

# HPE NonStop NS8 X4 system



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## What's new

- A discreet CPU architecture with a modern form factor of rack-mounted servers, different from the previous generation of x86-based HPE NonStop systems.
- Upgraded microprocessors with Intel® vulnerability mitigations in silicon.
- Increased raw bandwidth using modern InfiniBand (IB) system interconnect technology. Integration with IB delivers nearly twice the system interconnect capacity for responding to business growth.

[2]

## Overview

Does your compute environment need continuous support for OLTP, HTAP, and critical applications with unparalleled fault tolerance and scalability?

The HPE NonStop NS8 X4 system is a modern, x86-based, high-end HPE NonStop system with a discreet CPU architecture and a system interconnect with higher raw bandwidth aimed at workloads that cannot afford downtime. These systems provide virtually unlimited scalability with extreme performance for high volume OLTP, OLAP, and mission/business critical applications. They are designed from the ground up for environments that demand continuous application availability and 100% fault tolerance. HPE NonStop reduces the risk of downtime while meeting dynamic business needs and database requirements. The HPE NonStop OS has been protecting customer workloads for over 40 years. From banking to cell phone communications, payment processing,

and many everyday consumer digital interactions rely on always-on, always adapting HPE NonStop solutions.

## Features

### **Engineered for the Highest Availability Levels for Business**

HPE NonStop NS8 systems are designed for high availability - Availability Level 4 (as defined by IDC), where business processes are not impacted by component failure, meaning no interruption of work and no degradation in performance. [1]

The HPE NonStop architecture remains the ideal choice for compute environments that has supported continuous business for more than four decades, providing extreme fault tolerance and reliability. [1]

The HPE NonStop NS8 x4 system features x86 architecture which divides workloads among independent processors, so you can leverage a proven solution for uninterrupted business that delivers timeless value, and is always-on and always-adapting.

### **Massive Scale Out Capacity to Grow and Flex with your Business Needs**

The HPE NonStop NS8 X4 system can scale out to match growing business demands, with the capacity to handle processing-intensive workloads. Starting with as few as two NonStop CPUs, a single HPE NonStop NS8 node can grow up to sixteen (16) NonStop CPUs.

The HPE NonStop NS8 X4 system offers 2-, 4-, or 6-core software licensing options. When licensed at the 6-core option, the HPE NonStop NS8 X4 provides almost three times the performance capacity of the HPE Integrity NonStop BladeSystem NB56000c licensed at its maximum 4-core option. [3]

With HPE NonStop's Dynamic Capacity licensing, you can temporarily increase your compute capacity by an additional 2-cores per NonStop CPU. When you no longer need the additional capacity, you simply return the system licensing to its original state. These changes can be done completely online.

A single HPE NonStop NS8 X4 node can support up to 4 TB of main memory (RAM). With NonStop Expand-over-IP, the HPE NonStop NS8 can be networked with up to 255 nodes. This represents an impressive scale out factor up to 4080 CPUs and more than 24,000 cores - supported by up to ~1 PB of memory.

Multiple NonStop NS8 systems (nodes) can be clustered together in a tight interconnection using the HPE NonStop X Cluster Solution (NSXCS) with the InfiniBand technology. Supports mixed NSXCS environments with NS8 and NS7 systems.

### **Customizable, Fully-integrated, Turnkey Solution**

In addition to the CPU configurations and core-licensing choices, customers can customize the I/O attached to the HPE NonStop NS8 X4 system. While supporting up to 56 I/O controllers, customers can choose between the IP, Telco, and Storage CLIMs, depending on their specific requirements.

After placing a customized order with the help of our HPE Solution Architects, your system is built and tested prior to leaving the manufacturing floor. The result is a fully fault tolerant, out-of-the-box platform ready for you on which to install your business and mission critical applications.

### **The Advantages of the NonStop Software Stack**

The HPE NonStop NS8 X4 system features the NonStop software stack which includes the NonStop OS and the OSS file system, security, system management, middleware, Java and Java-frameworks, a modern development environment, and one of the most scalable fault-tolerant databases in the world.

The HPE NonStop NS8 X4 system is offered with the L-series version of the NonStop Operating System. This NonStop software stack has been enhanced to fully leverage the x86 architecture and it uses InfiniBand technology to improve



software performance throughout the system.

Security and time synchronization software are included with the OS. HPE NonStop SQL/MX and other DB products are available on the HPE NonStop NS8 X4 system with all the features for massive scalability, ANSI/Oracle® compatibility, online DB administration, and end-to-end transactional integrity.

Middleware products and Java/Java-related frameworks are available. The NonStop Development Environment for Eclipse (NSDEE) and compilers are enhanced with x86 architecture in mind. New customers will find NSDEE friendly and familiar to their application developers.

HPE NonStop is also taking great strides in application modernization with DevOps. NonStop is now as flexible and easy as any modern IT platform in your data center since modern DevOps tools such as Git®, Ansible, and Jenkins can be used to develop applications on NonStop.

## Technical specifications

## HPE NonStop NS8 X4 system

<b>Processor type</b>	Intel®
<b>Processor name</b>	Intel® Xeon® Gold
<b>Processor family</b>	Intel® Xeon® Gold 6200 series
<b>Processor core available</b>	2, 4, or 6-core software licensing available
<b>Drive type</b>	SAS SFF (2.5 in) Solid State Drive (SSD), SAS SFF (2.5 in) Hard Disk Drive (HDD). Enterprise storage system (ESS) with HPE XP8 storage array
<b>Drive description</b>	Designed for up to 25 SAS SFF drives per enclosure and up to 2,700 drives per system. The drive enclosures connect to storage controllers referred to as HPE NonStop Storage CLIMs. The HPE NonStop NS8 X4 system is designed for up to 56 CLIMs (a combination of Storage, IP, and Telco CLIMs). A minimum of two Storage CLIMs is required.
<b>Network controller</b>	Designed for 4 x 10GbE and 1 x 1GbE ports per network controller. A network controller can be an HPE NonStop IP or Telco CLIM. The HPE NonStop NS8 X4 system is designed for up to 56 CLIMs (a combination of Storage, IP, and Telco CLIMs). A minimum of two IP or Telco CLIMs are required.
<b>Maximum memory</b>	Designed for up to 4 TB in a 16 NonStop CPU system, up to 256 GB per NonStop CPU
<b>Memory type</b>	HPE DDR4 memory
<b>Expansion slots</b>	Compute and I/O expansion is possible by the addition of NonStop CPUs and CLIMs to the system interconnect fabric. This fabric is based upon InfiniBand technology delivering with up to 100 Gbps bi-directional bandwidth throughout the system.
<b>Power supply type</b>	Individual components with hot swappable power supplies. Input PDU power: North America/Japan single phase or 3-phase, or international single phase or 3-phase.
<b>Infrastructure management</b>	HPE Open System Management (OSM)
<b>System fan features</b>	Redundant fans
<b>Form factor</b>	36U or 42U rack(s)
<b>Product dimensions (metric)</b>	42U rack: 200.64 x 128.64 x 59.70 cm 36U rack: 174.84 x 111.14 x 59.70 cm
<b>Weight</b>	Varies, depending on component selections
<b>Warranty</b>	For HPE NonStop systems, 1 year hardware and 90 days software warranty period is applicable. For more warranty information refer to <a href="https://www.hpe.com/support/nonstop/globalwarranty">https://www.hpe.com/support/nonstop/globalwarranty</a> . Additional HPE support and service coverage for your product can be purchased locally. For information on availability of service upgrades and the cost for these service upgrades, refer to the Hewlett Packard Enterprise website at <a href="https://hpe.com/support">https://hpe.com/support</a> .



[1] Source: IDC, Jul 2020, Doc #US46640020, Worldwide AL4 Server Market Shares, 2019.

[2] Comparison of HPE NonStop NS7 InfiniBand system interconnect raw bandwidth with HPE NonStop NS8 InfiniBand raw bandwidth, HPE internal testing, 2020.

[3] 6-core licensed HPE NonStop NS8 X4 system compared to an HPE Integrity NonStop i BladeSystem NB56000c licensed at 4-cores, HPE Internal testing, 2020.



[For additional technical information, available models and options, please reference the QuickSpecs](#)

## HPE Services

No matter where you are in your transformation journey, you can count on HPE Services to deliver the expertise you need when, where and how you need it. From strategy and planning to deployment, ongoing operations and beyond, our experts can help you realize your digital ambitions.

### Consulting services

Experts can help you map out your path to hybrid cloud and optimize your operations.

### Managed services

HPE runs your IT operations, giving you unified control, so can focus on innovation.

### Operational services

Optimize your entire IT environment and drive innovation. Manage day-to-day IT operational tasks while freeing up valuable time and resources.

- HPE Complete Care Service: a modular service designed to help optimize your entire IT environment and achieve agreed upon IT outcomes and business goals. All delivered by an assigned team of HPE experts.
- HPE Tech Care Service: the operational service experience for HPE products. The service provides access to product specific experts, an AI driven digital experience, and general technical guidance to help reduce risk and search for ways to do things better.

### Lifecycle Services

Address your specific IT deployment project needs with tailored project management and deployment services.

### HPE Education Services

Training and certification designed for IT and business professionals across all industries. Create learning paths to expand proficiency in a specific subject. Schedule training in a way that works best for your business with flexible continuous learning options.

[The Defective Media Retention \(DMR\)](#) service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction. [Comprehensive Defective Material Retention \(CDMR\)](#) allows you to keep all data retentive components.

## HPE GreenLake

[HPE GreenLake edge-to-cloud platform](#) is HPE's market-leading as-a-Service offering that brings the cloud experience to apps and data everywhere – data centers, multi-clouds, and edges – with one unified operating model, on premises, fully managed in a pay per use model.

If you are looking for more services, like **IT financing solutions**, please explore them [here](#).

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