



HP CLOUDSYSTEM

A single platform for private, public, and hybrid clouds

Simply the most complete cloud system for enterprises and service providers

Solution brief

It's a fact of life: cloud computing is hot. And when it comes to the use of cloud services, business today is actually outpacing IT. Business users have been quick to recognize the cloud's advantages in speeding innovation, accelerating business processes, and reducing time to revenue. They're clamoring for greater cloud access, and in some cases even bypassing IT and signing up for public cloud services like those from Amazon and Microsoft®.

But enterprises and service providers have been slower to adopt cloud solutions because of well-founded concerns about security, management, and efficiency. They're uneasy about trying to manage private and public clouds with traditional in-house IT environments. They worry about application choice, security, and agility. They agonize over the potential for fragmentation and inefficiency stemming from piecemeal and ad hoc adoption of cloud "puzzle pieces." And in particular, they lament the lack of a comprehensive, integrated cloud solution.

Yet even while CIOs need to ensure security and maintain service-level agreements (SLAs), they face mounting pressure to accelerate service delivery, enhance business agility, and improve financial flexibility. They're also eager to shift the budget away from capital expense and toward operating expense. They know cloud solutions can help them accomplish these goals, to be sure. But it will have to be the right cloud solution.

Service providers face many of the same challenges as they race to speed innovation and reduce time to revenue. They want to deliver cloud solutions and must be sure they have a cloud platform that can grow as they do.





So what kind of cloud will it take win over CIOs, service providers, and IT professionals? Cloud adoption—and exploitation—will accelerate only when a vendor can deliver an integrated system that offers:

- Support for private, public, and hybrid cloud environments
- The ability to include a broad ecosystem of applications, all leading hypervisors, and multiple operating systems
- Unified delivery and control of services across both cloud and traditional IT environments
- Automated management of applications and infrastructure over the complete lifecycle
- End-to-end security
- And scalability to meet unpredictable business demands

The solution: HP CloudSystem

HP is the one vendor able—today—to deliver a comprehensive, integrated cloud solution on a single platform, with all the attributes so prized by CIOs, service providers, and IT professionals. That solution is HP CloudSystem.

Based on proven, market-leading HP Cloud Service Automation and Converged Infrastructure, HP CloudSystem combines servers, storage, networking, and security together with automated system and hybrid service delivery management. The result is a complete cloud solution that's prepared to fulfill the promise of "cloud driven" services and revenue for enterprises and service providers alike.

HP CloudSystem is the product of HP's experience in delivering industry-leading automation, application management, and converged infrastructure capabilities. It enables clients to build, manage, and consume cloud services across private clouds, public clouds, and traditional IT environments—without having to know, or care, whether those services come from HP CloudSystem's own "on-premises" resources or from the public domain.

About cloud computing

Cloud computing is a way to build, operate, and consume IT that makes its resources (such as services, applications, servers, storage, and networks) flexible, dynamic, and on-demand.

- In a private cloud, the cloud assets are typically operated solely for a single entity and may be located on premises or off premises. They may be owned and managed by that entity or a third party.
- With a public cloud, the cloud assets are shared and service is provided to multiple entities on a pay-per-usage basis. All assets are owned and operated by the provider.
- A hybrid cloud is the best of both worlds, combining the security of the private cloud with the convenience and cost-effectiveness of the public version.

The most complete integrated system for private, public, and hybrid clouds

HP CloudSystem is the only single-platform system that supports such a broad range of applications, from an extensive range of sources, and easily scales on demand. It's a complete, cloud system that unifies the control and delivery of cloud assets, whether their provenance is your data center, an HP hosted cloud, or an external source such as Amazon EC2 services. With HP CloudSystem, you get a single, seamless cloud solution that:

- Offers unmatched automation and orchestration
- Provides the broadest support for applications, hypervisors, and operating systems
- Includes unified services management across the cloud and traditional IT
- Features advanced application deployment, as well as intelligent resource management, along with advanced configuration management
- Is secure, scalable, and extensible
- Integrates all this into a single platform

The technology behind the cloud

The core HP CloudSystem platform is built on our renowned, field-proven BladeSystem Matrix and Cloud Service Automation products. That core platform is fully extensible via HP's Converged Infrastructure portfolio, including HP 3PAR utility storage, HP Tipping Point Security, and core-to-edge HP Networking.

HP CloudSystem features meet your business needs

HP CloudSystem features like these:

Give you a cloud solution that offers your business:

- End-to-end automated application delivery and management
- Single unified self-service portal with a built-in service catalog to unify all applications under IT control
- Complete lifecycle management of all operations
- Fast-tracking the development of a cloud service catalog with pre-defined templates for popular business applications with Cloud Maps
- Support for multiple departments and clients from a single environment
- Converged infrastructure that maximizes the use of resources and lowers operating costs

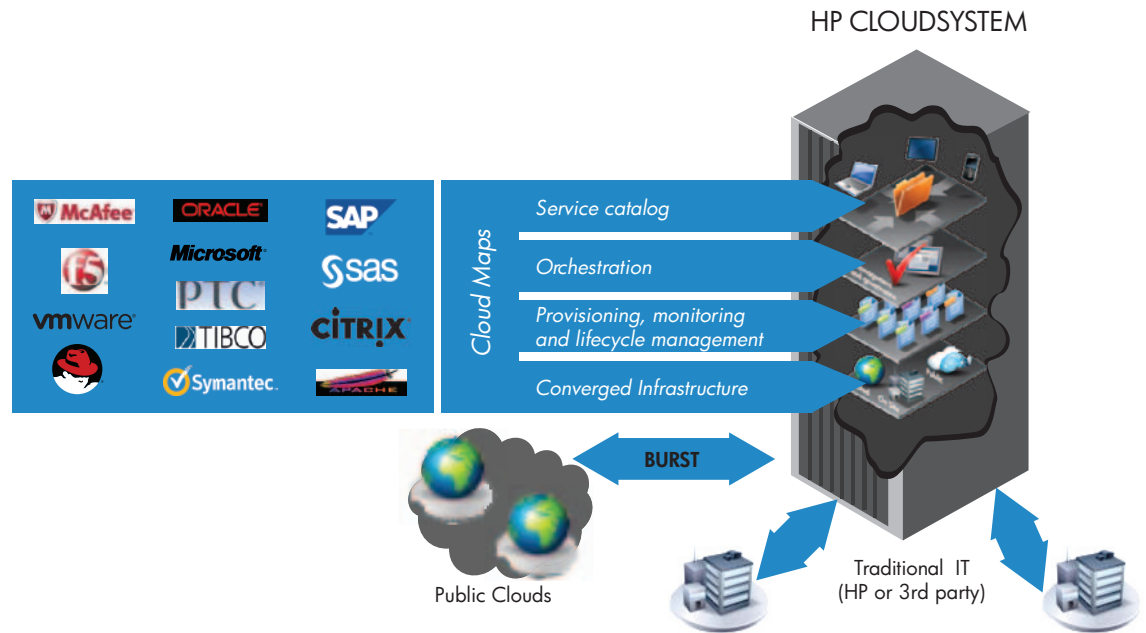
Accelerated business performance and reduced time to application revenue

- Instant scalability and one-click, just-in-time provisioning
- Open standards supporting multiple types of applications and hypervisors
- Burst and flex capacity to meet unpredictable demand across internal and external sources
- World's leading automation software suite

Greater agility and faster innovation

- Cloud service portal that provides a unified view of services and monitors service quality across all sources
- Industry's most comprehensive security and intrusion prevention across applications, virtual and physical infrastructure
- Multi-tenant protection and common management of applications and infrastructure operations

Dependable quality of service, security, and compliance



You can add mission-critical computing with HP-UX, and heterogeneous management of your existing environment with HP Software. In addition, an array of HP services is available to help design your cloud solution, develop a roadmap to get you there, and implement and support your hybrid cloud.

Core CloudSystem

The core CloudSystem consists of:

- **HP BladeSystem Matrix:** the industry's first Converged Infrastructure solution delivering the benefits of shared services today. As a dedicated private cloud solution or as the foundation for a hybrid cloud, BladeSystem Matrix delivers an automated, common modular architecture that can provision physical resources, virtual infrastructure, and applications in minutes instead of months. BladeSystem Matrix is available in both standard and mission-critical configurations.
- **HP Cloud Service Automation software:** extends BladeSystem Matrix with one-touch provisioning and management of both applications and infrastructure—an industry first. Cloud Service Automation includes a template designer for cloud services, along with a common self-service portal.

CloudSystem extensions

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

- **Cloud Maps:** a portfolio of customized pre-defined workflows and templates for popular business applications like SAP, Oracle, VMware, SAS, and more; these Cloud Maps can fast-track the creation of a cloud service catalog.
- **HP Storage:** including HP 3PAR Utility Storage technology that can deliver virtually unlimited tiered storage capacity.
- **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:** high-performance, flexible networking from edge to core.
- **Mission-critical computing:** with solutions such as HP BladeSystem Matrix with HP-UX.

- **HP Software:** A comprehensive portfolio including:
 - HP Application Lifecycle Management (ALM) to manage the entire application lifecycle of composite cloud applications, from inception to retirement.
 - HP Business Service Management to detect and diagnose the performance and availability of virtualized and cloud-based services, end-to-end.
 - HP IT Financial Management to improve business visibility into IT spending across traditional and cloud infrastructure.

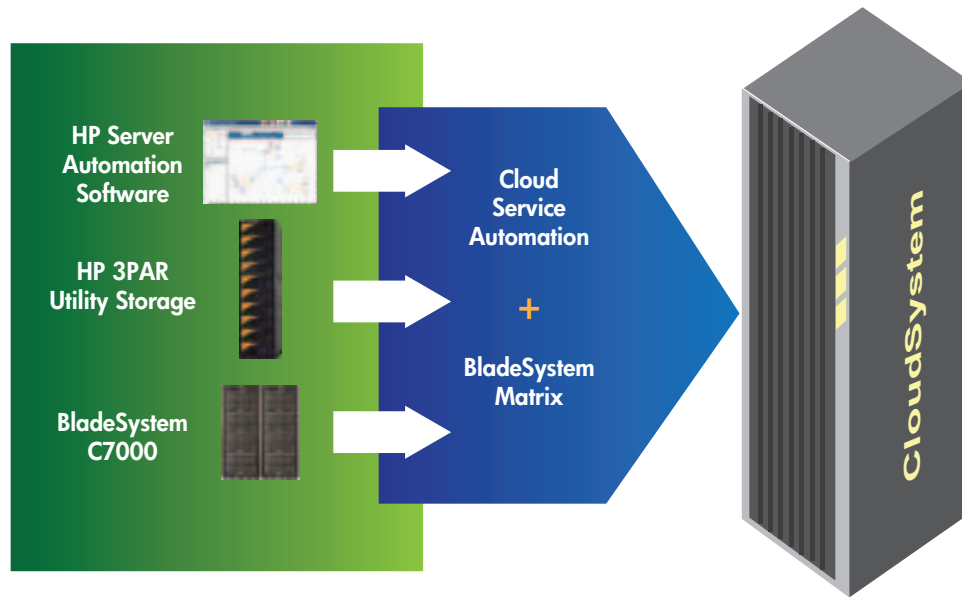
Each of these components is a proven technology in deployment today. Now they've all been brought together to create HP CloudSystem.

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 the best 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 of the most common routes.

Fast tracks to HP CloudSystem

If you now:	To get to HP CloudSystem, you can:
• Have an existing HP BladeSystem Matrix private cloud	1. Add Cloud Service Automation (CSA) software to create the hybrid HP CloudSystem
• Have an existing HP BladeSystem c7000 deployment	1. Engage HP BladeSystem Matrix Conversion Services to create a private cloud 2. Then add CSA software to create the hybrid HP CloudSystem
• Employ HP Server Automation software	1. Add HP BladeSystem Matrix 2. Add CSA software
• Are just starting and want a fast-track route	1. Use CloudStart service to achieve a private cloud in as little as 30 days 2. Add CSA software to create a hybrid cloud
• Need secure cloud-based storage	1. Start with HP 3PAR Utility Storage 2. Add HP BladeSystem Matrix 3. Add CSA software



HP Technology Services make the road easier

With a wealth of service offerings and migration paths, HP helps get you to the cloud and ensures you get the most from the cloud once you're there. Services from HP can help you transform your IT infrastructure and optimize your cloud. You can use service offerings to learn more about cloud technology, design your solution, migrate your current environment to the cloud, or upgrade from a public to a hybrid cloud. Among the key services are:

- **HP Cloud Consulting Services for CloudSystem:** provide the roadmap, design, and implementation services that help your organization employ HP CloudSystem in a hybrid delivery model and as a fully operational cloud solution aligned to business needs. Drawing on years of virtualization, automation, service management, and shared services experience, HP experts help with

people, process, and technology transformation that accelerates transition and integration of CloudSystem for your existing environment. One important service, the **HP Cloud Discovery Workshop**, focuses on the components required to run a private cloud, building consensus among stakeholders, and helping them understand the implications for the business and IT.

- **HP BladeSystem Matrix Conversion Services:** a BladeSystem-to-private-cloud upgrade service that helps make the most of your current HP BladeSystem 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 BladeSystem Matrix platform into a hybrid, multi-sourced HP CloudSystem cloud infrastructure.

Q and A about HP CloudSystem

Q: What makes HP CloudSystem better?

HP CloudSystem is unmatched by any other vendor. Compared to other so-called cloud “solutions,” HP CloudSystem gives you:

- **True integration:** HP CloudSystem is a truly integrated solution on a single platform to build and manage services across public, private, and hybrid clouds.
- **Unmatched choice:** HP CloudSystem is the only offering that supports both your physical and virtual infrastructures, all leading hypervisors, multiple operating systems, and the broadest ecosystem of application partners.
- **Unmatched management and automation:** HP CloudSystem is the only offering that automates provisioning, monitoring, compliance, and governance across applications, services, and infrastructure.
- **Unmatched technology:** HP CloudSystem gives you HP’s market-leading Converged Infrastructure and automation software integrated in one offering.
- **Unmatched customer experience:** With HP CloudSystem, you get one product addressing your hybrid cloud requirements, and the convenience of HP’s legendary services and support.

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

Q: OK, how do I get started?

Start by contacting HP. Your HP representative can help illustrate the very real benefits of cloud computing and supply more details about HP CloudSystem. You’ll probably want to enroll in a Cloud Discovery Workshop that will help you explore and define your cloud strategy. 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.

About HP

As the world’s largest technology company, HP has a unique ability to provide complete solutions that encompass servers, storage, networking, and software. Like other HP solutions, HP CloudSystem is bolstered by dedication to an enhanced service delivery experience, a full portfolio of consulting and support services, and proven and ongoing HP innovation and investment.

To learn more, visit: www.hp.com/go/cloudsystem

Cloud Solutions Lab— making the hybrid cloud real

The HP Cloud Solutions Lab is a full-time, dedicated lab with expertise in every aspect of cloud architecture: applications, automation, converged infrastructure, security, and more. A factory for cloud solution and Cloud Map development, the HP Cloud Solutions Lab provides development, customization, and integration, accelerating how HP designs, tests, builds, and delivers complete end-to-end solutions right-sized for a client’s environment. Staffed by experts around the globe, the shared cloud development environment is housed in Houston, Texas, USA, and is accessible worldwide 24x7.

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