

Business white paper

Managing hybrid clouds

A comprehensive, secure, and flexible cloud management solution



In the face of significant trends converging on the IT world, cloud computing has the potential to drive greater agility, control, and cost savings by providing on-demand access in a user-centric environment. This gives IT the ability to deliver much more value to the business—offering new ideas for customer initiatives and revenue opportunities—and ultimately becoming a powerful partner in the enterprise.

Executive summary

Hybrid cloud delivery brings with it a fundamental shift to the enterprise—and a new style of IT. The IT organization has gone from being a supplier of services to being a builder and a broker of services. The way services are built, delivered, and consumed is increasingly through hybrid delivery.

The IT department that develops a hybrid delivery model—one that creates an optimal mix of traditional IT, private, and public cloud—is the department that realizes success. How quickly and how well you adapt in a world that competes on technology depends largely on effective cloud management. But not all cloud management solutions are created equal, so don't settle until you've investigated your options.

HP delivers the industry's most complete, end-to-end cloud management platform—a solution that does much more than just manage cloud access. With HP Hybrid Cloud Management, you can simplify and unify business and operational management; deliver secure, compliant cloud services; and rely on open, extensible, and scalable infrastructure.

It's all about agility, control, and cost-reduction

Gone are the days of line-of-business managers asking IT for new services and having to wait for them. Today's business managers want near-instant results, expecting IT to respond in hours, not months. IT must achieve increased agility for faster time to market, which translates to faster time to value. This is accomplished by reducing application and infrastructure provisioning from months to minutes, across traditional infrastructure and the cloud, to deliver services faster and increase revenue.

With heightened expectations for speed and agility, the role of IT is also moving closer to the core business, to support new opportunities and open up revenue streams. This means relying on new delivery models to unite consumer and enterprise experiences—with the ultimate goal of enabling business growth. A business-driven approach positions IT to help the company be responsive to customer demands and partner with it to achieve success.

Reducing costs is always a factor within enterprise IT. Making maximum use of resources to reduce capital spending is no new story. But in today's environment, you must first consolidate and standardize IT resources, freeing up funding for cloud initiatives as well as the staff to focus on them. By increasing the utilization of your infrastructure—your servers, storage, and networks—and through automation of end-to-end services and common IT functions, you can reduce operating expenses and capital expenditures.

Another challenge you face is “shadow IT,” brought on by the increasing prevalence of public cloud services. The internal enterprise IT department can be bypassed altogether, losing control of IT services. Without IT oversight and control, you are opening the door to unmanaged spending, lack of compliance, and inadequate security. And ultimately, in the event of a problem, IT will still be held accountable.

Find the right cloud management solution

With a proven cloud management solution, you can meet these challenges head-on, delivering exactly the right services at the right time—and reaping the rewards of your investment. But not all cloud management solutions are created equal. The ideal solution must have three critical characteristics:

1. Choice with a flexible open, extensible architecture that avoids vendor lock-in
2. Confidence through the use of a complete, simplified, management toolset
3. Consistency in meeting SLAs with secure, compliant cloud services

Why HP is your best choice for cloud management



Choice: Open, extensible architecture offers **greater flexibility** with support for industry standards, open APIs, and integration with third-party products and services



Confidence: Complete management across traditional IT and cloud offers **lower cost** and **simplified operations**



Consistency: Comprehensive, end-to-end solution allows you to **meet business SLAs** with secure, compliant cloud services

There's no reason that managing hybrid cloud delivery should be complex or confusing. HP is using its proven experience in traditional IT management to simplify and streamline cloud management, addressing such areas as security, automation, performance management, and compliance. No other vendor offers a complete, intelligent hybrid-cloud solution like HP—one that does much more than just manage the cloud infrastructure.



Choice: flexible open, extensible architecture with no vendor lock-in

Cloud management should provide open, extensible management. Ideally, it needs to be optimized for heterogeneity, with unrestricted support for multi-hypervisor, multi-vendor environments, and multiple public clouds. This enables you to protect your legacy IT investments and future cloud investments from being locked into one vendor. The result of this greater flexibility is choice—so that you can manage your investments today and plan investment strategies for tomorrow.

With the rapid adoption of cloud solutions, one of the top concerns of many businesses is vendor lock-in. HP recognizes that it could take years to fully implement a cloud strategy and that you need a platform that can protect you from changes in the future. So we've made a decisive move to support cloud industry standards.

Cloud industry standards

With committed investments in HP CloudOS, we have adopted OpenStack® as our underlying technology. We're delivering enterprise-grade OpenStack with optimized workload portability for hybrid cloud delivery, giving you enhanced service lifecycle management and simplified installation and upgrades. This is combined with industry standards like TOSCA for service design portability. TOSCA allows you to easily broker cloud services across multiple hybrid clouds.

Flexible APIs

We've also designed flexibility into our cloud solutions by providing REST APIs, with out-of-the-box integration and extensibility for custom environments—giving you support for both physical (bare metal) and virtual devices. You can easily integrate a broad range of HP and third-party products, drawing on a built-in orchestration engine.

True heterogeneity

The HP solution is truly heterogeneous. We make it easy to support the use of multiple hypervisors, multiple infrastructure, and HP or third-party products, including public clouds, so that you can avoid being locked in to a particular vendor solution. This is made possible by the integrated, highly automated HP service lifecycle management platform for the hybrid cloud. This goes far beyond the typical cloud management solutions offered by most providers today.

HP Hybrid Cloud Management provides you choice in managing your investments today and tomorrow, without fear of vendor lock-in, and delivers a highly scalable solution with automated network management and the ability to incorporate over 100,000 servers.

Confidence: complete, simplified, low-cost operations management toolset

Today's IT management environment is complex. Effective cloud management should simplify day-to-day IT operations with a single set of management tools that work across both traditional IT and cloud. Your cloud management provider must help minimize management complexity—not increase it—so as to:

- Avoid making things more complicated, tying up staff resources
- Manage heterogeneity without the need for multiple technologies
- Minimize the costs of operating across traditional IT and cloud

Functions such as governance, security, compliance, service assurance, patching, service lifecycle management, which are common to traditional IT, need to be supported for your cloud environment and managed together as a unified management toolset.

Complete management solution

While other cloud solutions focus only on cloud-access management, HP takes a “big picture” approach, giving you complete visibility into activity across your IT infrastructure. We extend the deep expertise and tools we've developed for managing traditional IT environments and bring this to the cloud, offering automation, orchestration, security, performance management, and financial management tools for both your traditional IT and cloud environments.

Reduced complexity

Other cloud management solutions may require you to manage two separate platforms—one for traditional IT and one for cloud. This means having to deploy a completely new management stack for the cloud, which can double the number of management tools and double your management complexity. Our approach is to reduce management complexity by keeping the number of tools you need to a minimum, simplifying vendor management. In this way, you can continue relying on your existing administration expertise, while unifying and simplifying your environment.

With HP Hybrid Cloud Management, we've built a management platform that is significantly less complex than other cloud-only management solutions, helping you simplify management and lower costs. It is purpose-built to streamline operations management today across traditional IT and both private and public cloud. We give you the confidence to rely on a complete management suite, accessible through a single toolset.

Consistency: meeting SLAs with secure, compliant cloud services

Your cloud management solution should be both complete and intelligent, so that it can grow as your business grows, with consistency in meeting your business SLAs. The ideal cloud solution needs to be flexible and scalable—so that you can easily add additional services when your business demands increase. It should support your needs when you require advanced IT operations management for cloud security, end-end applications performance management, and executive reporting capabilities.

Market-leading cloud security

HP Hybrid Cloud Management helps you meet your business SLAs with secure and compliant cloud services. With security as one of the top customer concerns for cloud computing, we begin by extending our market-leading, award-winning assets in security intelligence and risk management, to create a complete security program and reduce risk across your enterprise.

Our extensive security capabilities include support for automated compliance and backup, role-based access, and identity management. Code analysis tools are used to provide that application codes are secure and ready for cloud deployment. Security Information and Event Management (SIEM) identifies security anomalies and shields services from cyber attacks. And with advanced firewalls, HP Hybrid Cloud Management protects networks, applications, and services. This enables your business to take a proactive approach to security, to integrate information correlation, with deep application analysis and network-level defense mechanisms.

Best-in-class performance monitoring

In addition, HP Hybrid Cloud Management provides end-to-end application performance management, with 360-degree views to improve performance and resolve application performance management issues quickly. Predictive analysis and actionable insights into application performance and system health give you performance monitoring at the user, application, and infrastructure level. You can identify potential issues before they happen, and correlate end-user performance issues with the infrastructure component that's causing the issue, to automatically remediate problems.

Advanced reporting and analytics

HP Hybrid Cloud Management also provides advanced executive reporting and analytics, including chargeback, software license compliance reporting, in-depth cost analysis, and key performance metrics dashboard. You can take advantage of commonly requested reports such as chargeback/showback and synchronize IT to business priorities.

HP provides a comprehensive, intelligent hybrid cloud management solution that offers secure, compliant cloud services to meet your business SLAs. Unlike other cloud management providers, HP offers you a foundation for modular growth, where we do not require you to buy everything on day one. We realize that you are still evolving your cloud strategy and may take several years to build it out. With HP Hybrid Cloud Management, you buy what you need, when you need it.

Rely on a comprehensive portfolio of cloud services

As the cloud market matures, enterprises are looking to deliver a comprehensive portfolio of cloud services. Though most customers start with infrastructure as a service (IaaS) today, there is now more interest in complex platform services such as database as a service or middleware as a service. Others are showing additional interest in full application services.

With HP Hybrid Cloud Management, you can deploy application, platform, and infrastructure services across both traditional IT and the cloud. At the core is a sequential-based service designer, offering configurability at the component level and facilitating faster service design, easier customization, and simpler maintenance—all of which are essential to staging complex multi-tiered offerings. As the number of IaaS offerings increases, and the nature of service offerings becomes more complex and multi-tiered in nature, HP's ability to deliver and manage a comprehensive services portfolio for the hybrid cloud becomes readily apparent. A unique differentiation that is further enhanced by more than 5000 workflows offered out of the box, over 500 CloudMaps and HP Live Network content packs that help accelerate the development of the services portfolio.



Create a reliable cloud foundation for modular growth

In a time of huge transformation, the role of IT is to become a broker of services and a key partner in core business initiatives. But there are challenges: You must reduce the time it takes to deploy applications and quickly respond to requests for business services; make maximum use of resources to reduce capital spending; meet compliance requirements completely, and cost-effectively; and make sure that internal organizations don't acquire public cloud services without IT oversight and control.

An optimal mix of traditional IT, private and public cloud—a truly hybrid delivery model—can help you achieve success and meet challenges head-on. You should select a cloud management platform that allows you to streamline your business and operational management with a single toolset; it must be comprehensive in automation and management capabilities; and it must be open and extensible, so that you can approach the cloud as a journey and build on your cloud foundation as you meet current and future needs.

With HP Hybrid Cloud Management solutions, you can:

- Increase choice and avoid vendor lock-in by supporting multivendor hardware, multiple hypervisors, public cloud services, and integration with third-party products.
- Reduce management complexity and increase confidence when brokering dynamic cloud services (applications, platform, and infrastructure) across both traditional IT and cloud.
- Create a foundation of growth, offering complete, intelligent management for the hybrid cloud, and meeting business SLAs with secure and compliant cloud services.

Learn more

Learn more about hybrid cloud management and how to choose the solution that helps you simplify operations across traditional IT and cloud. Then move to the cloud with choice, confidence, and consistency.

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