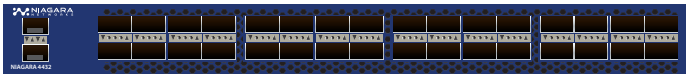
100Gb High Density Advanced Packet Broker

32 ports of 40/100Gb non-blocking switching fabric

The 4432 is a fully featured packet broker that is capable of not only aggregation, but replication, sophisticated filtering, load balancing, tunneling supports and more.



Front panel - 32 ports of 40/100Gb plus two ports of 10Gb. Users can mix and match 40Gb and 100Gb pluggable transceivers to meet network needs.

The 4432 includes up to 32 ports of 40Gb and 100Gb where the user can flexibly select the mix of port speeds to match the required network deployment. In addition, two ports of 1/10Gb are available.

With the unique software licensing feature, units can be offered with 16 ports. Users protect their investment and can grow with the system up to its full capacity of 32 ports of 40/100Gb, without adding other physical devices or performing a fork-lift upgrade in their deployment.

All ports connect to a non-blocking switching fabric, ensuring that all combinations of ports are supported at full line rate with no over subscription, and with full-switching line rate connectivity from any port to any port.

To increase the port density, the 4432 supports fan-out cables on the 40G and 100G interfaces. Up to 130x 10G interfaces can be created when 40G multimode or parallel single mode optics are combined with fan-out cables. Similarly when 100G interfaces are combined with fan-out cables, up to 128 25G interfaces can be created on a 4432.

The 4432 includes Niagara Network's FabricFlow™ technology which is at the core of the system's exhaustive packet broker functionality, responsible for the mapping of traffic flow relationships between source and destination ports.

Product Highlights

High Density:

- Up to 32 ports of 40/100Gb - any mix
- Additional two ports of 1/10Gb

1U Form Factor:

- Reduced footprint, saving power, space and cooling

Switching Fabric

- 3.2Tb Bi-directional

Versatility

- Non-blocking switching fabric for simultaneous support of all ports/modules
- Wide offering of modules supporting all of the advanced visibility adaptation layer building blocks, all data rates from 100Mb to 100Gb - an integrated all-in-one platform:
  - Integrated bypass - BypassP2™ technology- pioneering packet heartbeat technology
  - Packet broker
  - Integrated passive TAPs
  - Compatible with SFP, SFP+, QSFP+ and QSFP28 MSA-compliant transceivers as offered by Niagara Networks

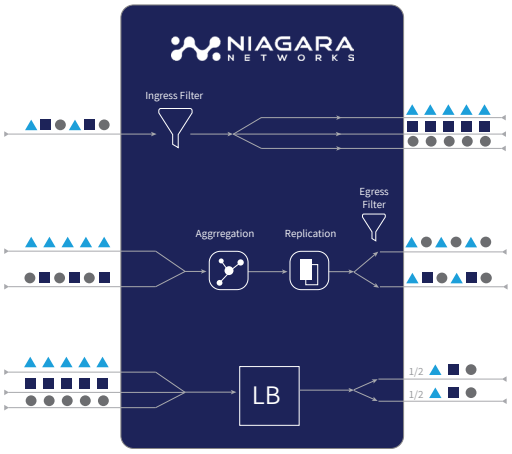
Packet and Flow Processing

- Mapping traffic flow relationships between source and destination ports:
  - Aggregate traffic to a single port
  - Replicate traffic to multiple ports
  - Sophisticated filtering - L2-L4, User Defined Byte (UDB)
- Tunnel handling: GTP, GRE, MPLS, VXLAN, VLAN
- Multiple flexible load balancing regimes
  - Layer 2 to Layer 4 hashing criteria
  - Port utilization based load balancing
  - Session stickiness
- Virtual bypass segments for advanced service chaining
- Ingress and egress filtering, internal traffic loopback for efficient creation of sophisticated multi-level filters
- Filter templates for raplid deployment and filter re-use
- Port fan-in and fan-out for optimized interface deployment
- Port configuration for listen-only, transmit-only and bi-directional deployment
- MAC header rewrite

Management

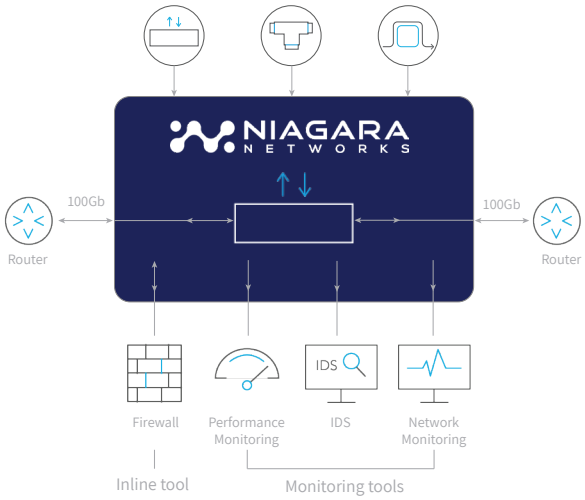
- SNMP v1, v2, v3 support
- Local, RADIUS, and TACACS+ support (members and groups)
- Intuitive, web-based user interface
- Granular access control features
- Syslog
- REST API for third-party integration and support
- Auto discoverable and managed by the NVC
- Manage unlimited number of nodes in a cluster as a single virtual node by using the NVC

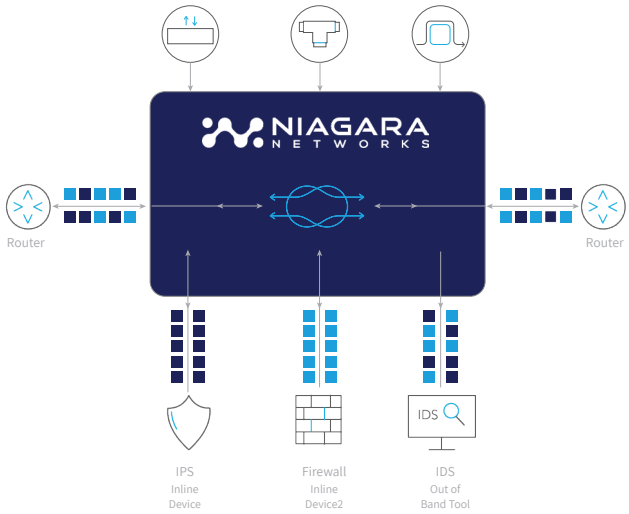
Common Use Cases



FabricFlow™ technology for efficient aggregation, replication, filtering and load balancing of traffic.

Protect network from security attacks by sending traffic to inline tools like a firewall (using virtual segment configuration) and also send copy to monitoring tools for performance analysis.





Provides visibility to network traffic by sending the right traffic to the right tools.

Specifications

Height	1.72 in (43.7 mm)	Max Power	456.30 Watts
Length	19.5 in (495.3 mm)	BTU/hr	1292.12
Width	17.25 in (438.15 mm)	Airflow	100 lfm
Weight	21.60 lb (9.80 kg)	Altitude	80,000 ft
Operating Temp	32-104°F (0-40°C)	AC	100-240V, 50-60Hz, 10-5A
Operating Humidity	5-95%	DC	48-60V, 19-15A
Raw Power	624.63 Watts	Max Current	4.56A @ 100 V_{AC} 9.51A @ 48 V_{DC}

Emissions

FCC Part 15B, ICES 003, EN55032

Immunity

EN55024

Safety

UL/CSA 60950-1, EN 60950-1, IEC 60950-1
CB Scheme with all country differences

Certifications

North America (NRTL)	2014/35/EU Low Voltage Directive
European Union (EU)	2014/30/EU EMC Directive
VCCI (Japan)	2011/65/EU RoHS Directive
	2012/19/EU WEEE Directive

Part Number	Description
4432-MN-16P-AC	4432 main chassis AC, includes two power supply and four fan units with license for 16 ports. Ports can be flexibly used as 40Gb or 100Gb ports. An additional 2x10Gb (SFP+) ports available. Transceivers ordered and sold separately
4432-MN-16P-DC	4432 main chassis DC, includes two power supply and four fan units with license for 16 ports. Ports can be flexibly used as 40Gb or 100Gb ports. An additional 2x10Gb (SFP+) ports available. Transceivers ordered and sold separately
4432-MN-32P-AC	4432 main chassis AC, includes two power supply and four fan units with 32 ports of 40Gb or 100Gb and 2 ports of 10Gb. Transceivers ordered and sold separately
4432-MN-32P-DC	4432 main chassis DC, includes two power supply and four fan units with 32 ports of 40Gb or 100Gb and 2 ports of 10Gb. Transceivers order and sold separately
800W-PSU-AC	Field replaceable power supply unit AC - 800W
750W-PSU-DC	Field replaceable power supply unit DC - 750W
NN-FAN-1	Field replaceable fan unit for 1RU products
Licensing	4432 license options (16 port license included in base product)
4432-LC-17-32P	4432 license upgrade to support 32 ports of 40/100Gb. Transceivers ordered and sold separately

About Niagara Networks

Niagara Networks provides high performance network visibility solutions for seamless administration of security solutions, performance management and network monitoring. Niagara Networks products provide advantages in terms of network operation expenses, downtime, and total cost of ownership. A former division of Interface Masters, Niagara Networks provides all the building blocks for an advanced Visibility Adaptation Layer at all data rates up to 100Gb, including TAPs, bypass elements, packet brokers and a unified management layer. Thanks to its integrated in-house capabilities and tailor-made development cycle, Niagara Networks is agile in responding to market trends and in meeting the customized needs of service providers, enterprises, data centers, and government agencies. For more information please visit us at www.niagaranetworks.com.

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