

# HPE Cray supercomputers



## What's new

- HPE Cray EX2500 Supercomputer
- The HPE Cray EX2500 delivers supercomputing capabilities at a price you can afford.
- HPE is bringing the components of our landmark HPE Cray EX supercomputers to the enterprise.
- The HPE Cray EX2500 is the latest iteration in this robust line of systems and one of our most significant technology advancements in decades.
- The liquid-cooled design delivers a compact system architecture that enables high efficiency and significant cost savings in OSs without impacting performance.

## Overview

Do you need a powerful solution to meet today's supercomputing challenges?

HPE Cray supercomputers enable you to tackle infrastructure challenges that require the fusion of modeling and simulation workloads with analytics, AI, and the Internet of Things (IoT) to create a single business-critical workflow. Today's high-performance computing systems must be able to handle these massive and converged workloads, leading to a supercomputing sea-change.

With the imperative to navigate increasingly diverse and complex workloads, the next generation of supercomputers will be differentiated by exascale performance, data-centric workloads, and diversification of processor architectures.

HPE Cray supercomputers deliver application HPC and AI performance at scale, provide a flexible solution for tens to hundreds to thousands of nodes, and deliver consistent, predictable, and reliable performance, facilitating high productivity on large-scale workflows.

## Features

### Flexible Hardware Infrastructure

HPE Cray supercomputers support multiple processor architectures and accelerator options. Additionally, they are architected for forward compatibility with next-generation blades and servers. HPE Cray supercomputers are available in two configurations.

For increased density and efficiency, the HPE Cray EX liquid-cooled cabinetry supports all components' direct liquid cooling in a highly dense bladed configuration. These cabinets can support processors up to 530W, and highly dense configurations of up to 512 processors per cabinet.

HPE Cray supercomputers are also available in a standard 19-inch rack configuration with HPE Cray software and HPE Slingshot networking, including a 19-inch top-of-rack HPE Slingshot switch. The current platforms for the standard rack solutions are the HPE Apollo 2000 and 6500 Gen10 Plus Systems.

### Breakthrough Interconnect

HPE Cray supercomputers revolutionary design features the HPE Slingshot interconnect and delivers a high-performing interconnect solution built on high radix. These 64-port switches which enable scaling to hundreds of thousands of nodes with only three hops in a Dragonfly topology.

The 64-port switch provides 12.8 Tb/s of bandwidth. Each port operates at 200 Gb/s per direction and can provide an Ethernet edge or HPC fabric functionality. Edge ports connect to supported Ethernet NIC or external routers at 100GbE or 200GbE.

The HPE Slingshot switch is available in a liquid-cooled blade form factor for the HPE Cray EX infrastructure and in a 2U air-cooled form factor for standard 19-inch rack deployments. The internal switch logic is the same for both environments.

HPE Slingshot contains several innovative features to consistently deliver reliable high performance under heavy usage, including adaptive routing that sends packets dynamically based on real-time, global information on load inside the network, and advanced congestion control mechanisms.

With a growing focus on data-centric computing and the convergence of AI and HPC workloads, interoperability has become an increasingly important consideration. HPE Slingshot is based on industry-standard Ethernet, which enables straightforward connectivity with standard datacenter environments.

### Redesigned Software Stack

The HPE Cray supercomputer can maneuver the convergence of HPC, AI, and data analytics workloads, coupled with explosive data growth. Today's supercomputers will have to handle exabytes of data in order to enable modern workloads to run in a productive, reliable, and expedient manner.

Built on decades of supercomputing expertise, the HPE Cray software stack adds the productivity of cloud and data center interoperability to the power of supercomputing to bring you a new standard in manageability, reliability, availability, and resiliency.

The stack provides a comprehensive HPE Cray System Management suite for administrators, a hardened low-jitter HPE Cray OS, as well as the HPE Cray Programming Environment software development toolchain for developers.

### Integrated Storage Solution

Integrated with the HPE Cray supercomputers, the Cray ClusterStor E1000 Storage Systems is purpose-engineered to meet the demanding input/output requirements of supercomputers and HPC clusters in a very efficient way.

The parallel storage solution typically achieves the given HPC storage requirements with significantly fewer storage drives than alternative storage offerings, allowing HPC users with a fixed budget to spend more of their budget on CPU/GPU compute nodes accelerating time-to-insight.



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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[PSN1012927320AEEN](#), October, 2024.