

HPE NonStop network I/O adapter, IP CLIM

Better connectivity for better performance

Today's business technology relies on high-speed Ethernet connectivity, especially for business-critical applications. The IP Cluster I/O Module (IP CLIM) can accommodate multiple Ethernet links for HPE Integrity NonStop systems. In addition, it offers TCP offload, support for IP Security (IPSec), and a compact footprint.

The IP CLIM, along with the Storage CLIM and the Telco CLIM, is a part of the progressive I/O infrastructure for **HPE Integrity NonStop servers** that run the L-series and J-series NonStop OS.

The IP CLIM for the HPE Integrity NonStop X NS7 systems is available in two commercial, AC-powered models:

- Four 10GBASE-T and one 1GBASE-T copper ports
- Four 10GBASE-SR optical ports and one 1GBASE-T copper port

The IP CLIM for the HPE Integrity NonStop X NS7 carrier-grade systems is available in two DC-powered and Network Equipment-Building System (NEBS) level-3 compatible models:

- Four 10GBASE-T and one 1GBASE-T copper ports
- Four 10GBASE-SR optical ports and one 1GBASE-T copper port

The entry-class IP CLIM comes with five 1GBASE-T copper port and available in an AC-powered model for HPE Integrity NonStop X NS3 systems and a DC-powered model for HPE Integrity NonStop X NS3 DC systems.

The IP CLIM for the HPE Integrity NonStop i systems comes with five 1GBASE-T copper ports. It is available in an AC-powered model for commercial, AC-powered HPE Integrity NonStop i systems and in an NEBS level-3

compliant model for carrier-grade HPE Integrity NonStop i systems.

The IP CLIM responds to socket API calls from applications running on the NonStop host. Applications typically do not have to change to utilize the IP CLIM. HPE NonStop OS routes these socket calls, communicates across system interconnect, and links to the TCP software stack that resides on the IP CLIM. The IP CLIM may be thought of as a coprocessor that relieves the CPUs of TCP traffic and protocol processing, thereby making NonStop CPUs available for their business-critical online transaction processing workload. The IP CLIM also provides support for the Stream Control Transmission Protocol (SCTP), a protocol used in Telco IT environments.

Coexistence and compatibility

The IP CLIM can coexist with or replace the existing Input/Output Adapter Module Enclosure (IOAME) Ethernet capability in an HPE Integrity NonStop i systems. This means that the IP CLIM can coexist with existing Gigabit Ethernet 4-port ServerNet Adapter (G4SA) Ethernet controllers and HPE NonStop G16SE enclosure on the same NonStop system running the J-series NonStop OS. Also, the IP CLIM can coexist with conventional TCP and with TCP/IPV6 software running on the NonStop systems.



Key features and benefits

- Provides high-speed Ethernet connectivity
- Offloads TCP/IP processing
 - Supports IPv4 and IPv6 modes
 - Supports IPSec
- Supports Multiple Providers per CLIM (MPC)
- Supports SCTP
- Delivers high performance¹
- Delivers higher availability
 - With dual RAID 1 OS boot disks, the IP CLIM continues to run if one fails; the failed disk can be replaced online.
- Is designed for fault tolerance
- Provides lower cost per port
- Requires no change to applications
- Supports InfiniBand or ServerNet III connectivity to NonStop systems
- Is supported by improved Open System Management (OSM)

Configuration and packaging

The number of IP CLIMs that can be supported on different NonStop platforms depends on the number of Storage CLIMs on the system, on the system fabric connectivity rules, and on marketing propositions. Consult the respective configuration guide for the platform that you are considering.

Compatibility with RVUs

The software to support the CLIMs is available starting with different Release Version Updates (RVUs), depending on the target platform on which the CLIM is deployed. The software to support the IP CLIM on different platforms is available on relevant L-series and J-series RVU vehicles of the NonStop OS. Refer to the manual for your targeted platform to determine which RVU supports the IP CLIM.

Manageability

OSM provides a highly automated and integrated management command and control that is familiar to users of prior HPE NonStop systems. With OSM, operators do not need to learn Linux® command and control and the NonStop software seamlessly interfaces with the IP CLIM subsystem, enabling you to manage IP CLIMs, as you have managed Ethernet controllers in prior systems.

IP Security

The IPv6 standard provides for transmission security both in v4 and in v6 mode (called IPSec). IP CLIM IPSec supports:

- Internet Key Exchange (IKE) authentication
- IPSec Authentication Header
- Encapsulating Security Payload (ESP)
- X.509 certificates
- Certificate revocation list
- Preshared keys
- Privacy enhanced mail

Additionally IP CLIM supports packet filtering with iptables for traffic control security.

HPE Integrity NonStop systems deploy a novel I/O infrastructure found on HPE ProLiant Gen10 servers, specially adapted for NonStop platforms as controllers, for high-speed Ethernet connectivity and TCP/IP protocol. The Ethernet controller, called the IP CLIM, supports multiple high-speed Ethernet links.

¹ Your performance can vary depending on your application, message sizes, and traffic patterns and conditions.



Technical specifications

(applies to all versions of the IP CLIM, except where stated)

Specifications	Description
Hardware	HPE ProLiant DL380 Gen10 with one Intel® Xeon® processor
Form factor	2U
Weight	33 lb (15 kg)
Maximum watts RMS	AC power: 185W/DC power 265W
Power factor (maximum is 1.0)	0.98
Dimensions (h x w x d)	3.44 x 17.54 x 26.75 in.
Plug NEMA (plug type)	AC power: IEC-320-C14/DC power: Lug Terminal
Number of power plugs	2
NonStop system types supported	HPE Integrity NonStop X and HPE Integrity NonStop i systems
Release vehicle	<ul style="list-style-type: none">• L18.08 for HPE Integrity NonStop X NS7 systems. IP CLIMs are supported on prior RVUs L17.02 or later with SPRs and the appropriate CLIM installation software.• L18.08 for HPE Integrity NonStop X NS3 systems. IP CLIMs are supported on prior RVU L17.02 with SPRs and the appropriate CLIM installation software.• J06.22 for HPE Integrity NonStop i systems: IP CLIMs are supported on prior RVUs J06.20 or later with SPRs.



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HPE Pointnext leverages our strength in infrastructure, partner ecosystems, and the end-to-end lifecycle experience, to accelerate powerful, scalable IT solutions to provide you the assistance for faster time to value. HPE Pointnext provides a comprehensive portfolio including Advisory and Transformational, Professional, and Operational Services to help accelerate your digital transformation.

Operational Services

HPE Datacenter Care: This is our most comprehensive support solution tailored to meet your specific data center support requirements. It offers a wide choice of proactive and reactive service levels to cover requirements ranging from the most basic to the most business-critical environments.

HPE Datacenter Care Service is designed to scale to any size and type of data center environment while providing a single point of contact for all your support needs for Hewlett Packard Enterprise as well as selected multivendor products.

HPE Critical Service: This high-performance reactive and proactive support is designed to help minimize downtime. It offers an assigned support team, which includes an account support manager (ASM). This

service offers access to the HPE Global NonStop Solution Center, 24x7 hardware and software support, 6-hour call-to-repair commitment, enhanced parts inventory, and accelerated escalation management.

HPE Proactive 24: It provides proactive and reactive support delivered under the direction of an ASM. It offers 24x7 hardware support with 4-hour on-site response, 24x7 software support with a 2-hour response, and flexible call submittal.

HPE Foundation Care: This provides support for HPE servers, storage, networking hardware, and software to meet your availability requirements with a variety of coverage levels and response times.

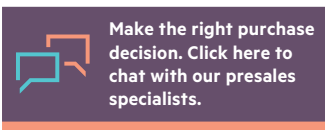
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