7880IPG-NAT-6-10GE2

High Density Network Address Translator and Data Encapsulator

The 7880IPG-NAT-6-10GE2 is a high-density, multi-port, multi-flow hardware Network Address Translation (NAT) engine with enhanced features such as Port Aggregation, Tunneling, Packet Replication and Bandwidth Capping, allowing service providers to seamlessly bridge across networks in multi-tenant environments.

The 7880IPG-NAT-6-10GE is conceptually organized as 6 WAN-side ports + 6 LAN-side ports, with a packet processing core between each WAN-LAN pair. A given processing core can sustain up to 256 data flows, configurable based on multicasts or VLAN Tags. This gives an exceptional product density of 12 x10GE ports, with 1536 multicast/VLAN flows – All in the space-efficient Evertz 7800 modular hardware platform.

Multiple processing cores can be configured to aggregate their Tx traffic to a single WAN Port. Correspondingly, Rx traffic from that WAN port is distributed to its contributing processing cores. WAN-side Port Aggregation allows network engineers to achieve functions such as port-based redundancy using the 7880IPG-NAT-6-10GE.

The 7880IPG-NAT-6-10GE is controlled by the industry-leading VistaLINK Pro, and via web interface.

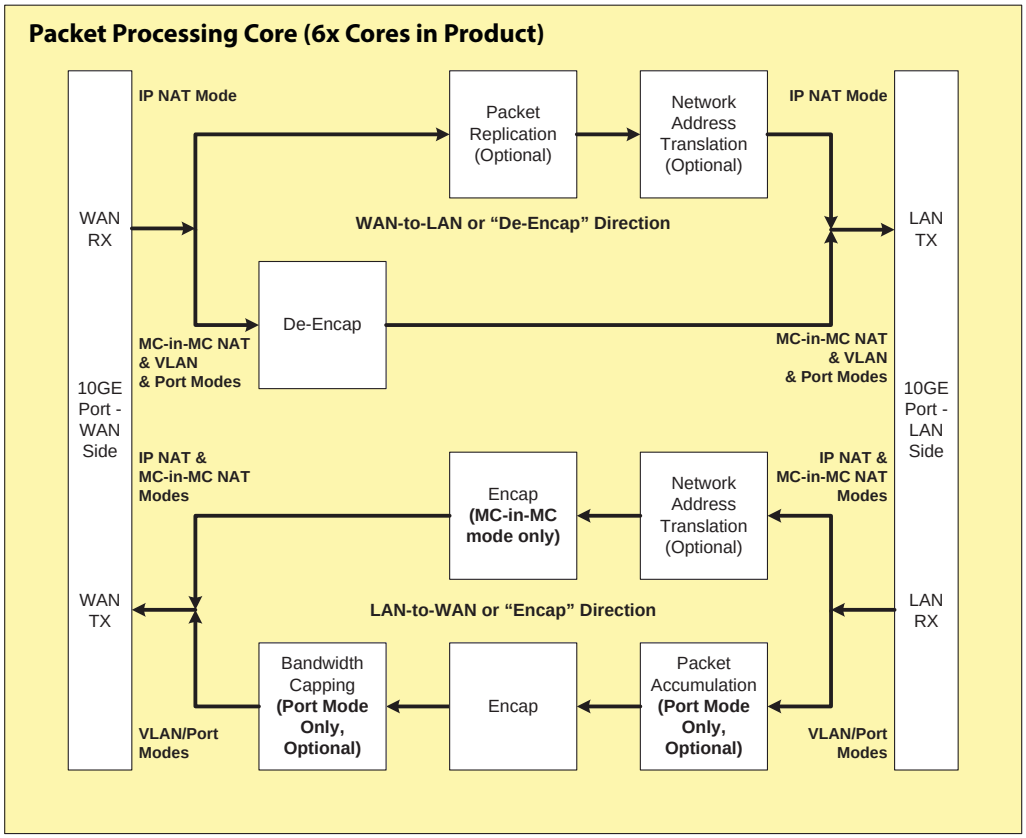
The 12 Ethernet ports can be a mixture of GigE or 10GE, simply by populating the desired SFP, offering full flexibility for LAN & WAN interfacing.

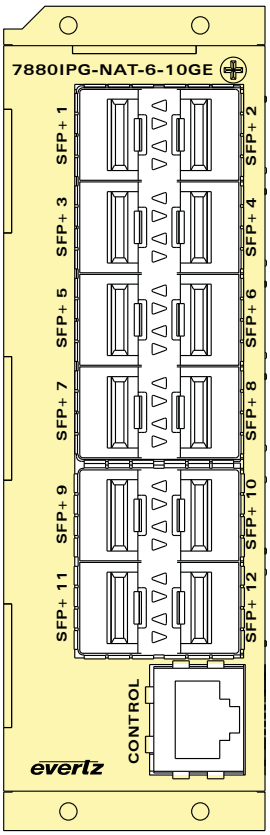
The 7880IPG-NAT-6-10GE2 provides four modes of operation:

- The One-to-One NAT Mode allows unicast/multicast IP streams from one network to be translated to different unicast/multicast IP addresses, on a flow-by-flow basis, up to 256 unique flows per processing core. Address translation is available in both directions, while an optional Packet Replication feature is provided in the WAN-to-LAN direction.
- The Tunneling (or Encapsulation or MC-in-MC) NAT Mode allows unicast/multicast addresses from the LAN side to be encapsulated into new multicasts for the WAN network, again, on a flow-by-flow basis, up to 128 unique settings per processing core. Correspondingly, traffic is de-encapsulated in the WAN-to-LAN direction.
- The VLAN Mode allows VLAN-tagged datagrams from the LAN side to seamlessly enter a WAN after multicast encapsulation, similar to the Tunneling NAT mode. In this mode, however, flows are based on VLAN Tags, rather than unicasts/multicasts alone. Up to 256 unique flows can be configured per processing core, with independent encapsulation headers.
- The Port Mode allows the user to encapsulate all incoming LAN traffic on a given physical port, on a port-by-port basis. There is no multicast or VLAN Tag filtering – All traffic on that physical LAN port is encapsulated out to the WAN, and de-encapsulated in the reverse direction. This mode provides a Bandwidth Capping feature such that network operators can ensure that links do not over-subscribe their contribution limits to a WAN.

Features & Benefits

- One-to-one NAT with user configurable Packet Replication
- MC-in-MC NAT for tunneling flows based on multicast addresses
- VLAN based NAT for tunneling flows based on VLAN tag
- Port based NAT for tunneling all traffic (ingress/egress) on per port basis
- Port Aggregation (LAN-to-WAN direction)
- Port Redundancy on both WAN and LAN side (network path failure protection)
- Virtual interfaces for Unicast flows mapping or VLAN ID change
- IGMPv3 with SSM support
- Point-to-point and multi-point signal intra/inter facility distribution/contribution.
- Operates over a Dark fiber, Ethernet, IP, MPLS VPLS, core network
- In-band Management (Management Traffic transport over Multicast)
- Support for FEC Pro MPEG (forward error correction)
- Flexible SFP Ethernet I/O for 12 x 1/10GE (SFP10G-TR13)
- Control via 7800 Frame Controller or the integrated Ethernet Port
- Full integration with VistaLINK PRO and MAGNUM
- Standalone Web based control interface





The Complete Solution Provider

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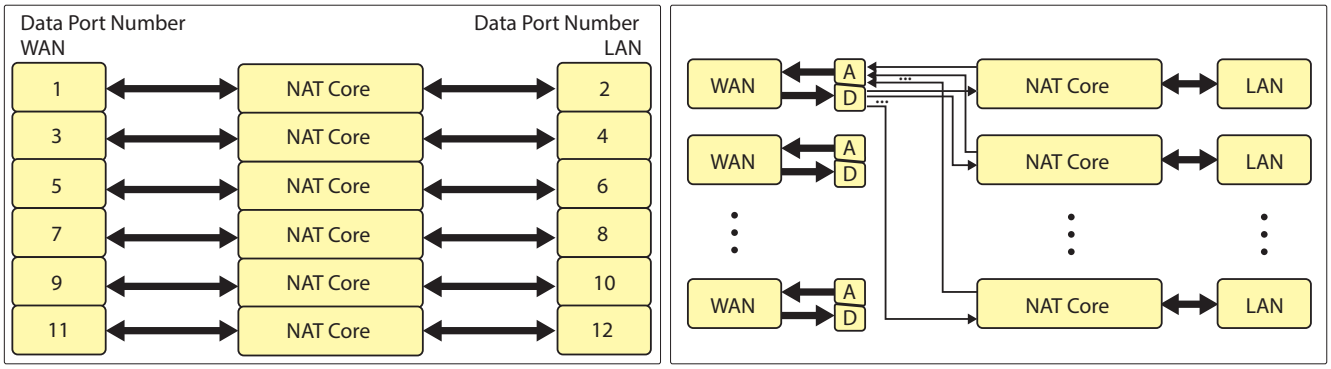

Specifications

One-to-One NAT:
1536 x static mapping
Packet Replication (WAN-to-LAN direction)
VLAN ID change
Ingress traffic filtering based on VLAND ID option

MC-in-MC NAT:
1536 x Multicast Mapping

VLAN based NAT:
1536 x VLAN ID Mapping

Port based NAT:
12 x datagram flow mapping
(from 12 x 1/10GE)

Virtual Interfaces:
15x Interfaces per data port (both WAN and LAN side)
VLAN ID change (One-to-One NAT mode)

SFP Modules:
12 x SFP Modules
- 1G copper RJ-45 (+SFPTR-RJ45-SER-AV)
- 10/100/1G optical 1310nm (+SFPT1G-R13)
- 10GE optical 850nm, MMF (+SFP10G-TR85-A)
- 10GE optical 1310nm, SMF, 2Km (+SFP10G-TR13S)
- 10GE optical 1310nm, SMF, 10Km (+SFP10G-TR13-A)
- 10GE optical 1550nm, SMF, 40Km (+SFP10G-TR15S)
- 10GE optical 1550nm, SMF, 80Km (+SFP10G-TR15H)
- 10GE optical CWDM (SFP10G-TRCxxH) and DWDM (SFP10G-TRDxxxH)

Ordering Information

7880IPG-NAT-6-10GE2	High Density NAT

Enclosures

7800FR	3RU Multiframe which holds up to 15 modules
7800FR-QT	3RU Multiframe which holds up to 15 modules
7801FR	1RU Multiframe which holds up to 4 modules
3700FR	6RU ATP multiframe which holds up to 15 modules