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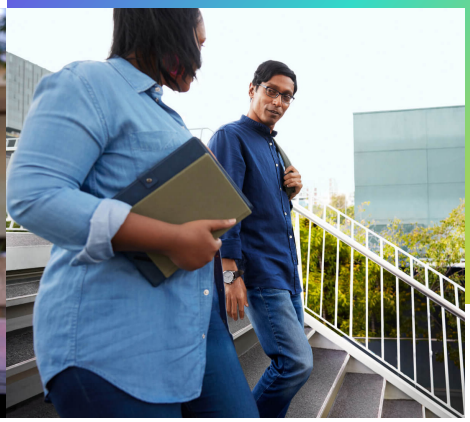
Solution overview



Accelerate app development and deployment with containers powered by next-gen HPE compute and 5th Gen Intel Xeon Scalable processors

Optimize your operating environment by capitalizing on everything containers have to offer using HPE ProLiant and HPE Synergy Gen11 Compute

Looking to quicken the pace of your business?

Over the years, application development has evolved significantly — beginning with monolithic code that was rigid, inflexible, difficult to test, and required long development cycles. The next stage involved embedded modules that were written within applications. These modules were easier to test and they enabled application development to advance toward a new goal — reusability — which promised to greatly accelerate productivity.

The latest stage in application development is containers. With this revolutionary technology, developers can create continuous integration and continuous delivery (CI/CD)[1] pipelines, resulting in:

- More product updates in less time
- Easy movement of applications between computing environments
- Simple testing
- Rapid scalability
- Ability to address business needs

[1] Continuous integration (CI) is focused on automatically building and testing code, as compared to continuous delivery (CD), which automates the entire software release process up to production. Source: "Continuous delivery and continuous integration," AWS, 2023.

However, many organizations fail to realize the benefits of containers because of the architecture of their legacy applications. Aging application architectures are typically overly complex, contain many disparate and siloed management tools, and have high operational costs.

The following table illustrates the current state of many organizations' legacy architectures (which are slowing business growth) compared to the desired end state (which can quicken the pace of their business).

Table 1. Legacy application environment vs. desired end state

	Current environment	Desired environment
	Poor developer efficiency	Faster releases to better meet customer demand, as well as surpass competitive offerings
	Long delays between deployments and updates	Deliver new innovations faster
	Numerous disparate and siloed management tools	A modern, easy-to-use platform for managing the complete container lifecycle — including features for enabling non-native cloud apps
	Excessive complexity and cost supporting legacy apps and platforms	Reduced costs to free up funds for investment in new strategic projects

To help you capitalize on everything containers have to offer, HPE and Intel® offer container solutions built on next-generation HPE compute with 5th Gen Intel® Xeon® Scalable processors. These validated and fully tested solutions can help you overcome the top three challenges of creating a containerized environment by:

- Enhancing the management of containerized landscapes — HPE solutions include automation and scripts that fill potential skills gaps.
- Improving security — HPE solutions build in security from the silicon to the cloud.
- Successfully migrating legacy applications to containers — HPE solutions leverage container expertise from HPE and HPE partners.

5th Gen Intel Xeon Scalable processors — Offering leading performance with built-in accelerators

- Redefining performance to improve performance across your containerized landscape, including artificial intelligence (AI), data analytics, networking, storage, and HPC
- Speeding data movement, encryption, and compression for faster networking and storage
- Making the best use of CPU core resources; built-in accelerators can result in more efficient resource and power utilization, helping you achieve sustainability goals
- Building in Intel Software Guard Extensions (Intel SGX), Intel Boot Guard, and other hardware-enabled security features to help bring a zero trust security strategy to life, while unlocking new opportunities for business collaboration and insights — even with sensitive or regulated data
- Offering choice and flexibility, no matter the deployment path — on-premises, hybrid cloud, network, or edge

Why modernize with containers?

Wondering why your organization should formalize your container adoption efforts? Here are four compelling reasons:

1. Optimize for multicloud deployment: Minimize changeable compute resource usage to contain costs.
2. Shift to next-generation cloud-native applications: Decouple applications from the underlying operating system to improve DevOps efficiency and output.
3. Standardize the container infrastructure stack: Move away from proprietary virtualization platforms to Kubernetes — an open standard for container management.
4. Accelerate digital transformation: Change your internal processes to drive your digital transformation efforts forward faster.

Compute platform of choice for containers

HPE and Intel offer a series of container platform solutions designed to modernize your application development environment, processes, and procedures. These solutions support IT requirements that vary widely between organizations and industries. And because all these solutions run on next-generation HPE compute powered by 5th Gen Intel Xeon Scalable processors, you can trust them to deliver the flexibility, speed, simplified management, security, and control you need to drive your business forward.

Next-generation HPE compute with 5th Gen Intel Xeon Scalable processors are engineered to unlock more value from your data, power insights, and drive innovation from edge to cloud. Compute engineered for your hybrid world — with 50% more cores, higher performance with DDR5 memory, twice the I/O bandwidth, and more GPUs — these future-ready servers deliver:

- **Optimized performance for your workloads.** Get the performance you demand to accelerate any containerized workload. Achieve cost efficiencies and performance economics to power your apps and accelerate innovation everywhere your data lives.
- **Intuitive cloud operating experience.** Simplify the way you control compute from edge to cloud with a cloud operating experience. Transform business operations to pivot your team from reactive to proactive with global visibility and insight through a unified console.
- **Trusted security by design.** Protect infrastructure from threats to hardware and reduce risks from third-party software and other devices through HPE's focus on security advancements that are built into our DNA. Silicon root of trust from HPE, HPE's fundamental approach to security which provides zero trust architecture at the silicon level, combined with hardware- and software-assisted security features of 5th Gen Intel Xeon Scalable processors provide peace of mind for organizations using HPE servers.



Use cases for containers

You can use containers to support a wide variety of workloads across your enterprise — for anything from AI to server consolidation. Each use case delivers unique benefits for your business.

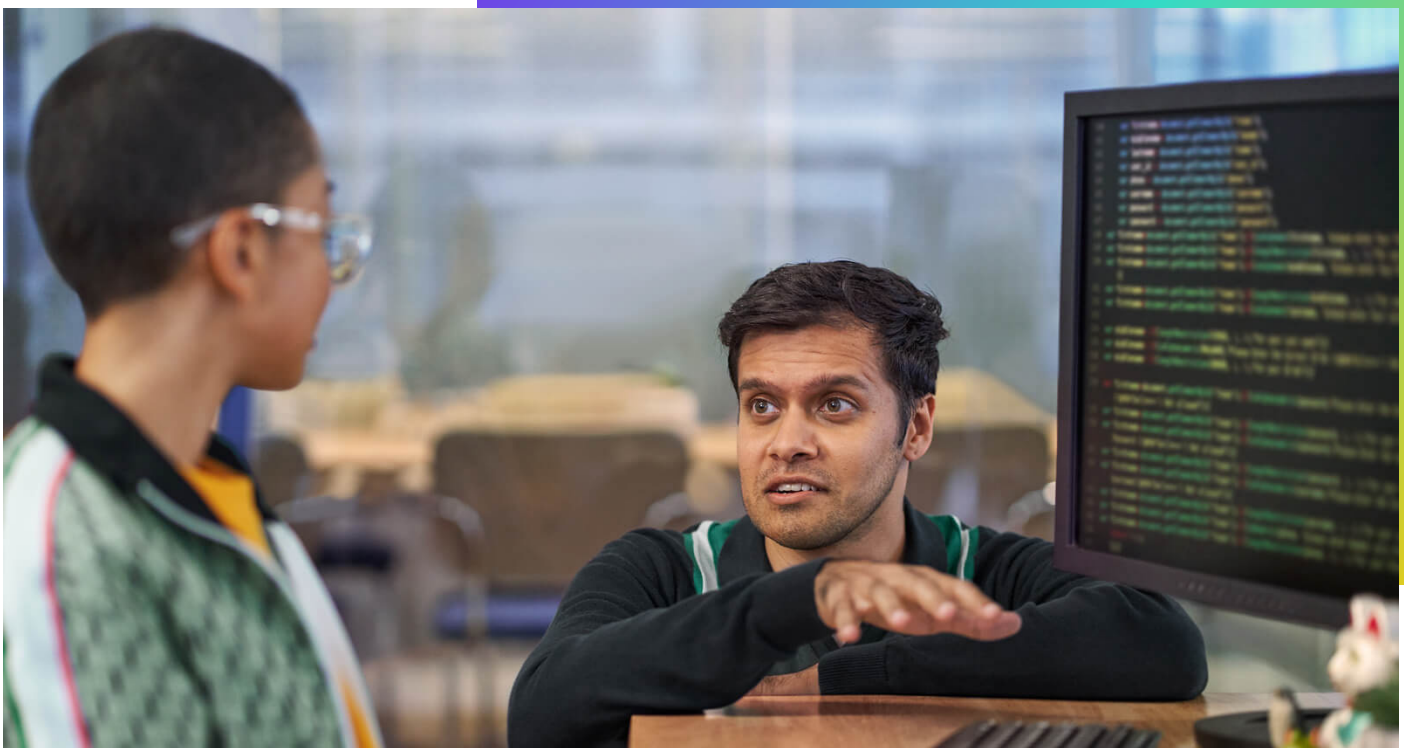
Use case/workload	Benefits
AI/machine learning (ML)	Speed deployments and time to value with accelerated AI/ML initiatives.
Data analytics	Reduce time to value by creating agile and efficient systems.
IoT/edge computing	Accelerate development, delivery, and operation of edge applications.
DevOps CI/CD	Automate the application development and deployment pipeline; increase efficiency to improve the workflow and reduce time to market.
Application modernization	Bring speed and efficiency to traditional applications; speed up the transformation to cloud-native computing.
Container as a service	Simplify the development process and increase agility; simplify operations to create an easy-to-manage containerized environment.
Multitenancy	Deploy multitenant applications without application rewrites.
Hybrid cloud	Manage all data centers as one holistic environment.
Microservices	Accelerate the lifecycle of apps from development to deployment.

Get to know HPE compute for containers

	HPE ProLiant DL360 Gen11 Server	HPE Synergy 480 (SY480) Gen11 Compute Module
Form factor	1U/2P	Frame holds up to 12 half-height HPE SY480 Gen11 Compute Modules
CPU	5th Gen Intel Xeon Scalable processors	5th Gen Intel Xeon Scalable processors
Core count	Up to 64 cores	Up to 64 cores
Memory	Up to 8 TB of DDR5 HPE SmartMemory 5600 MT/s	Up to 8 TB of DDR5 HPE SmartMemory 5600 MT/s
I/O	Up to 3x 16 PCIe Gen5 slots Up to 2x 16 OCP slots	Up to 3x 16 PCIe Gen5 slots
Management	HPE iLO 6	HPE iLO 6

See complete technical specifications for the HPE ProLiant DL360 Gen11 Server.

See complete technical specifications for the HPE Synergy 480 Gen11 Compute Module.



Why choose HPE for your containerized environment?

- **Provides unique value-adds** — including hardware, software, services, and the HPE GreenLake edge-to-cloud platform — to provide an end-to-end containerized solution, all from a single vendor.
- **Embraces open standards like Kubernetes and best-of-breed partners like Intel** — so you benefit from broad choices and no vendor lock-in.
- **Accelerates deployment and provides a production-ready container ecosystem** — to accelerate the time to value on your investment in a modern cloud-native application development environment.

HPE Services for containers

Enterprises, service providers, and governments are taking a closer look at how open source and container technologies can help cut costs, enable new revenue streams, and provide competitive advantage. No matter where you are in your digital transformation journey, you can count on HPE Services to deliver the expertise you need when, where, and how you need it. From planning to deployment, ongoing operations, and beyond, our experts can help you realize your digital ambitions.

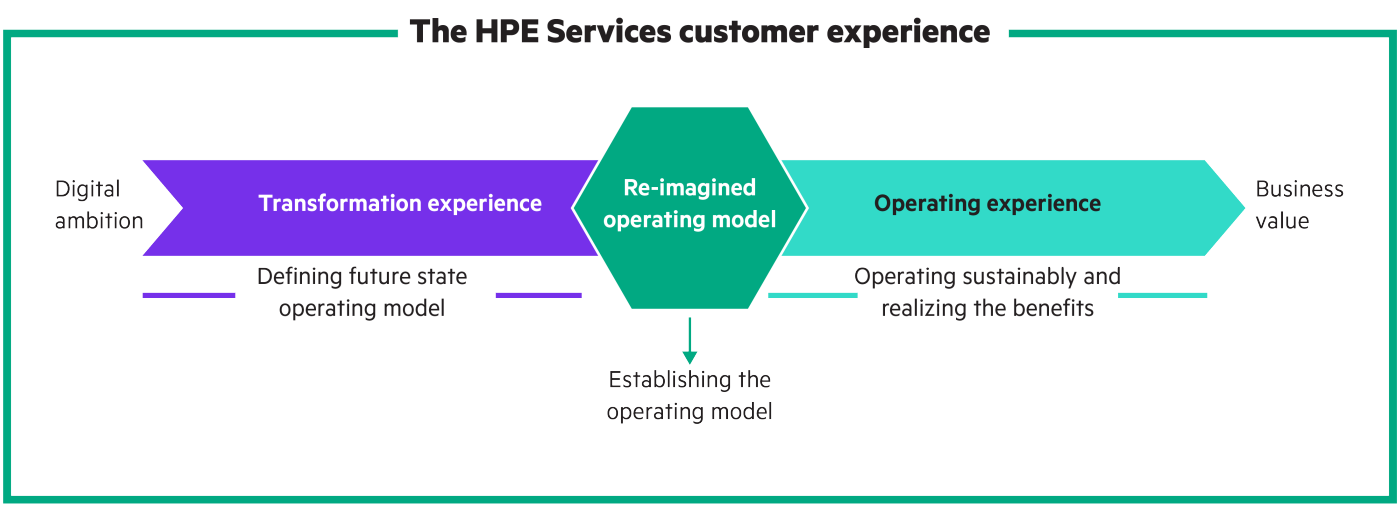


Figure 1. Expertise throughout your IT lifecycle

Elevate your compute experience with HPE GreenLake

HPE GreenLake brings the cloud experience — self-serve, pay-per-use,* scale up and down, and managed for you — to apps and data everywhere, in edges, colocations, and data centers. HPE GreenLake enables you to free up capital, boost operational and financial flexibility, and free up talent to accelerate what's next for you.

HPE offers the flexibility to purchase and run HPE ProLiant Gen11 servers with Intel processors on-premises or through the HPE GreenLake platform. With HPE GreenLake, you get pay-as-you-go convenience and public cloud flexibility, together with privacy, performance, and control of your environment.

In addition, you can take advantage of HPE GreenLake for Compute Ops Management to streamline compute management — securely and seamlessly. The solution offers real-time views of your entire server estate, as well as rapid bulk actions to quickly provision additional data management workloads. You can also count on automated firmware updates with an as-a-service model that provides a consistent experience that remains up to date with new features.

Learn more at

HPE.com/us/en/HPE-ProLiant-servers.html
HPE.com/ProLiant/solutions
Intel.com/content/www/us/en/products/details/processors/Xeon/scalable.html

*May be subject to minimums or reserve capacity may apply

Chat now (sales)

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