



**Hewlett Packard
Enterprise**

Solution Overview

Raise the bar on your data center efficiency

HPE Helion CloudSystem



What is HPE Helion

HPE Helion is HPE's portfolio of cloud products, services, and integrated solutions. Based on OpenStack and Cloud Foundry technologies, HPE Helion makes it easier for you to build, manage, and consume workloads in a hybrid IT environment that includes private and public clouds, working in tandem with your on-premise systems. HPE Helion brings together the benefits and agility of cloud computing, rapid innovation, and interoperability of open source, coupled with the security and reliability your enterprise needs on your journey to cloud.

Businesses are attracted by the promise of the cloud to speed service delivery, lower costs, and increase the efficiency of the data center. But to do that, you need to integrate cloud computing with your existing IT environment for the greatest return on your investment. The challenge is to develop a cloud that is simple to use and manage.

A clear path to hybrid cloud: HPE Helion CloudSystem

HPE Helion CloudSystem is the industry's most complete, fully-integrated, end-to-end private cloud solution, delivering automation, orchestration and control, across multiple clouds. Over¹ 3,000 customers, worldwide, are using HPE Helion CloudSystem today for quickly deploying IT services, managing or developing traditional and cloud-native applications, streamlining operations, and more. From core infrastructure cloud services to the most advanced cloud service applications, HPE Helion CloudSystem offers enterprises and service providers a clear path to hybrid cloud.

With the incorporation of HPE Helion OpenStack® and the HPE Helion Development Platform (HDP) into the new HPE Helion CloudSystem, we've integrated a more complete OpenStack-based software offering directly into the product and added Cloud Foundry® technology, allowing you to create a modern developer environment in which to develop and deploy cloud-native applications. HPE Helion CloudSystem works in a heterogeneous environment and includes hybrid cloud management software, and based on the customer's unique needs, may also include servers, storage, and networking, combined with installation services, making it even more efficient to deploy a private cloud.

HPE Helion CloudSystem includes other key HPE innovations, such as the latest version of HPE Cloud Service Automation (CSA) and HPE Operations Orchestration (OO). HPE Helion CloudSystem will also integrate with other HPE products like HPE OneView and HPE Helion Eucalyptus. All HPE Helion CloudSystem solutions are designed to simplify the procurement, deployment, and ongoing management and support of the cloud. HPE offers the flexibility of several different ways to use HPE Helion CloudSystem. You can purchase and deploy it in your data center, either as stand-alone software or pre-built at the factory on HPE hardware or on non-HPE hardware, in order to address the needs of customers that prefer to match their own selection of hardware infrastructure with HPE Helion CloudSystem on HPE hardware; you can also have HPE manage it for you as a managed service running in either our data center or in your own; or you can access it as a managed virtual private cloud running in any one of HPE's own data centers.

HPE Helion CloudSystem brings significantly enriched capabilities that come together and apply to further augment and advance the following key cloud computing use cases:

- **Rapid infrastructure provisioning**—self-service access to infrastructure services for development, testing, and production: HPE Helion CloudSystem expands support for provisioning across broad a range of popular hypervisors, new containers, and physical servers. With these expanded capabilities, HPE Helion CloudSystem provides powerful new ways to turn today's heterogeneous data center infrastructure into a nimble, cloud-based infrastructure-as-a-service (IaaS).

¹ HPE internal reporting, 2015

- **Deploy traditional applications to cloud**—increase agility and reduce cost by moving traditional applications to a cloud environment: Addressing the universal desire to optimize service price/performance, and opening new doors to leverage the unique value of HPE's various infrastructure offerings in clouds, HPE Helion CloudSystem introduces the ability to match a service component to a particular resource pool. For example, the database tier of a traditional application can be directed to land on a blade server with SAN storage; the app server can be directed to a DL/P4000 configuration, and the Web servers to a scalable SL server pool.
- **Broker and manage multiple clouds**—manage multiple clouds through a single cloud management platform: With HPE Helion CloudSystem, multi-cloud management advances to a whole new level. Using HPE Cloud Service Automation (CSA), services can be deployed across multiple OpenStack-based clouds, and portable service designs (that are bound to particular providers at deployment time) reduce design sprawl. And support for HPE Helion Eucalyptus enables unparalleled hybrid cloud management capabilities, such as movement of private cloud workloads between your data center and the Amazon Web Services (AWS) public cloud environment.
- **Develop and deploy cloud-native applications**—define, develop, and deploy cloud-native applications using a polyglot, open source-based environment with integrated PaaS/IaaS: HPE Helion CloudSystem gives developers new technologies and tools they need to tackle today's rapidly changing application development requirements. HPE Helion CloudSystem is now built on HPE Helion OpenStack, and includes the HPE Helion Development Platform (HDP), a platform-as-a-service (PaaS) technology, based on leading open source technologies Cloud Foundry, Docker, and OpenStack cloud software—ideally suited for cloud-native application development. Additionally, developers can leverage the new support in HPE Helion CloudSystem of OpenStack Swift object storage to build applications that help businesses capture, store, and manage today's unprecedented (and ever-growing) volumes of unstructured data.

Key to cloud success: a smooth evolution

For many organizations, success of a cloud initiative begins with a smooth integration of existing and new technology investments. With HPE Helion CloudSystem, you do not have to rush out to retrain your resources to deploy, operate, manage, and use your cloud. You can leverage your existing infrastructure and expertise, and manage traditional applications as cloud services, while supporting cloud workloads and the new development and delivery methods associated with them.

For example, HPE Helion CloudSystem's compatibility with most commonly used third-party hardware, operating systems, standard infrastructure and operations management tools, and popular hypervisors, ensures an easy fit into existing heterogeneous IT environments, and allows those investments to be leveraged forward to cloud, while introducing powerful new OpenStack and Cloud Foundry-based technology capabilities.

Why choose HPE Helion CloudSystem?

The industry's most complete, integrated, and open solution for building and managing clouds, HPE Helion CloudSystem offers an efficient and accelerated path for you to create a private or hybrid cloud.

- Get up and running quickly—install and deploy in hours, create cloud services in minutes
- Transition smoothly—manage traditional and new cloud services together
- Gain control of your cloud from a single platform with support for many common virtualization technologies and the most popular public clouds
- Make users more productive with a consumer-inspired user interface and access to an open application programming interface (API)
- Grow as you need with a built-in upgrade path from basic infrastructure cloud services with HPE Helion CloudSystem Foundation to the advanced application cloud services with HPE Helion CloudSystem Enterprise

Some of the benefits that HPE Helion CloudSystem enables include:

- Transition to cloud from previously virtualized (non-cloud) environments, or start with a new cloud environment.
- Leverage your current IT investments by compatibility with most common infrastructure and operations management tools currently used by enterprises worldwide.
- Develop cloud-native applications to access and manipulate cloud resources directly via OpenStack-based software application programming interfaces (APIs) and develop cloud-native applications using Cloud Foundry capabilities.
- Keep your options open with support for a wide range of operating systems and virtualization technologies, including VMware, Microsoft Hyper-V, and Red Hat KVM.
- Manage your existing traditional IT and private cloud workloads using a single pane of glass offering a true hybrid solution. It also includes hybrid cloud management capabilities (through HPE Helion Eucalyptus) such as cloud bursting to public cloud environments, such as Amazon Web Services (AWS), to handle peak demands.

Sophisticated cloud management platform with governance

HPE Helion CloudSystem includes a choice of infrastructure providers—you can provision to the embedded OpenStack-based technology resource pools, existing HPE Helion CloudSystem resource pools, or both, and manage your cloud environment with the advanced capabilities that allow you to:

- Design sophisticated, multi-tiered services with drag-and-drop ease.
- Leverage a powerful workflow engine to customize service deployment and configuration, integrate with other systems, or perform lifecycle management operations.
- Publish, consume, and manage services through a modern, easy-to-use self-service marketplace portal.
- Tap into external cloud resources to support uneven or unexpected demand; your hybrid cloud environment can include HPE Public Cloud, Amazon Web Services, Microsoft Windows® Azure, and even other HPE Helion CloudSystem clouds that you own and operate.

HPE Helion CloudSystem innovations enable you drive more IT value to the rest of the business, and ensure proper governance with control over service component placement, cloud services approval processes, the right level of security and access control, and much more.

Driving business results with advanced technology

Blending the familiar with the new, HPE Helion CloudSystem makes the power of cloud more accessible than ever. Its OpenStack-based technology architecture enables you to benefit from consistent, open APIs through HPE Cloud Service Automation (CSA) and HPE Operations Orchestration (OO) for hybrid cloud integration and portability; flexible, plug-in technology to accelerate time-to-market; a dynamic community and ecosystem; and attractive economies of scale.

Cloud administrators will be at ease with an operations console that echoes the HPE OneView infrastructure management experience. Graphical service topology and workflow tools, coupled with a consumer-inspired marketplace, elegantly satisfy the needs of service designers and line-of-business users. And a full complement of advanced command-line and application programming interfaces allows systems administrators and developers to consume services on their own terms.

Your cloud, your way—HPE Helion CloudSystem on HPE ConvergedSystem solutions

For maximum flexibility, HPE Helion CloudSystem is available as a software package or delivered as part of an pre-built integrated HPE ConvergedSystem solution.

For a brand new cloud environment, we recommend the fully integrated HPE Helion CloudSystem solution, delivered on ready-to-use, workload-optimized HPE ConvergedSystem infrastructure. Depending on your cloud workload needs, you can choose from these powerful HPE ConvergedSystem solutions:

- HPE Helion CloudSystem built on HPE ConvergedSystem 700x: Begin with a starter kit that includes starter services, an HPE BladeSystem c7000 Platinum Enclosure with 6 power supplies and 10 fans, and the HPE c7000 Onboard Administrator (OA), as well as your choice of HPE Helion CloudSystem software. You then choose the blades, network, storage, and other optional components.
- HPE Helion CloudSystem software on HPE ConvergedSystem 700: Take a faster on ramp to cloud with the pre-configured turnkey solution that includes blade servers, VMware virtualization and HPE 3PAR storage.
- HPE Helion CloudSystem built on HPE ConvergedSystem 200-HC StoreVirtual—the integrated HPE cloud solution built on HPE hyper-converged platform offers up to four appliances each with four compute nodes and up to 11.5 TB highly available storage capacity per appliance.

HPE Helion CloudSystem comes in two editions

HPE Helion CloudSystem Foundation

If your organization needs a platform that supports core cloud infrastructure services—then you will need the easy-to-deploy **HPE Helion CloudSystem Foundation**, which targets simple IaaS and delivered in the form of a virtual appliance. In addition to being a strong choice when core infrastructure service delivery is the primary cloud objective, the small network footprint, and lower price of HPE Helion CloudSystem Foundation software make it useful as a door-opening offer for customers just getting started with cloud. It is built on HPE Helion OpenStack and includes the HPE Helion Development Platform (HDP) to enable the development of cloud-native applications. With HPE Helion CloudSystem Foundation, you benefit from:

- Open APIs for both administrative and cloud service functions, including OpenStack-based APIs, enabling highly automated cloud delivery.
- Added support for OpenStack Swift object storage expands the scope of storage-centric use cases and environments to provision.
- Includes the HPE Helion Development Platform (HDP), which leverages leading open source technologies such as Cloud Foundry, Docker, and OpenStack, means greater support for cloud-native application development.
- Easier installation via a software appliance delivery model.
- Support for deployment of services to VMware, Red Hat KVM and Microsoft Hyper-V host environments to provision virtualized environments in the cloud.
- Enhanced networking with support for DVR and VXLAN for improved multi-tenancy.
- Intelligently target workload to infrastructure through support of availability zones and host aggregates improves separation of usage by different groups and services.

HPE Helion CloudSystem Enterprise

If you need a more robust, advanced cloud solution, then you are ready for HPE Helion CloudSystem Enterprise. HPE Helion CloudSystem Enterprise enables the broadest range of use cases and supports delivery of IaaS, PaaS, and SaaS models. These services are delivered through the inclusion of software such as HPE Cloud Service Automation (CSA) and HPE Operations Orchestration (OO). In addition, it includes HPE Helion CloudSystem Foundation HPE Helion OpenStack, HPE Helion Development Platform, as well as HPE Matrix Operating Environment (OE) as an alternate infrastructure provider to enable the delivery of a broad range of cloud services. HPE Helion CloudSystem Enterprise is also delivered in the form of a virtual appliance. HPE Helion CloudSystem Enterprise provides all the capabilities and value of HPE Helion CloudSystem Foundation plus:

- Support for public cloud resource providers through CSA enable enterprise-class lifecycle management for hybrid cloud services.
- Expanded support of physical server provisioning via HPE OneView integration allows you to leverage HPE OneView profiles to create physical service designs in CSA.
- CSA adds the ability to orchestrate through a self-service marketplace portal, allows both easier service lifecycle management and for IT consumers to request cloud services.
- Investment protection for HPE Matrix OE users; manage new OpenStack-based resource pools alongside your existing HPE Matrix OE resource pools.
- Enhanced drag-and-drop topology designer in CSA allows for rapid definition and orchestration of new multi-tier cloud services.
- Manage Amazon Web Services (AWS) workloads repatriated to your private cloud through integration with HPE Helion Eucalyptus for greater hybrid cloud capability.

Cloud experts you can rely on: HPE Helion Professional Services

HPE Helion Professional Services brings extensive operation experience to your door and will work hand-in-hand with you to advise, transform, and manage all your cloud needs. Some of the key HPE Helion Professional Services are:

- Best practices in how to design, deploy, integrate, and manage HPE Helion CloudSystem and non-HPE cloud offerings.
- Extensive experience in securing your cloud.
- Deep knowledge and broad experience in how to deploy hybrid clouds to achieve your business results.
- Support services to prevent issues and drive efficient cloud operations with HPE Proactive Care or HPE Datacenter Care.

For more information, refer to the HPE Helion Professional Services Web portal.

Learn more at
hpe.com/helion/cloudsystem



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4AA6-1067ENW, November 2015, Rev. 1