

Brochure



Infrastructure that moves at cloud speed

Best Practices: Transforming to
a hybrid infrastructure



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Do you feel the pressure?

Cloud technology allows companies to adopt a service-centric approach to IT quickly while also maintaining traditional IT systems. Firms can move at their own pace, choosing the right model for each application or aspect of their business, based on issues such as cost and security. “The speed of business has changed immensely,” says HP Cloud Advisor Lee Kedrie. “The demand for speed is constant and disruptive. There are some big legacy companies struggling with old infrastructure. They may have been able to put Band-Aids on it, but they’re still really constrained to change.” Application development now happens daily or weekly, rather than the previous two code drops a year, Kedrie adds.

Transforming to a hybrid infrastructure powered by cloud technology offers your organization the ability to accommodate this pace of change and deliver IT as a service in all its forms: platform-as-a-service (PaaS), software-as-a-service (SaaS), and infrastructure-as-a-service (IaaS), as well as advanced analytics to any number of other services the business requires. The key is to retain the orchestrated management techniques and standards you use with traditional IT delivery, updating them as needed. According to recent HP research, leading enterprise firms—defined as those that adopt and exploit digital technology to generate real business outcomes—understand that IT change equals success.¹

IT can explore, develop, and deploy mobile and big data services faster in a cloud environment. This is a good thing, notes Don Randall, Technology Services, HP, because in many cases the lines of business requesting the services are not willing to wait. When business units go around the company’s IT department to supply cloud services, Randall adds, “somebody still needs to run the organization’s compliance and make sure things are secure.”

Recent HP research found that among leading enterprises today—characterized as “digital disruptors”—76 percent say their organization does a better job delivering cloud services than external IT providers. Lack of investment in cloud correlates to lagging behind peers.² To learn more about these infrastructure leaders, read *2015 Report: Profiling infrastructure leaders*.

^{1,2} HP Research, 2015 Report: Profiling infrastructure leaders, February 2015

Determining your infrastructure’s cloud-readiness

Among the digital disruptors identified in HP’s research, 78 percent have actively adopted and exploited cloud technology.³

Here are five questions to help give you an idea of where your organization falls in the cloud transformation journey and whether your infrastructure can support the business’s goals:

- 1. Are you putting the needs of the business first?** Not all applications are created equal. By prioritizing those applications that are most suited to the cloud—whether they are CRM, ERP, business-critical, or some other combination—IT can ensure that it handles them as efficiently as possible.
- 2. Are you integrating cloud with your existing IT environment?** To ensure you don’t create additional IT silos or generate systemic waste, you should view cloud as a complement to your traditional IT environment. As you update your infrastructure to keep pace with business demands, this approach enables you to implement unified management and security controls, rather than try to maintain two separate environments.
- 3. Do you think in terms of the services IT provides to the business and its customers, partners, and employees?** Rather than view your infrastructure as components such as software and hardware, you should think about how it enables IT to deliver services in response to business demand, shifting from up-front CAPEX investment to pay-as-you-go OPEX.
- 4. Have you integrated IT processes such as change management and configuration management into cloud-based IT service delivery?** Incorporating tried-and-true process engineering standards like ITIL and COBIT into your service delivery capability helps keep service delivery, revenue, and customer service up to par.
- 5. Have you integrated security holistically?** No cloud is invulnerable, but you can minimize the likelihood of a breach. To protect hybrid workloads, be sure your public cloud provider follows industry best practices, and insist on a transparent, shared responsibility model, for the provider and yourself. And of course, deploy comprehensive security products.

Answering these questions can help paint a picture of where you are and where you want to head. You should also know that there are experienced partners who can help guide you. “If you’re going to go through a transformation initiative, mistake number one is to assume you have everything and everyone you need in-house,” says KC Choi, vice president, global solutions architecture and engineering, HP.

³ HP Research, 2015 Report: Profiling infrastructure leaders, February 2015



Reaping higher business benefits

■ Leaders ■ Laggards

Increased market share

41%

18%



Increased profitability

46%

28%



Cost reduction

47%

26%



Companies that implement advanced digital technologies see improved business outcomes at a much higher rate than their business peers.

HP Research, 2015 Report: Profiling infrastructure leaders, February 2015

What’s your organization’s ideal cloud approach?

Using cloud—be it public, private, or hybrid—for some workloads doesn’t necessarily mean you’ve created an on-demand infrastructure that can respond as quickly as necessary to all users’ needs. That’s your mandate—and cloud technology augmented with certain management, security, and provisioning techniques can help you accomplish it.

You must also ensure that your IT infrastructure can support your cloud strategy. “IT’s job is to understand what the business requirements are in terms of location, security, duration of viability, latency, and compliance, and find the right way to deliver that service,” says HP’s Randall.

“The business benefit is quick scalability,” Randall adds, “and that could be something like making it possible to do business in Ecuador tomorrow.... The hybrid infrastructure part is just all about agility and time to market and speed.”

To make this possible, it’s critical to form a clear picture of the value chain of what your end-to-end environment must address. What is your migration and integration plan? Does your existing architecture support these goals? Do you have a plan to mitigate risk, ensure security, and manage the lifecycle of the applications and services your hybrid infrastructure delivers?

Your infrastructure must include a layer to address business processes and end-user support, as well as provide a self-service provision that tracks financing and chargeback appropriately. Your various applications, enterprise platforms, and middleware should integrate management and security, enabling you to use a hybrid model to deliver software, platforms, and infrastructure as a service.



Benefiting from a hybrid infrastructure

Depending on where you are in your cloud journey, there are a number of best practices you can adopt to guide you toward the ultimate goal of establishing a hybrid infrastructure that can keep pace with market changes and business demands. HP research demonstrates that over 90 percent of more advanced digital adopters see increased market share and profitability.⁴ This may include the ability to:

- Support internally facing DevOps, so IT operations and development teams work in harmony
- Transition existing workloads to hybrid cloud, which takes careful orchestration to set up and secure
- Become a business service provider, externally or internally, which can happen only for organizations that have established an environment that operates on an OPEX (versus CAPEX) financial model and has flexible provisioning capability

⁴ HP Research, 2015 Report: Profiling infrastructure leaders, February 2015

Supporting internally facing DevOps

Cloud-enabled DevOps allows IT operations and development teams to work in harmony and enhances the implementation of agile methodologies. An HP enterprise customer applies DevOps to streamline app testing and lifecycle management. As a result, production apps are higher quality and perform better.

By leveraging what developers and testers do as they build code and move it forward, the company gets the benefit of their expertise and best practices in operations. This allows two separate disciplines to work in the same space at the same time. The company can architect a solution for an app as it’s moving through the lifecycle, and operations can monitor the app, giving advice to developers and testers. A hybrid infrastructure enables the teams to quickly scale resources up or down to meet changing business needs.

Transitioning existing workloads to hybrid cloud

“Sometimes going to a public cloud is just the wrong decision,” says HP’s Randall. To achieve the flexibility of a public cloud and the security of a private cloud, many organizations are turning to a hybrid cloud model. When surveyed recently, 70 percent of businesses that responded said they are using or evaluating a hybrid cloud solution.⁵

At an HP enterprise customer, for example, IT has aligned with the business to drive digital transformation and address the company’s collaboration, big data, and mobile technology needs. Along the way, the firm quickly ran into the limitations of a public cloud-only delivery model and realized that a hybrid approach was vital.

This hybrid cloud approach has allowed the company to securely deliver and manage many petabytes of digital data to customers and partners worldwide and enable global digital collaboration, all while dramatically reducing its data center footprint and cutting operating expenses. Big Data provides a new opportunity for the firm to provide rich information for better decision-making within the organization, a task beyond the scope of the traditional infrastructure model.

U.S. healthcare provider Spectrum Health wanted to design a next-generation data center that could support its current operations as well as a move to a highly virtualized hybrid cloud. The company deployed a modular, prefabricated data center solution comprised of several customizable quadrants that can be dynamically expanded while conserving resources. Spectrum Health estimated it would save \$10 million over the ten-year life span of the data center, or 30 percent compared to older, less efficient technologies. “We look at IT as an enabler to provide clinicians with the right information at the right time in the right setting so they can provide the best care,” says Patrick O’Hare, senior vice president and CIO, Spectrum Health.

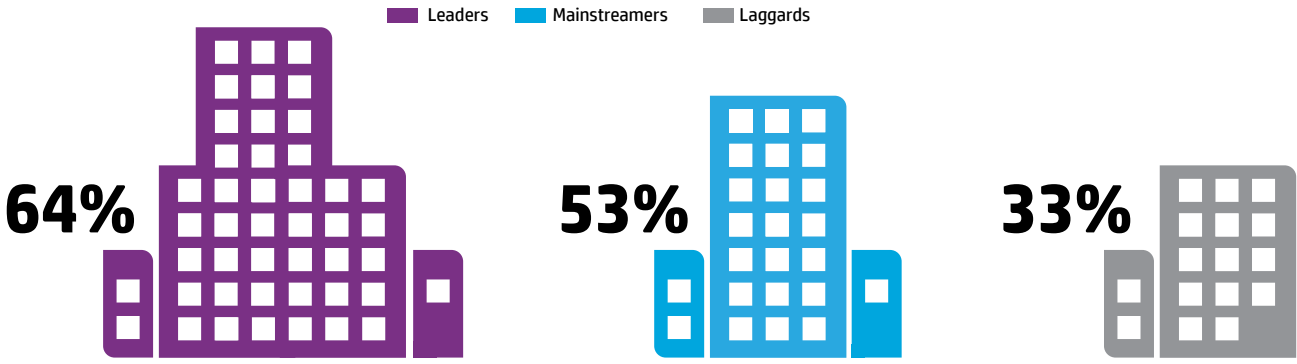
Becoming a business service provider, internally or externally

Even if you just want to be able to better manage your internal cloud provisioning services, you can’t do that unless you establish an environment that operates on an OPEX (versus CAPEX) financial model and flexible provisioning capability. “A lot of times the businesses own the applications, and the assets are not even in control by IT,” Kedrie says. “So they can’t leverage those pools of assets effectively.”

An IT- and business-process outsourcing firm leverages the performance of a hybrid infrastructure to quickly on-board applications and get enterprise clients up and running, while ensuring data security and regulatory compliance.

⁵ Tech Pro Research, “Hybrid Cloud: Benefits, roadblocks, favored vendors,” June 2014.

Differentiating through IT functionality



A greater percentage of business units at leading companies believe innovative IT functionality allows them to differentiate and drive real business outcomes.

Source: HP Research, 2015 Report: Profiling infrastructure leaders, February 2015



Get started today

Start transforming to a hybrid infrastructure—a checklist

This list can help you refine your cloud strategy and start on the path toward transforming to an hybrid infrastructure.



Get a clear picture of your end goal: hybrid cloud.

Most enterprises should aspire to establish a hybrid cloud. Cloud is not one size fits all, and a hybrid model affords the most flexibility. You'll most likely combine a private cloud for business-critical applications; an enterprise-class public cloud for most other applications, including application development; and a collection of SaaS applications for functions such as CRM and HR.



Locate IT or operational silos that create bottlenecks.

Assess where cloud services—both IT-led and “rogue” implementations—exist in your organization to better understand users’ needs and how you can integrate regulatory and governance requirements.



To increase business agility, manage big data in the cloud.

By storing, synchronizing, and analyzing data in the cloud, you gain scalability, cost savings, and distributed processing for faster performance. Not having to move data over the network means lower latency rates, coupled with the flexibility to spin up resources on an as-needed basis to meet spikes in demand.



Identify the players.

Determine what services the business needs and expects so you can proactively work toward providing them (through the cloud or otherwise), as opposed to sitting by as lines of business go around IT to external cloud service providers. You may have to think outside the cloud, considering big data or mobility, for example, because they're all intertwined. “It'd be very beneficial to sit down with a data scientist, to go over the questions you're asking of the data and see if that's the right data you need to be using to get the answers you need,” says Peter Moser, director and account chief technologist, HP



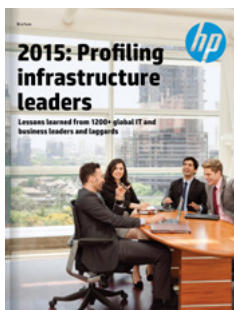
Integrate security in a holistic way.

While a hybrid cloud approach assumes security is a priority, you must never lose sight of the fact that—unlike “closed” legacy systems—cloud by its nature increases access and flexibility to systems, services, and data. Your security architecture must account for this.

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