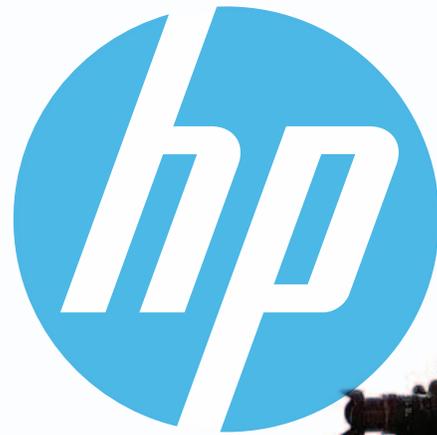# HP CloudSystem

An integrated and open platform to
build and manage cloud services

The industry's most complete cloud system for enterprises and service providers

Approximately every decade, technology delivery undergoes a tectonic shift that changes the consumption of technology and the value that it can bring. Today, mobility, social, big data, and the advent of cloud computing offer new ways for IT to help organizations accelerate progress towards solving their most pressing challenges—speeding innovation, enhancing agility, and improving financial management.

Cloud is a key component of their ability to gain unencumbered access to information technology—to access "Infrastructure Anywhere, Applications Anywhere, Information Anywhere or better said: Services Anywhere." In order to deliver on the "Services Anywhere" promise, organizations will have to think differently about IT. No longer will they be solely a builder of internal infrastructure and services, but will also need to broker or consume third-party/external services. The key will be understanding the unique requirements of each service such as availability, cost, performance, and regulatory needs, then address them in the most efficient and cost effective way. This will be done by creating the right mix of on-premise and off-premise services that leverage the best of traditional IT, private, managed, and public cloud: a hybrid delivery environment.

Organizations building on-premise environments are being constrained by the lack of a comprehensive, integrated solution that creates confidence and a sense of trust in the cloud. Current approaches to cloud computing create fragmentation and can only address a portion of the capabilities required for a complete cloud solution. The right cloud solution must alleviate concerns including the difficulty in managing private and public clouds with traditional in-house IT environments, application robustness, security, and agility.

Clients will accelerate their move to, and fully exploit, the cloud when vendors offer an integrated system that delivers a set of cloud fundamentals:

The solution: HP CloudSystem

HP CloudSystem is the most complete, integrated, open platform that enables enterprises and service providers to build and manage services across private, public, and hybrid cloud environments.

Based on proven, market-leading HP Converged Infrastructure and Cloud Service Automation, HP CloudSystem integrates servers, storage, networking, security, and management to automate the infrastructure-to-application lifecycle for hybrid service delivery management. The result is a complete cloud solution that lets enterprises gain agility and speed, and allows service providers to drive top-line growth.
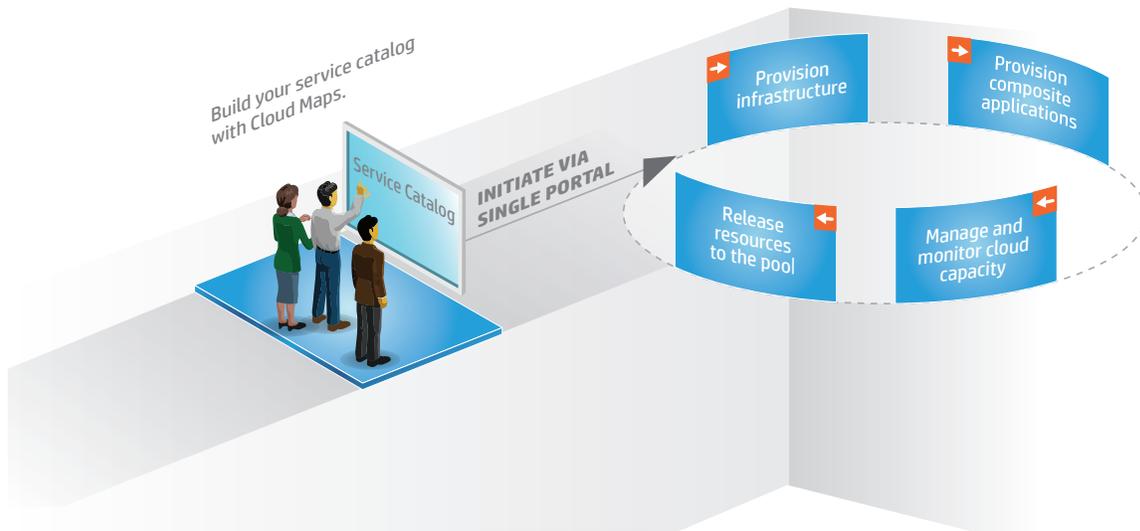
As a part of the HP Converged Cloud architecture, clients have a simplified, integrated platform that is easier to manage and provides flexibility and portability between private, public, and managed clouds.

About HP Converged Cloud

HP Converged Cloud is the industry's first hybrid delivery approach and portfolio based on a common architecture that enables customers to build, manage, secure, and consume cloud services that span private, managed, and public clouds as well as traditional IT.

HP Converged Cloud is based on open standards and supports multi-vendor, heterogeneous software and hardware. It is built on industry-leading HP Converged Infrastructure, HP Converged Management and Security, HP Converged Information, and OpenStack technologies.

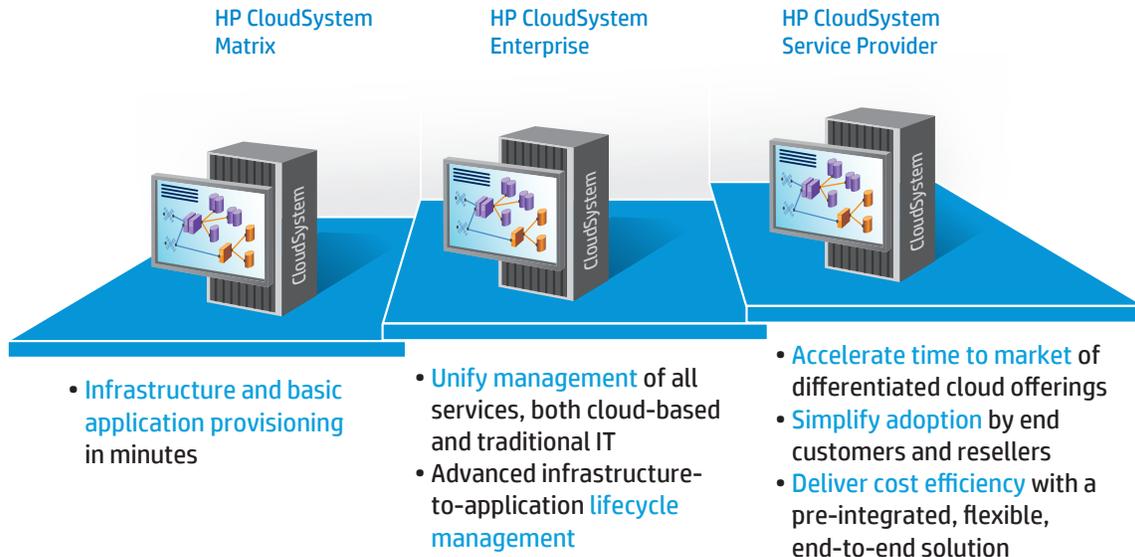| Provide unparalleled choice	Provide confidence in the solution	Provide a consistent framework
Private, managed, public cloud with traditional IT	Manage, automate, and orchestrate across models	Single architecture underpins all models
Open, heterogeneous ecosystem build-out: support for a broad ecosystem of apps, hypervisors, operating systems, and heterogeneous infrastructure	Optimized for infrastructure, applications, and information	One experience across models
Portability across models	Secure across models	Scalability to meet unpredictable business demands

HP CloudSystem is built on proven HP Cloud Service Automation and HP Converged Infrastructure, and manages private or hybrid clouds with an open, heterogeneous architecture.

HP CloudSystem features meet your business needs

HP CloudSystem gives you a solution that offers your business:	With features like these:
Services in minutes, managed for a lifetime	• Intelligent automation allows you to provision complex services in just minutes, from infrastructure to application. • Provides complete application lifecycle management; from provisioning to monitoring to retirement of the application (and associated infrastructure).
Reduced complexity	• Integrated and supported by single vendor versus competitors who require complex partnerships and its inherent complexity. • Pre-packaged service designs, templates, and tools (Cloud Maps) for popular applications to help clients personalize and rapidly automate their cloud services.
No vendor lock-in	• CloudSystem is open and heterogeneous, avoiding vendor lock in. • Enables you to leverage existing investments, minimize risk, and help ensure clients have choice. • CloudSystem is optimized for HP infrastructure, but supports third-party infrastructure, plus multiple hypervisors and operating systems.
Built to adapt	• CloudSystem is flexible and supports all service models (infrastructure as a service, platform as a service, software as a service) . • Full support of all deployment models (private, virtual private, public) so you can use it to get started small and grow tall. • Complete with built-in, out-of-the-box bursting and scales to address unpredictable business demands and provides access to external resources on a pay-as-you-go basis.
Built on proven, marketing leading technology	• CloudSystem is based on proven, market-leading HP Converged Infrastructure (servers, storage, networking) and automation, management, and security software.

HP CloudSystem has a full range of scalable, extensible offerings to fit any level of cloud maturity.

HP CloudSystem Matrix

HP CloudSystem Enterprise

HP CloudSystem Service Provider

- Infrastructure and basic application provisioning in minutes

- Unify management of all services, both cloud-based and traditional IT
- Advanced infrastructure-to-application lifecycle management

- Accelerate time to market of differentiated cloud offerings
- Simplify adoption by end customers and resellers
- Deliver cost efficiency with a pre-integrated, flexible, end-to-end solution

CloudSystem differentiation

HP CloudSystem is an integrated system that unifies the control and delivery of cloud services, whether their provenance is your data center, an HP cloud environment like an HP Cloud Services hosted cloud, or an external source such as Amazon Web Services. With HP CloudSystem, you get a secure, scalable cloud solution that includes:

- Industry's most complete, integrated system to build and manage cloud services
- Single services view across private, public, and hybrid cloud
- Multi-hypervisor, multi-OS, heterogeneous infrastructure
- Intelligent automation and lifecycle management; application-to-infrastructure
- Scalability and elasticity
- Pre-packaged service design tools

Respond to new application requests in minutes

With HP Cloud Maps, customers can quickly build a comprehensive catalog of applications for simple, push button deployment with HP CloudSystem, reducing the time to deliver a new application from weeks or months to often less than one hour. HP Cloud Maps are templates and additional content based on industry-leading intellectual property resulting from thousands of hours of development and testing, and decades of close partnerships between HP, our key ISVs, systems integrators (SIs), and customers.

One platform, three integrated offerings

Based on proven, market-leading HP Converged Infrastructure and Cloud Service Automation, HP CloudSystem is tailored for the requirements of enterprises and service providers at various stages of cloud maturity with three offerings:

- Entry configuration for infrastructure as a service (IaaS) with **HP CloudSystem Matrix** that lets IT customers provision infrastructure and applications in minutes.

- Full-scale deployment of private and hybrid cloud environments with **HP CloudSystem Enterprise**, which lets customers unify management across private, public, and hybrid clouds and also adds advanced application to infrastructure life cycle management.

- Advanced capabilities for service providers with **HP CloudSystem Service Provider**, facilitating deployment of public and hosted private clouds that deliver complete service aggregation and management.

HP CloudSystem is optimized for HP Converged Infrastructure technology, including HP 3PAR Utility Storage—the high-performance FlexNetwork architecture from HP Networking, mission-critical HP-UX, and comprehensive security capabilities.

HP CloudSystem also supports third-party servers, storage, and networking to protect customers' investments. Clients who have already invested in HP Converged Infrastructure and HP Software technology can easily expand their current architectures to achieve a private, public, or complete hybrid cloud environment.
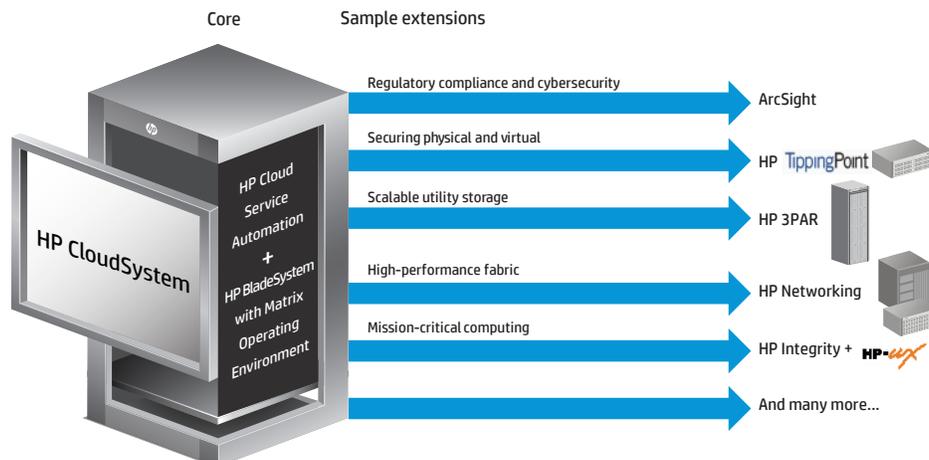
The technology behind the cloud

HP CloudSystem delivers broad application support and helps businesses package, provision, and manage cloud services to users regardless of where those services are sourced—whether its from the CloudSystem "on-premises" resources or from external clouds. Automated management capabilities help ensure that performance, compliance, and cost targets are met by allocating private and public cloud resources based on a client's pre-defined business policies. As a result, clients can create and deliver new services in minutes.

CloudSystem extensions

To meet a broad set of IT needs, you can extend HP CloudSystem's core capabilities with a flexible array of HP's proven software and hardware. Some of these extensions include:

- **HP Storage**
  Customers familiar with utility storage can build out an HP CloudSystem using HP 3PAR technology for an advanced cloud infrastructure. Consider that four out of five service providers in the Gartner Magic Quadrant Leaders are HP 3PAR customers.

- **HP TippingPoint and ArcSight security**
  The industry's most comprehensive security detection and protection, spanning applications as well as cloud, virtual, and physical infrastructures.

- **HP Networking**
  Cloud computing reshapes the way applications are deployed and consumed, which influences data center network designs. HP CloudSystem—together with our HP FlexNetwork solutions —can deliver a unified, open, cloud-optimized data center network design reducing workload mobility transit time by 80 percent and doubling VM application performance.

- **Mission-critical computing**
  With solutions such as the Matrix Operating Environment for HP-UX.

- **HP Software**
  HP Software (HP Operations Orchestration and SA with HP Server Automation) helps customers deploy a private cloud with HP CloudSystem. HP Application Lifecycle Management customers can accelerate application development with a test/dev private cloud environment on HP CloudSystem.

HP helps get you to the cloud

No matter where you begin, HP provides you with a clear path to the cloud, a path that makes the most of your existing infrastructure while protecting your previous technology investment.

HP CloudSystem is a powerful solution to bring your legacy system forward, transform virtual assets into fully automated hybrid cloud environments, and enable an agile set of service delivery capabilities across all IT domains. Here are some common paths:

- If you have already invested in HP Converged Infrastructure technology, such as HP BladeSystem, you can easily use HP CloudSystem Matrix Conversion Service to expand your current architecture into a private, public, or hybrid cloud environment.
- HP VirtualSystem delivers the fastest time to value for virtualization and is designed to support workloads for medium to large enterprise organizations. All HP VirtualSystem models can coexist in an HP CloudSystem environment. HP VirtualSystem VS3 and VS2 are blade solutions and can be upgraded to HP CloudSystem, protecting your initial investment.

HP CloudSystem Matrix software

For customers already taking advantage of virtualization and are ready to continue down the path to the cloud, the new CloudSystem Matrix software lets you build a cloud within a day, enabling you to create your service catalog. It provides a complete IaaS implementation for virtual environments with a service designer, a self-service portal for IT, and automated provisioning and capacity planning. This customer-installable software runs on any server supported by VMware and Microsoft Hyper-V, from HP or other vendors. A trial version is available for download.

HP CloudSystem is easily expanded with extensions that add software and hardware capabilities.

Expertise behind the cloud with CloudSystem services

HP offers HP Cloud Consulting Services, HP Education Services, and HP Support Services for CloudSystem—including HP CloudStart to fast track building a private cloud in 30 days. HP CloudSystem Matrix Conversion Service helps transition current BladeSystem environments to CloudSystem Matrix while implementation services prepare CloudSystem for service creation. Among the key services are:

- **HP Cloud Consulting and Implementation Services**
  Cloud planning, design, and implementation services —including HP CloudStart Services—help your organization employ HP CloudSystem in a hybrid delivery model and as a fully operational cloud solution aligned to business needs. HP experts help with people, process, and technology transformation for faster cloud adoption.

- **HP Converged Cloud Workshop**
  This workshop focuses on the key success factors and components required to develop a cloud solution, building consensus among stakeholders, and helping them understand the implications for the business and IT. During the one-day workshop, using highly visual displays, senior HP consultants cover topics such as cloud concepts, architecture, and key technologies—including CloudSystem. Other topics include the service portfolio, management, financials, governance, and more.

- **HP CloudSystem Matrix Conversion Service**
  This conversion is a BladeSystem-to-private-cloud upgrade service that helps make the most of your current investment. This offering transforms your current BladeSystem infrastructure into an automated, private cloud environment. Additional HP cloud services can help build upon that foundation and expand your HP BladeSystem platform into a hybrid, multi-sourced HP CloudSystem infrastructure.

- **HP CloudSystem Enablement Services**
  These services include a pre-defined, pre-scoped, standardized, time-bounded set of short-term consulting and integration services to help build your organization's first HP CloudSystem-based cloud solutions.

- **HP Financial Services**
  A range of financial offers is available for clients building private cloud deployments, as well as for service providers building a public cloud infrastructure who want to minimize capital requirements. HP can combine its cloud offerings with financial offerings from HP Financial Services to help clients realize their financial goals in parallel with their pursuit of innovation to drive business growth.

HP CloudStart—your private cloud up and running in 30 days, integrated into your environment

The fast-track on-ramp to the cloud, HP CloudStart is a fixed-price, fixed-scope HP Services solution that allows you to start delivering services from a private cloud within 30 days. Based on HP CloudSystem Matrix, HP CloudStart provides all the services to set up your first private cloud service catalog, with up to four services integrated into your enterprise environment, including backup and security. Besides having an HP CloudSystem tuned to your environment, you also get best practice guidance in deploying, customizing, and executing your long-term cloud vision, as well as workshops and services to help your organization fully realize the business promise of private cloud computing. There's no faster or easier route to the cloud.

About HP

Cloud is a key technology that allows IT to increase agility and speed, and allow service providers to drive top-line growth. Cloud adoption will accelerate only when a complete, integrated system delivers a set of cloud fundamentals. As a part of HP Converged Cloud architecture, clients have a simplified, integrated architecture that is easier to manage and provides flexibility and portability between private, public, and managed clouds. No matter where you begin, HP provides you with a clear path to the cloud. HP provides this complete, integrated system—with HP CloudSystem—that enables enterprises and service providers to build and manage services across private, public, and hybrid cloud environments.

Q and A about HP CloudSystem

Q: What makes HP CloudSystem better?

HP CloudSystem is unmatched by any other vendor. Compared to other cloud "solutions," HP CloudSystem offers you:

- **True integration**
  HP CloudSystem is a truly integrated solution to build and manage services across public, private, and hybrid clouds.
- **Unmatched choice**
  HP CloudSystem is a proven offering that supports both your physical and virtual infrastructures, leading hypervisors, multiple operating systems, heterogeneous infrastructure, and a broad ecosystem of application partners.
- **Unmatched management and automation**
  HP CloudSystem offers automated provisioning, monitoring, compliance, and governance across applications, services, and infrastructure.
- **Unmatched technology**
  HP CloudSystem gives you HP's powerful Converged Infrastructure and automation software integrated in one offering.
- **Unmatched customer experience**
  With HP CloudSystem, you get one product that addresses your hybrid cloud requirements, plus the convenience and peace of mind provided by HP's legendary service and support.

Simply put, HP CloudSystem is the only cloud platform you'll ever need.

Q: Okay, how do I get started?

Start by contacting HP. Your HP representative can help illustrate the benefits of cloud computing and supply more details about HP CloudSystem. Chances are good you already have much of the infrastructure needed to construct HP CloudSystem and you'll discover a variety of paths to take you the rest of the way to a fully realized hybrid cloud solution.

To learn more, visit **hp.com/go/cloudsystem**

Get connected

hp.com/go/getconnected

Get the insider view on tech trends,
support alerts, and HP solutions.

Share with colleagues