+1 FANs, front-to-power airflow, preloaded perpetual license PB-APP
PX308P-48Y-M	Network packet broker, 48x25G/10G SFP28, 8x100G QSFP28, hot-swappable 1+1 PSU, hot-swappable 3+1 FANs, front-to-power airflow, preloaded perpetual license PB-APP
PX532P-M	Network packet broker, 32x100G QSFP28, hot-swappable 1+1 PSU, hot-swappable 4+1 FANs, front-to-power airflow, preloaded perpetual license PB-APP
PX732Q-M	Network packet broker, 32x400G QSFP28, hot-swappable 1+1 PSU, hot-swappable 5+1 FANs, front-to-power airflow, preloaded perpetual license PB-APP
PX564P-N	Network packet broker, 64x100G QSFP28, hot-swappable 1+1 PSU, hot-swappable 3+1 FANs, front-to-power airflow, preloaded perpetual license PB-APP
PX664D-N	Network packet broker, 64x200G QSFP56, hot-swappable 1+1 PSU, hot-swappable 3+1 FANs, front-to-power airflow, preloaded perpetual license PB-APP
PX864E-N	Network packet broker, 64x800G OSFP, hot-swappable 1+1 PSU, hot-swappable 3+1 FANs, front-to-power airflow, preloaded perpetual license PB-APP
AsterNOS-APP-PB-LIC-1S	Packet broker software application on PX102S series family
AsterNOS-APP-PB-LIC-2P	Packet broker software application on PX202P/PX206P series family
AsterNOS-APP-PB-LIC-3P	Packet broker software application on PX308P series family

AsterNOS-APP-PB-LIC-5P	Packet broker software application on PX532P series family
AsterNOS-APP-PB-LIC-6D	Packet broker software application on PX664D series family
AsterNOS-APP-PB-LIC-7Q	Packet broker software application on PX732Q series family
AsterNOS-APP-PB-LIC-8E	Packet broker software application on PX864E series family

Warranty and Service Support

Asterfusion PB-APP Packet Broker comes with 2-year Basic H/W service and warranty, preloaded perpetual licensed PB-APP and 1-year PB-APP upgrade subscription.

