

HPE Ezmeral Runtime Enterprise

Transition to a data-first approach



Enterprises know that data is their most valuable asset, and the insight from that data turns vision into reality. Those who can act on the data the fastest will win. To drive that change, enterprises are embracing containers and cloud-native microservices architectures to support their digital transformation initiatives. To accelerate these transformations, a new data-first focus is required.

Accelerate your digital transformation with a secure, enterprise-grade platform.

A secure, enterprise-grade platform to build and deploy cloud-native and non-cloud-native applications at scale

“90% of global organizations will be running containerized applications in production by 2026—up from 40% today. In addition, by 2026 20% of all enterprise applications will run in containers—up from fewer than 10% in 2020”—as estimated in a Gartner® report.¹ These enterprise organizations are adopting containers and embracing cloud-native microservices architecture to accelerate the speed of application development and innovation and benefit from greater efficiency and portability. Kubernetes has emerged as the de facto open-source standard for container orchestration and a fundamental building block for cloud-native architectures.

While it is straightforward to deploy modern, cloud-native applications in containers, these represent a small portion of enterprise applications. The majority of enterprise applications are still non-cloud-native (i.e., legacy applications)—with a monolithic architecture and persistent data storage. These non-cloud-native monolithic applications can benefit from the agility and efficiency that containers bring.

The challenge is how to run these monolithic applications in containers, without rearchitecting them. As enterprise organizations extend the use of containers beyond development and testing into production environments, they need to address key considerations including security and data persistence.

In addition, application modernization is a driving differentiator in enterprises. The next wave in modernizing the data estate—both on-premises and in the cloud—is being driven by the need to support business, infrastructure, and digital transformation efforts. This data-driven modernization is needed to deliver greater business agility, improved efficiency, and enhanced innovation. Enterprises must accelerate data-driven modernization to drive their digital transformation initiatives.

Secure, enterprise-grade platform

HPE Ezmeral Runtime Enterprise is a secure, enterprise-grade platform to build and deploy cloud-native and non-cloud-native (i.e., legacy) applications at scale across data centers, multiple clouds, and at the edge for a wide range of use cases. It provides all the tools enterprise customers need to build, modernize, deploy, monitor, and manage a wide range of AI and analytics workloads to unleash their data’s full potential and accelerate their data-driven digital transformation.

HPE Ezmeral Runtime Enterprise architecture

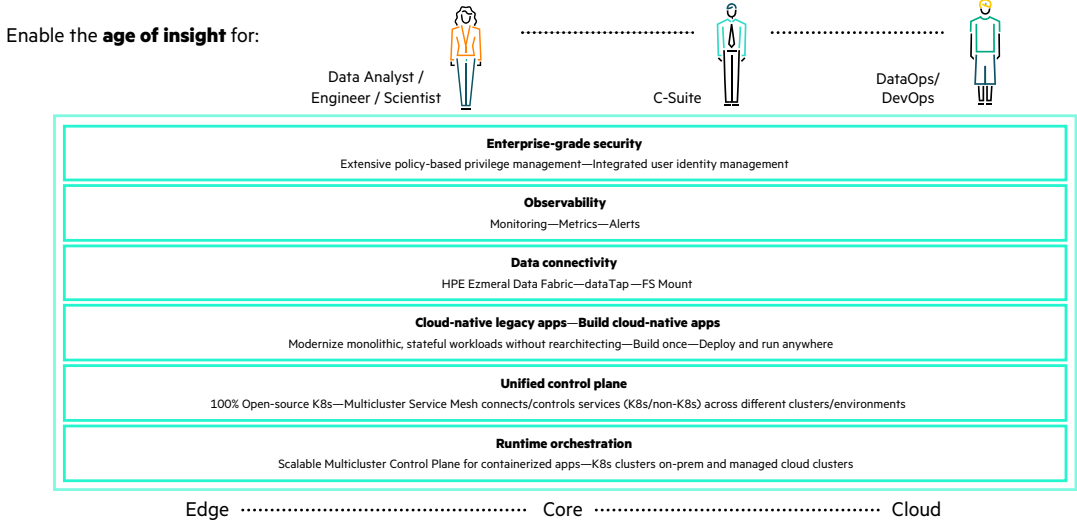


Figure 1. HPE Ezmeral Runtime Enterprise architecture

¹ “The Innovation Leader’s Guide to Navigating the Cloud-Native Container Ecosystem”, Gartner, Arun Chandrasekaran, Wataru Katsurashima, August 18, 2021

Solution brief

Key features

Apache Spark 3 on Kubernetes: Multiple Spark versions are provisioned/supported with one-click installation; support for multiple persistent storage, as well as unified user identity across Spark and storage

HPE Ezmeral Runtime Analytics for Apache Spark (add-on license to HPE Ezmeral Runtime Enterprise): Includes support for Apache Spark versions 3.2 compatible with HPE Ezmeral Data Fabric 7.0, Enhanced Spark Operator to support open-source Apache Spark 3.2.x and 3.3.x, Delta Lake 2.0 support, GPU acceleration for Spark workloads with NVIDIA® Rapids plug-in integration, Spark History Server, Spark Thrift Server, interactive Spark experience with Apache Livy, Hive Metastore, wizard-driven User Interface for Spark job submission and monitoring

Edge to cloud: The industry's first enterprise-grade hybrid analytics platform spanning edge to cloud helps enterprises modernize their apps with containerized application deployments on bare metal, or VMs spanning on-premises, multiple clouds, and at the edge; allows you to build once, run anywhere

HPE GreenLake Marketplace: There are currently > 70 ISVs validated on HPE Ezmeral

Public cloud cluster import: Unified control plane makes it easy to import external Kubernetes clusters; includes support for importing clusters from cloud vendors such as Amazon EKS, Google™ GKE™, and Azure AKS

Multicloud, multitenant Kubernetes management: Fast, easy deployment, management, and monitoring of Kubernetes clusters both on-prem and off-prem for a single pane of glass management and visibility across environments

Enterprise-grade security: Built-in security controls to integrate with identity providers such as AD/LDAP; single sign-on, SAML integration; role-based access controls for secure access to the platform; Falco container runtime security for proactive threat detection and alerting; security hardening of Kubernetes clusters with Open Policy Agent (OPA) policies replacing PSPs; objects violating the policies are reported on the HPE Ezmeral dashboard

GitOps-based centralized policy management and drift management: Seamless and fleet management of clusters; Argo CD leveraged to ensure clusters are consistent and immutable for continuous compliance

Turnkey solution: Easily containerize cloud-native and non-cloud-native apps; KubeDirector—an open-source custom Kubernetes controller—allows you to deploy non-cloud-native apps without rearchitecting or refactoring

Accelerated analytics: Cross-server GPU sharing, and NVIDIA Multi-Instance GPU (MIG) fractionalization improve collaboration and GPU utilization across on-premises, hybrid cloud and multicloud environments at enterprise scale

Frictionless data access: Support for HPE Ezmeral Data Fabric on Bare Metal 7.0 and flexibility around data fabric registration, dataTap, and FS Mount let you connect to and manage data wherever it is located

Built-in Service Mesh and observability: For intelligent traffic shaping, load balancing, canary rollouts, and A/B testing of application microservices; visualize tenant-granular workload traffic for rapid troubleshooting and analysis via natively integrated Istio™ Service Mesh

1-click provisioning: HPE GreenLake Marketplace of curated, prebuilt, ready-to-run solutions for a wide range of use cases including artificial intelligence and machine learning (AI/ML), DataOps, analytics, CI/CD pipelines, DevOps apps, and services, with the ability to BYO application via KubeDirector and App Workbench

Key benefits

Greater choice: Hybrid architecture provides the foundation for next-gen lakehouse analytics, delivering greater freedom and choice to data engineers, analysts, and scientists

Greater flexibility: A unified platform for orchestration of cloud-native and non-cloud-native applications on-premises, in any cloud, and at the edge

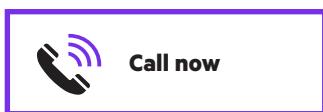
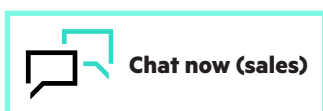
Improved productivity: Containerized applications deliver faster results and higher throughput on bare metal

Reduced risk: Extensive policy-based privilege management and control lets you easily define and tailor access, trust levels, and privileges for people, teams, and data spaces

No lock-in: Using 100% open-source components and open APIs, you can pick up your application and data and move it without needing to refactor

Improved ROI: Utilization of hardware resources is improved by sharing a common data infrastructure across teams and workloads and provides a cloud-like experience for non-cloud-native monolithic applications, increasing the return on hardware investment

Make the right purchase decision.
Contact our presales specialists.



 Get updates

Next step

Contact your authorized HPE sales representative for more information.

Learn more at

hpe.com/us/en/software/ezmeral-runtime.html