



HPE Helion Stackato

The open platform for cloud-native applications



To compete and thrive in today's business environment, organizations must drive agility, cost control, and speed. And enterprises must balance the benefits of an open, scalable, and extensible cloud architecture with developers' need for flexibility and choice of tools along with instant environments that support agile development.

So as enterprises look to adopt **hybrid** cloud architectures, many need to implement a strategy that includes a mix of cloud deployment models, applications, and services to account for different requirements and needs of the infrastructure and the development and deployment of new cloud-based applications.

Balancing the needs of businesses and developers

HPE's Platform-as-a-Service (PaaS) product, **HPE Helion Stackato**, is an open, scalable, flexible cloud application platform and ecosystem supporting a variety of runtimes, frameworks, and multi-cloud deployments.

Based on Cloud Foundry® technology and Docker containers, our private PaaS solution makes it easier to develop, deploy, migrate, scale, manage, and monitor highly-available cloud applications.

Delivering agility, freedom of choice, cost savings

HPE Helion Stackato 4.0 is an open, scalable, flexible cloud application platform and ecosystem supporting a variety of runtimes, frameworks, and services. HPE Helion Stackato is based on Cloud Foundry technology, uses Docker containers to launch applications deployed, and offers additional enterprise capabilities for developers and IT operators. HPE Helion Stackato is designed to run on many IaaS (Infrastructure-as-a-Service), including AWS, VMware, and HPE Helion OpenStack®.

The platform also supports a wide variety of programming languages, including native .NET support, Java, and newer languages such as Node.js, Python, Ruby, and more. Developers using Helion Stackato can work with source code or directly with Docker images.

HPE Helion’s private Platform-as-a-Service (PaaS) solution enables businesses to quickly develop, deploy, and deliver cloud-native applications. Based on Cloud Foundry technology, **HPE Helion Stackato** provides an open, interoperable platform that enables application development in any language and deployment across traditional, private, and public clouds.

HPE Helion Stackato enables customers to:

- Accelerate development of cloud-native applications
- Reduce cost using a common platform across development and operations
- Focus on coding and not managing resources
- Move applications from a private or public cloud without having to change the code

Benefits of HPE’s open, cloud native app platform

- **Develop cloud-native applications**— Provides developers with instant access to matching development, test, and production environments on preconfigured infrastructure
 - Handles the automatic configuration of a variety of language runtime, web server, application dependencies, databases, and other services
 - Enables developers to choose the languages and frameworks that they already know such as Java, .NET, Python, Ruby, PHP, and Node.js
 - Easy to use developer experience with intuitive console, libraries, APIs and CLIs, as well as the ability to push code to cloud with one click

- **Deploy across clouds**—Move applications from a private or public cloud without having to change the code

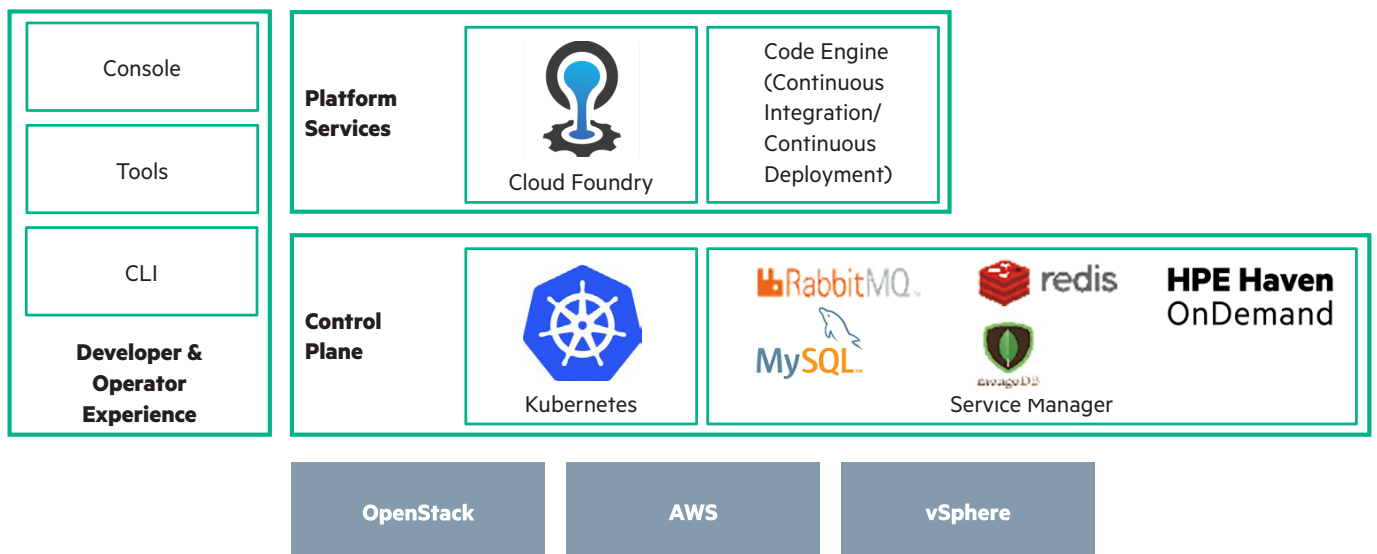
- Take advantage of an integrated continuous integration and deployment service that is designed for cloud-native applications
- Quickly deploy new application updates into production by using a common platform across development and operations
- Easily deploy development, test, and production application environments

- **Deliver highly available and scalable applications**—Improves application availability by scaling the application to meet input load, replacing downed application nodes, and migrating application instances away from failed infrastructure

Architecture of HPE Helion Stackato

HPE Helion Stackato includes a certified Cloud Foundry service to run and manage cloud native applications and supports new development workflows for containerized applications. Our PaaS also provides Helion Code Engine, a CI/CD service that optimizes developer workflows, and the Service Manager, a place where developers can instantly access and use application services.

HPE Helion Stackato 4.0—Architecture Diagram



Architecture specifications

Helion Control Plane (HCP)

- Helion Control Plane is the underlying platform service that abstracts and orchestrates deployment of cloud-native services across multiple IaaS: Helion OpenStack, VMware vSphere®, and AWS.
- HCP provides a neutral, IaaS-independent environment for containerized workloads, starting with Helion Stackato's default services of Helion Service Manager, Helion Cloud Foundry, Helion Code Engine, and the Console.
- Features include: identity, centralized logging, and service workload management. HCP provides support for service instances, and guarantees that they continue to run as the resources are allocated and disposed.
- HCP leverages Kubernetes as its container management platform and handles many of the details of running Kubernetes across multiple IaaS. HCP uses Terraform to make sure that the IaaS components required for Kubernetes to operate – from load balancing endpoints to networks to compute and storage – are provisioned correctly in each IaaS.

Helion Cloud Foundry (HCF)

- Helion Cloud Foundry (HCF) runtime is Cloud Foundry Certified, which means that the HCF runtime is at binary parity with upstream Cloud Foundry release for core components. The certification enables customers to transition more easily between vendors who have certified their products.
- The runtime provides the self-service experience for developers for versioning, rolling back, and deploying new versions of their apps.
- We support a wide variety of popular programming languages such as Ruby, Python, Go, as well as the enterprise favorites: Java, and .NET

Helion Service Manager

In HPE Helion Stackato 4.0, there are three types of services:

- Provisioned and managed by HPE Helion Stackato (just like Stackato 3.6.2 or other CF implementations). These services are containerized workloads that are hosted on the Helion Control Plane.
- Provisioned by HPE Helion Stackato, but require IT Ops creds (e.g. AWS RDS)
- "By Reference" pass thru API—services that are hosted elsewhere and show up in the Cloud Foundry marketplace.

With HPE Helion Service Manager, customers can:

- Manage and Administer—IT administrators can set up and configure services from a catalog for Cloud Foundry to consume; they can provision, upgrade/patch, and manage access to these services.
- Host—single instance services of Redis, MySQL, Microsoft® SQL Server, mongoDB, and RabbitMQ.
- Connect—developers can easily connect to their desired application services, which may include HPE Software services.

Helion Code Engine


- Helion Code Engine is a continuous delivery service for enterprise development teams who are interested in starting new development projects on HPE Helion Stackato.
- HPE Helion Code Engine automates build, test, and deploy cycles so that developers can quickly bring their ideas to life and get customer validation.
- Developers push and merge changes into their favorite source control system (e.g. GitHub or Bitbucket) and Code Engine builds, tests, and deploys each change.
- Includes integration with HPE StormRunner and notifications using HipChat or Slack.

Developer & Operator Experience

HPE Helion Stackato 4.0 provides a unified developer experience, regardless of which infrastructures their applications ultimately use to get deployed. Developers are empowered to:

- Manage cloud native applications in Cloud Foundry
 - Deploy applications via Helion Code Engine
 - Discover and bind services to applications
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PRODUCTION APPS, DEV/TEST

HPE Helion Stackato
on AWS 
HPE Helion OpenStack, or vSphere

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Next steps

To find out more about how to develop, deploy and deliver cloud-native applications contact your HPE representative or preferred partner. For more information on HPE Helion Development Platform to help you get up and running quickly, go to hpe.com/helion/developers.

Learn more at
www8.hp.com/us/en/cloud/stackato.html



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