

ITG NPB EX48200

DATA SHEET



Product Overview

The Packetmaster ITG NPB EX48200 is a high-performance network packet broker that aggregates, filters, multiplies, and load balances network traffic to security, monitoring and management tools. It is based on an advanced multi-core, industry leading programmable switch chip architecture and allows all filtering features to be implemented at the hardware level for unmatched throughput and performance. The multilayer filtering and tunnel removal capabilities of the ITG NPB EX48200 makes the unit a perfect choice for any overlay network visibility application.

Definition

A Network Packet Broker (NPB) is a switch-like device purposebuilt to receive traffic from a variety of network sources (live link, TAPs, SPANs, mirror ports) and to filter, duplicate, and/or aggregate incoming traffic to monitoring and security tools.

Advantages of ITG NPB EX48200

- Filters and load-balances traffic from 10, 40 or 100 Gbps links to multiple monitoring tools
- Aggregates multiple 1Gbps links to 10, 40, or 100 Gbps monitoring tools
- Up to 48 x 1/10 Gbps (SFP/ SFP+) and 2 x 40/100 Gbps (QSFP/ QSFP28) ports
- QSFP28 ports support breakout to 4 x 10/25G
- IPv6 support
- Tunnel removal and inside tunnel filtering
- Flexible port licensing model (12, 24, 36 or 48 ports enabled)
- Open for 3rd party transceivers
- 2-year base warranty period

Functions / Benefits

01

Hash-based, session aware load balancing to keep up&downstream information together

02

Filtering on multiple parameters including VLAN tags, IP addresses and TCP / UDP port numbers and much more

03

Easy to configure: secure Web GUI / Rest API

04

Active GRE endpoint function

05

Straight and easy development of filtering strings using MS Excel with download function

06

Tunnel termination and inner tunnel filtering (VXLAN, GTP, ERSPAN, CFP, MPLS, etc)

07

Cost efficient due to flexible port licensing model

08

SNMPv2c and SNMPv3 support

Product Capabilities / Features

Number of Ports	48 x SFP/SFP+ 1/10 Gbps; 2 x QSFP/QSFP28 40/100 Gbps; QSFP/QSFP28 ports can be used in break-out mode supporting 4 x 10/25 Gbps
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, VXLAN VNI, IPv4/IPv6, DSCP, Protocol type, Layer 4 Port Numbers – multiple stage filtering (ingress, egress and loopback ports)
Tunnel Termination and inner tunnel filtering	MPLS, MPLS over UDP, GRE, GTP, ERSPAN, VXLAN, CFP
Packet Slicing	Supported at all ports and port speeds
Throughput / Latency	None blocking architecture with 1360 Gbps throughput
Latency	< 700ns
Buffer	24 Mbyte with intelligent buffer management to avoid congestion due to micro-bursts
Supervision/Logging	SNMPv2c and SNMPv3; Syslog and Activity Log function
Unit Control	WebUI via https and RestAPI via 10/100/1000B-T management interface
MTBF	178213 hours
Electrical Power	Dual 100-240V AC or 36-72V DC available

Technical Data / Specifications

Inputs*

48 x 1 Gbps / 10 Gbps full duplex SFP Ports for any kind of SFP/SFP+
2 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/ QSFP28 ports support breakout cables to 4x10G or 4x25G interfaces

Outputs*

48 x 1 Gbps / 10 Gbps full duplex SFP Ports for any kind of SFP/SFP+
2 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/ QSFP28 ports support breakout cables to 4x10G or 4x25G interfaces

Performance

- Performance up to 1,36 Tbps
- Non-blocking design
- Boot time from power on to working 180 sec

Technical Data / Specifications

Management

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

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): 444 x 565 x 44 mm
- Weight: 12,1 kg
- Airflow: Front-back

Technical Data / Specifications

Electrical specifications

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

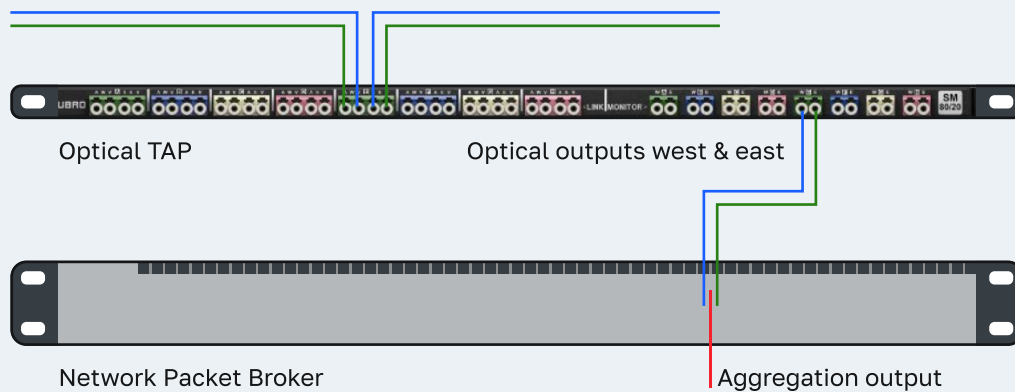
Certifications

- 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 ITG NPB EX48200 is able to receive traffic from a single or multiple 1/10/40 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 analyzers and monitoring tools as required. The example below shows how the EX48200 aggregates upstream 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 of the EX48200, the user is able to further reduce traffic volume that needs to be processed, thus enabling quicker and more accurate analysis and troubleshooting. Moreover, incoming traffic can be VLAN tagged per physical port to allow easy identification at which physical port a packet original arrived.

Superior filtering capabilities

The Packetmaster EX48200 supports up to 2048 parallel running 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	MPLS Label	Port Src / Dst
VLAN tag	IPv4 Src / Dst	TCP Flag
Ethertype	IPv6 Src / Dst	
VXLAN VNI	DSCP	
	Fragmentation	
	Protocol	

Besides standard OSI L2 to L4, the EX48200 also supports filtering inside tunnels like GTP, VXLAN or GRE – see next section for details. By default, filtering is done at ingress but can be easily extended to egress as well as loopback ports allowing maximum flexibility to forward the right traffic to the right probing/analyzer system.

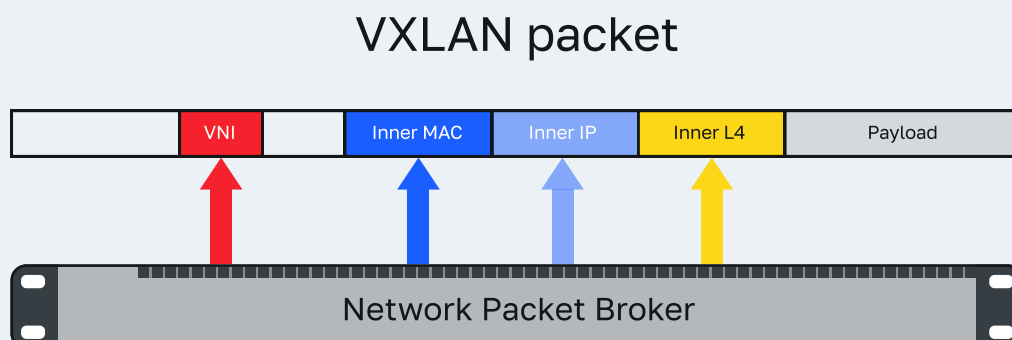
State-of-the-art tunnel removal and inside tunnel filtering

The EX48200 supports the termination of various tunnels such as:

- ERSPAN II and III
- GRE
- MPLS over UDP
- GTP
- VXLAN
- CFP

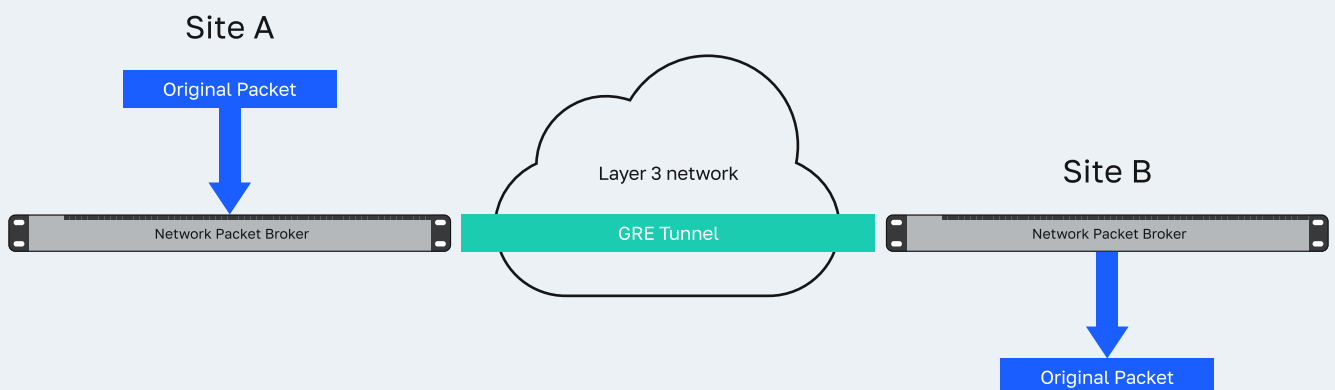
Every port of the ITG NPB EX48200 supports an independent MAC and IP setup. Thus, the EX48200 can be used as an active tunnel end-point. Besides tunnel termination it also allows filtering inside tunnels.

This superior functionality makes the EX48200 perfectly suited for any modern overlay network.



GRE Encapsulation Function

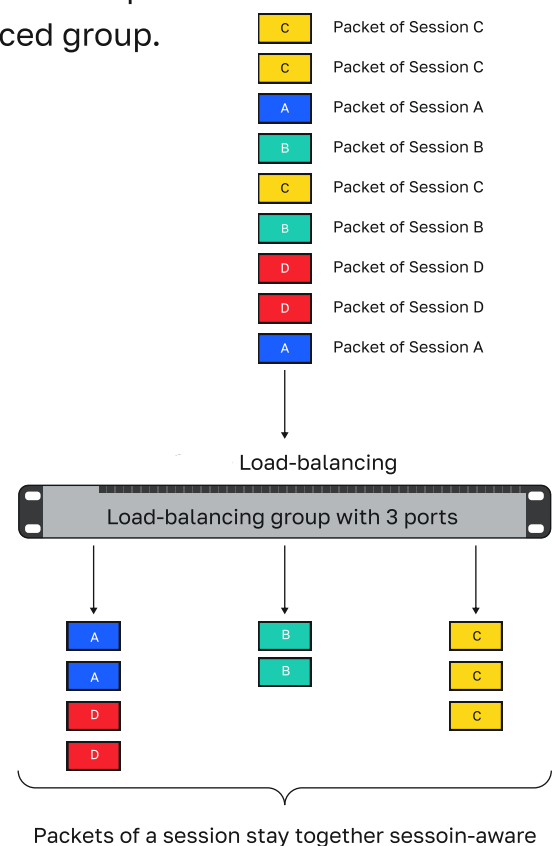
To transport filtered packets from site A to site B over a routed Layer 3 network, the ITG NPB EX48200 supports a GRE encapsulation function.



Session-aware load-balancing

Load-balancing is a vital function to distribute traffic across different monitoring tools evenly and correctly. The ITG NPB EX48200 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 ITG NPB EX48200 maintain 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.

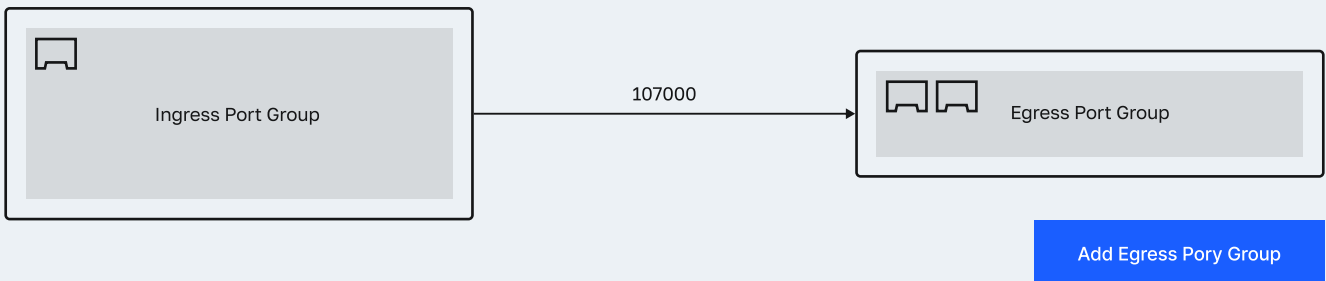
Flow association is done by examining selected fields within each packet and performing a mathematical algorithm called hash key calculation. The result of the calculation is used to consistently separate and distribute traffic to specific ports within a load balanced group. Depending on the requirements, the ITG NPB EX48200 allows different hash key calculations methods ensuring that packets always arrive at the correct interface of the monitoring appliance.



Easy Operation with low learning curve

The ITG NPB EX48200 features an extremely easy to use graphical way of operation.

The innovative and logical WebUI allows the user to create a backup, setup new users, check port link status/statistics or define a powerful filtering scenario which helps to do the job quickly.



Rule Configuration

Wildcard Match Accurate Match MAC String

[Add Rule](#) [Display/Hide Columns](#) Rule ID: [Query](#)

Rule ID	Filter Key									Handle		Tunnel Encapsulation		Modify S
	Ace Type	IP Version	Source IP	Destination IP	Protocol	Source Port	Destination Port	Tcp Flag	Action	VLAN ID	Tunnel Type	Tunnel ID		
107000	ip	ipv4	10.0.0.1/24						none					

Ingress Rule

[Display/Hide Columns](#) [Clear Hitcount](#) [Import All Rules](#) [Export All Rules](#) Rule ID: [Query](#)

[Delete All Rule](#) [JSON](#) [Excel](#)

Rule ID	Filter Key													
	Ingress Port	Ace Type	IP Version	Source IP	Destination IP	Protocol	Source Port	Destination Port	Tcp Flag	Source MAC	Destination MAC	Offset	Filter Value	

Ordering Information

Product Components

- ITG NPB EXA48200
- AAC or DC power supply modules
- Power cord
- Transceivers not included

Part Number	Part Number Description
EXA48200-12	Advanced Packetmaster EXA48200, 12x1G/10G and 2x40G/100G, Dual AC powered
EXA48200-24	Advanced Packetmaster EXA48200, 24x1G/10G and 2x40G/100G, Dual AC powered
EXA48200-36	Advanced Packetmaster EXA48200, 36x1G/10G and 2x40G/100G, Dual AC powered
EXA48200-48	Advanced Packetmaster EXA48200, 48x1G/10G and 2x40G/100G, Dual AC powered
EXA48200-12-DC	Advanced Packetmaster EXA48200, 12x1G/10G and 2x40G/100G, Dual DC powered
EXA48200- 24-DC	Advanced Packetmaster EXA48200, 24x1G/10G and 2x40G/100G, Dual DC powered
EXA48200- 36-DC	Advanced Packetmaster EXA48200, 36x1G/10G and 2x40G/100G, DC powered
EXA48200-48-DC	Advanced Packetmaster EXA48200, 48x1G/10G and 2x40G/100G, DC powered

Ordering Information

Spare parts

Part Number	Part Number Description
PM-AC-E	AC Power supply module for EX32100A/EX48600/ OMNIA120/EX48200 series
PM-DC-E	DC Power supply module for EXA32100A/EX48600/ OMNIA120/EX48200 series

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