

Accelerate your cloud strategy

Ignite innovation with hybrid cloud





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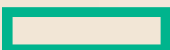
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The future belongs to the fast

We live in a hyper-connected world, where nearly everyone and everything shares data. There is also more data than ever being generated by billions of Internet of Things (IoT) devices at the edge. This shift away from centralized data opens up new business opportunities and creates new types of informational insights. Processing more data and extracting more intelligence in real time requires us to operate at a new speed of business.

Making your business processes faster and more agile across the board is not a trivial process. Chances are your current infrastructure is rooted in traditional, manual-driven strategies, and technology that is ill-equipped to keep up with today's complex apps and increasing data demands. To stay competitive, you have to get your business in a place where it can take advantage of both public and private clouds. Right now, that means shifting your enterprise to a highly automated, programmable, controllable cloud solution—one that provides the necessary security, governance, compliance, and controls at the right economics. Getting there is a digital transformation journey, and it begins with establishing the right cloud presence for your business.

The future belongs to the fast. Enterprises that are fast to adopt, fast to develop, and fast to deploy will accelerate the pace of growth and innovation.





Hybrid cloud: A catalyst for digital transformation

The evolution of cloud computing in the age of automation and everything-as-a-service has created opportunities to reach new markets first/faster, roll out new innovative products, and provide new services. It also requires businesses to self-evaluate their infrastructure, skills and internal processes, and find that right mix of public and private cloud presence—one that optimizes their production and services, and yields financial benefits.

Hybrid cloud is a system of cloud services encompassing public and private implementations located on- and off-premises. The hybrid nature allows for better flexibility to meet individual application and user requirements with a consistent experience, cost control and security governance, letting you gain control over the right mix of optimized infrastructure solutions for your current and future apps, whether they live on the edge or in the core.

Navigating this digital transformation can be fraught with challenges, which is why HPE promotes a holistic strategy toward **hybrid cloud solutions** adoption that covers three key areas—Technology, People, and Economics.





The challenges of getting cloud right

Getting cloud right for your organization is the key to driving speed and innovation, and it demands a holistic transformation to fully realize its value. Enterprises who get cloud right can act quickly on a continuous stream of data—gathered from a variety of sources—and will rule the day. But simply moving IT systems to the cloud without a transformational strategy doesn't get you there. In order to overcome the pitfalls in a cloud-driven world it is not enough to just be in the cloud, you need to avoid the following hazards.

Shortage of trained people in the organization. In cloud-enabled environments, IT departments operate an inside-out model, delivering services to the company at large. If staffers do not understand how to use cloud native tools and services designed to transform the company's business, they simply will not use them, causing cloud programs to slip up. Invest in education—finding people outside the company with the right skills is difficult and expensive.

Absence of clarity around regulatory controls. Data lives everywhere, making it more difficult to meet regulatory requirements and maintain compliance for data. Confusion in the area of regulation and compliance standards can pose problems and delays with the new technology platform.

Lack of a holistic, integrated plan and executive alignment. Many organizations have not thought through key issues such as identifying what a successful cloud program looks like, progress measurements and metrics, funding allocation, organizational adjustments and goals or priorities for what the cloud transformation means to the business.

Old thinking in a new cloud model. Moving to the cloud is a big change for a company, one that involves an entirely different model from on-premises IT. IT leaders often end up with runaway budgets, no controls and confusion over next steps.



Technology, People, and Economics: Three pillars of a cloud strategy

Hybrid cloud isn't a solution that comes in a box. It is a paradigm shift—a new way of accomplishing things. And it is not a switch that you just flick on. Accelerating in a multicloud world requires nurturing a new culture within your organization that can adapt and support continuous change and innovation, from IT operations to DevOps.

According to a recent **IDC survey report** of digital transformation leaders and laggards, “Enterprises are proactively considering which infrastructure types are best for their individual workloads and what their optimized overall profile of infrastructure types looks like. They actively choose from traditional IT infrastructure and a diverse set of cloud options, matching infrastructures to use cases and development requirements in the way they feel makes the most sense.”

The survey of over 800 IT leaders across the globe shows that “leaders have arrived at a very balanced approach to compute infrastructure for business-critical workloads. Their use of computing architectures is evenly distributed among traditional IT, private cloud, public cloud, and SaaS. In contrast, less mature enterprises continue to rely on traditional IT to a much greater degree, with laggards still processing 65% of workloads on traditional on-premises infrastructure (see Figure 1).”¹

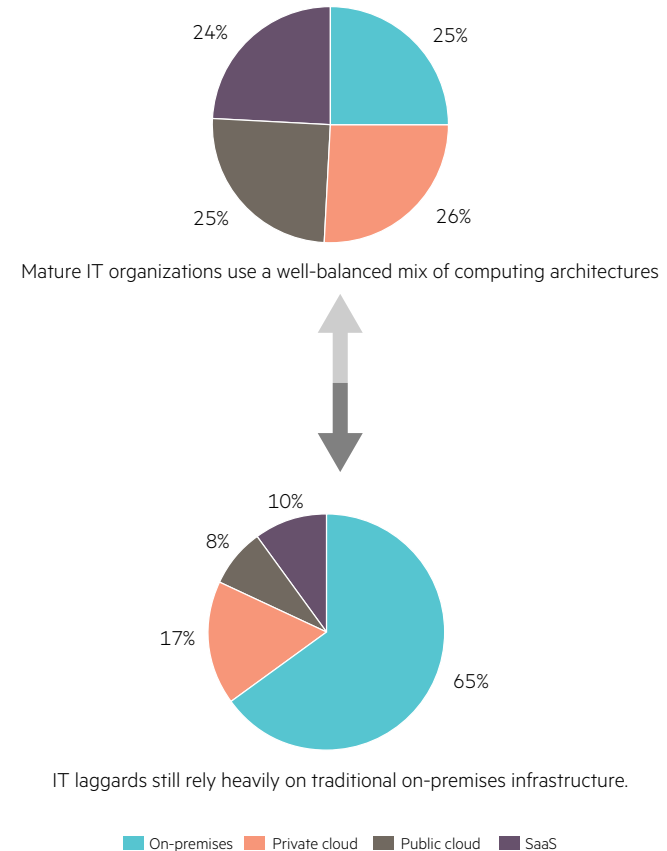


Figure 1. A balanced mix of architectures enables success

¹ IDC White Paper, Sponsored by HPE, IT Strategies to Accelerate Digital Transformation: How the Most Successful IT Organizations Stand Out from the Rest, November 2018





Technology

Every business has a unique relationship with technology based on their personal goals and objectives, and where they are in the process of achieving them. Some are in the midst of a move to or from the cloud, to establish their own space for managing apps and data. Others want to innovate in the cloud to develop new tools and services and push the envelope. And most just want to run the cloud with operational excellence. In order to meet future IT demands and ensure that your transition to hybrid cloud is successful, HPE support services are available to help guide and accelerate your transformation.

We have the resources to help enterprises:

- Get the right mix of cloud models for your apps and data—in public clouds and private clouds
- Unify your environment with a common software-defined operating model, delivered as-a-service with pay-per-use, consumption-based IT models
- Create an IT culture for growth and speed, with the control, security, compliance, and governance behind it



According to McKinsey, 70% of digital transformation projects fail to achieve the intended benefits. The top two reasons for failure are “employee’s resistance towards the change” and “management behavior does not always properly support the upcoming change.”²

People and processes

With the move to a hybrid cloud infrastructure comes new tasks and new processes that directly affect your people. Change can be scary, even when it is for the better. One of the key challenges of transforming to a hybrid cloud is lack of employee engagement, which is often fueled by inadequate management support. Failure to get employees onboard early (and keep them there) can be a costly error that prevents you from achieving the full benefits from your digital transformation.

Evolving skills, processes, and culture are the necessary components required to enable your teams to be successful through a technology change. The challenge lies in helping people to understand how their roles change, why it matters, and equipping them with the skills that they need to be successful in their new roles. HPE understands the importance of the human element with any successful IT-enabled business change and can support you with Management of Change consulting services, a formalized approach to transitioning individuals, teams, and organizations by proactively preparing and supporting people throughout technology change and minimizing known causes of failed technology adoption.

Modern IT systems are comprised of new technologies, new methodologies, new partners, and a new generation of staff. Keeping your IT organization skilled to design, build, and operate these new environments requires a new approach. HPE Pointnext skills-based training is most effective in a team dynamic and at the time of need. HPE Digital Learner is our new on-demand learning platform that provides online access to micro-learning courses with real-time video feeds and collaborative mentoring services.

² McKinsey.com, [“The ‘how’ of Transformation,”](#) May 2016.





Economics and investment strategy

One of the most underappreciated aspects of digital transformation is your financial strategy. Transforming how you invest in IT is as essential for success as the infrastructure itself. The goal is to create an agile investment model designed for innovation, but right-sized to manage capacity risk. For instance, consider freeing trapped capital and adopting as-a-service consumption models via HPE GreenLake to better align cash flows to the business and reduce TCO.

HPE helps enterprises to maximize your IT investments strategy.

- **Optimize cost models and free up capital**

Today, 70 to 80% of most IT budgets is spent on simply maintaining operational norm, while only about 20% is available for investing in new areas of innovation or new applications. HPE Financial Services can help by monetizing in-use and retired systems to fund new investments. This frees capital, increases profitability and accelerates your transformation.

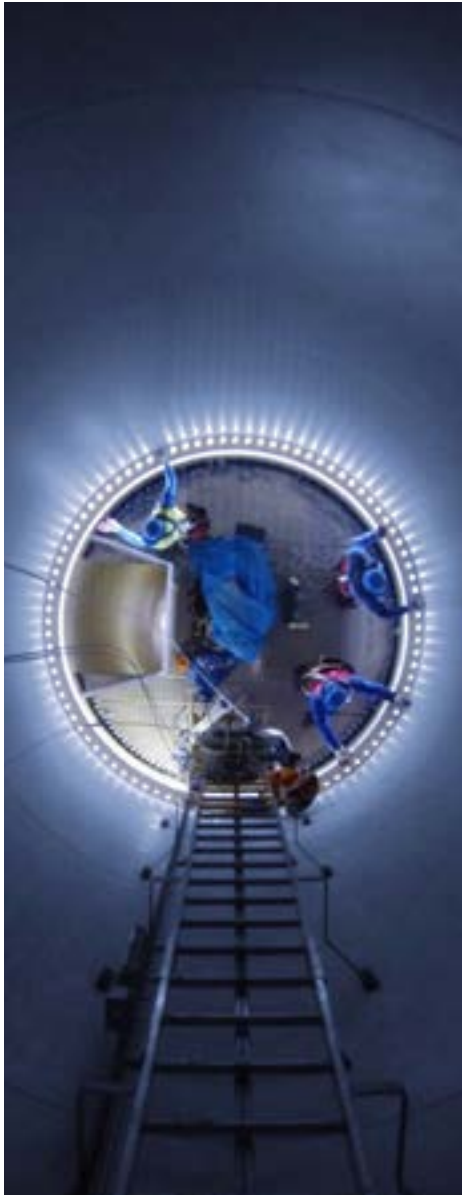
- **Create investment agility and capacity to accelerate innovation**

Investing in the innovation that your business needs now can require significant up-front capital. Every IT asset you own is a capital investment, which means the technology continues to have value for many years after its initial purchase. HPE can help you create additional investment capacity from your current systems by monetizing their value and converting to a usage payment model during transition.

- **Control costs as part of a governance model**

The cost of cloud is a big issue and many customers are overspending due to lack of governance. An initial strategy is necessary to build cost models around the location of each workload, and implement appropriately. HPE GreenLake Hybrid Cloud's Continuous Cost Control service provides a holistic view of financial impact as you migrate to and operate in the cloud. By helping customers gain visibility across all accounts and costs with an Infrastructure as Code approach, the service maps actual spend and reconciles costs back to the business cases.





Next steps to optimizing how you move to, innovate in, and run the cloud

Hybrid cloud enables businesses to build a strategy that optimizes performance and cost across all of their apps and data. To migrate and optimally maintain a hybrid environment requires a move, innovate, and run approach to ensure you hit the critical success goals during each phase of your digital transformation process. HPE offers services to support you every step of the way and accelerate your cloud strategy.

Move to the cloud

Moving to the cloud requires a strategy, execution development, and the right mix of on- and off-premises resources.

- It is important to assess the needs of your apps and data, align them to your business, and develop a holistic go-forward migration plan, identifying which apps to move to the public cloud or private cloud. As part of the plan, assess the skills and knowledge of your employees in respect to hybrid cloud. This provides a logical starting point for planning out whatever future training or education is required and helps smooth the transition during transformation.
- Also at this time, look for ways to free up capital by monetizing assets and creating investment capacity as you move to the cloud's consumption-based IT model. Take control of software-defined, multicloud platforms by implementing management software, such as HPE OneSphere, that can track usage and costs, and control spending across public and private clouds—helping you consume the exact resources you need and pay only for what you use. Financial models designed to free up capacity and funds for innovation, such as pay-per-use consumption models lend enterprises the agility needed to enter new markets, faster.





Case study: Dropbox's cloud migration

In 2007, Dropbox was a small, San Francisco-based file hosting service offering cloud storage, file synchronization, personal cloud, and client software. The company grew at a triple-digit rate over the next eight years to nearly a half-billion users today.

As Dropbox expanded, its public cloud service model grew increasingly confining, and its costs onerous. They needed a robust new hardware infrastructure model with greater scalability and the flexibility to fine-tune CPU, network bandwidth, and price-to-performance. That meant migrating hundreds of petabytes of data to a new environment without disrupting existing service to customers.

Dropbox leveraged HPE's technology, enterprise market knowledge, services expertise from HPE Pointnext, and engineering expertise to significantly scale its operations. The company built an on-premises cloud solution that provides the management and security capabilities to satisfy the lucrative enterprise market. All data security is performed in-house as an on-premises data center provides greater control from a protection standpoint.

The company is now cash flow positive—a key objective in its maturation as a business—and well positioned to accommodate further growth in the enterprise market.



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Innovate in the cloud

After your cloud presence is established, your developers will have fast and easy access to resources with controls in place. They can innovate more rapidly and launch new services faster using proven methods and cloud-native technologies and solutions.

- The need for speed drives the movement to DevOps in the cloud, thus driving the need for the agility and speed that must be part of the development and operations process. DevOps breaks down silos between organizations, increasing collaboration with stakeholders and users. It shifts development from large-scale releases to more frequent releases and incremental changes. When DevOps is combined with agile methodology and cloud-native technologies, applications are built faster, with fewer issues and more frequent updates. Organizations committed to innovating in the cloud find it essential to adapt development and operations cultures to embrace this agile approach.
- Enterprises can create a culture of continuous change from IT operations to DevOps with proven methodologies such as Cloud Technology Partners', a Hewlett Packard Enterprise company, Minimum Viable Cloud (MVC) methodology. An MVC is a secure public cloud environment running at least one client application and is designed to exercise an organization's muscles, demonstrate the viability of cloud services and engage all necessary stakeholders.





Lessons from a COO: How Mastercard is exploiting cloud models

Mastercard, a major financial transactions provider is exploiting cloud models to extend and distribute real-time payments capacity across the globe. The need for localized data storage and privacy regulations, compliance, and lightning-fast transaction speeds are pushing the boundaries of what cloud solutions can do.

“...we have learned a lot from the recent (data intrusion) announcements by Facebook, Marriott, and Equifax. The data is quite prevalent out there. And payments data, just like your hospital data, is the most personal. As we start figuring out the nuisances of regulation around an individual service, it must be externalized. We have to be able to literally inject solutions to regulatory requirements—and not by coding it. We can’t be creating any payments that are ambiguous. That’s why we are starting to see a lot of effort going into how artificial intelligence (AI) can help. AI could check services and configurations to test for every possibility so that there isn’t a ‘hole’ that somebody can go through with a certain amount of credentials.

As we go forward, those are the types of things that—when we are in a public cloud—we need to account for. When we were all internal, we had a lot of perimeter defenses. The new perimeter becomes more nebulous in a public cloud. You can create virtual private clouds, but you need to be very wary that you are expanding time factors or latency.

Cloud Technology Partners (CTP) has been a very good and integral part of our first steps into the cloud. It’s not that Mastercard isn’t in the cloud already, it is. But when you start taking the entire plant and move it, we want to make sure that the security controls, which CTP has been helping ratify, get extended into the cloud—and where appropriate, actually removed, because there are better ones in the cloud today.

The fact is we have strong relationships with Microsoft® and with Amazon, and so does HPE. If we can bring the collective muscle of Mastercard, HPE, and the cloud providers together, we can move mountains.”

– Paolo Pelizzoli, Executive Vice President and Chief Operating Officer at Realtime Payments International for Mastercard





Run the cloud

Optimizing your cloud operations with automation, security, governance and cost controls can be a daunting task. This is especially complex when you have multiple clouds across various locations.

Cloud operations practices diverge significantly from traditional data centers. The replacement of well-understood, static data center resources with consumption-based and on-demand cloud resources can disrupt both compliance and cost management operations. To optimize performance, organizations must centralize cloud deployment oversight, drive consistent use of best practices, automate compliance, and apply policy-driven cost management.

Better cloud management allows your teams to:

- **Optimize the management and operations of your clouds**—With increased automation and control designed to drive operational excellence—with visibility, security, and control across all clouds.
- **Create cost controls and maximize cloud consumption**—Real-time tracking and monitoring to control your costs helps you consume the exact resources you need, and pay for what you use.
- **Control security and compliance in real-time**—By establishing the policies and controls across your environment.
- **Move the on-premises infrastructure to a consumption-based IT model** to realize the economic benefits of the cloud across your hybrid cloud.

Visibility is needed everywhere for continuous operations, across platforms, to speed insights to action, manage costs, ensure compliance and governance. Bringing a holistic view to service management and helping your team adopt new tools, processes, and approaches to manage a modern IT environment will drive efficiencies and free resources, while ensuring controls are in place to protect IP, data and mitigate risk.



“With HPE 3PAR storage and HPE OneView we can deploy new environments in minutes instead of up to an hour on HDS. Our developers have actually doubled their productivity.”

– Yamandu Correa, Global Network and Data Center Manager, YNAP



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Case study: Yoox Net-A-Porter Group (YNAP) maximizes cloud consumption

As the world’s leading online luxury fashion retailer, YNAP needed a storage solution that could handle unpredictable surges in e-commerce transactions that were overwhelming their existing HDS system. To modernize its storage infrastructure, YNAP evaluated alternatives from HDS, EMC, and HPE, ultimately choosing HPE 3PAR StoreServ 8440 storage. YNAP engaged HPE Pointnext to perform the data migration and HPE provided an on-site data expert to oversee the entire migration and ensure a smooth transition.

In addition to higher performance and efficiency, HPE 3PAR storage provides YNAP with valuable performance-monitoring tools that the company uses to continually analyze how the storage is behaving based on workload and order volume. This information is integrated with YNAP’s network operations center for real-time response to changes in business demand. If the monitoring indicates workloads might strain the storage, YNAP can immediately use HPE GreenLake Flex Capacity to handle the surge.

Yamandu Correa, YNAP’s global network and data center manager, explains, “HPE GreenLake Flex Capacity is like having the features of cloud but on-premises. We run some services in the cloud, but we also need that same flexibility for our data centers. It’s a big part of our hybrid strategy.” He adds, “For a growing business like ours, HPE GreenLake Flex Capacity also makes it much easier to manage our budget because the costs are predictable.”

Overall, the new storage and a pay-per-use model with HPE GreenLake Flex Capacity helped YNAP increase throughput 567% to easily handle customer demand and ensure a responsive online shopping experience.



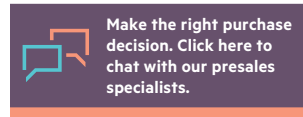


Engage our cloud experts

The future belongs to the fast. HPE is here to help you make your hybrid cloud vision a reality with a run and sprint model to help you go further, faster. HPE cloud experts can help you develop the vision, goals and objectives of your cloud strategy, along with what's needed to get to your ideal state, whether you're looking to:

- Move to the cloud—define and achieve your right mix of public and private clouds
- Innovate in the cloud—launch new services faster with continuous innovation
- Run the cloud—free up capacity and drive operational excellence

Learn more at
hpe.com/info/hybridcloud



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