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DEDICATED PRIVATE CLOUD INFRASTRUCTURE

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How to transform to the right mix of hybrid infrastructure

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Introduction to hybrid infrastructure

Business and information technology (IT) are moving faster than ever. Success favors companies that can invent and reinvent at warp speeds. These companies rely on IT to fuel new customer experiences as well as to deliver and pay for products and services.

Welcome to the Idea Economy where businesses are turning ideas into new products or services faster and easier than ever. New, disruptive business models are succeeding and quickly replacing tried and true models from industry giants. The cloud and the Internet of Things are redefining how applications are written and delivered to devices and customers.

IT must transform to support the rapid growth of the digital economy. To accelerate the delivery of applications and services to their enterprise, IT must define and implement its own unique right mix of modernized traditional IT, private cloud and public cloud—optimized for their organization and each application's needs. The business wins when IT delivers the best environment for every workload, including traditional applications, mobile apps, and cloud-native apps. This hybrid infrastructure must work together seamlessly in order to create and deliver new value instantly and continuously.

Server Cloud Canada, powered by one of the largest Canadian Hewlett Packard Enterprise (Helion) deployments work with customers from varied industries, regions, and sizes to speed their transformation to the right mix of hybrid infrastructure by helping to:

- **Define** your right mix with expertise that helps assess the unique needs of your apps, services and enterprise to achieve the optimal mix of traditional IT, private cloud and public cloud services.
- **Power** your right mix and evolve your IT infrastructure to be a flexible, cost optimized hybrid environment that can deliver your current and future digital services.
- **Optimize** your right mix by simplifying operations with automation and orchestration capabilities for managing and securing across your hybrid environment to provide continuous delivery.

Figure 1: Speed your transformation to hybrid infrastructure

The purpose of this paper is to share the best practices on how to transform your hybrid infrastructure by implementing and managing your right mix of traditional IT, private cloud and public cloud to meet the needs of your business. The transformation methodology involves three focus areas enterprise IT should use to define their right mix along with implementation best practices developed by Server Cloud Canada in implementation, orchestration and support services engagements as customers power and optimize their hybrid IT environment.

Approaching all three focus areas in your plan, ensures the different enterprise IT objectives, resources, teams, processes, and skills that will be impacted are appropriately addressed. While each area has its own adoption speed and specific business drivers, they are all linked to and dependent on each other. Focusing on transformation in only one area will potentially cause disruption in the other areas for IT, causing delays, and inability to properly become a digital innovation value maker for the enterprise.

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Focus on digital experience acceleration

Important considerations in your right mix implementation plan revolve around accelerating automation of new digital value for the enterprise. IT needs to focus on how they can accelerate the value delivered to customers through the consumption of innovative new applications and digital services. Providing these new services increases your organization's ability to quickly create, provision, and improve customer experiences. The hybrid IT operating model more effectively supports digital innovation. Identifying which applications and digital services need to be accelerated will help define your specific right mix requirements and also determine where to optimally run them. Hewlett Packard Enterprise has identified three core technology priorities in this focus area enterprise IT must consider in order to accelerate the creation of value for their customers.

Key priorities for accelerating digital experiences

Accelerate cloud-native application development

One of the key priorities to consider is accelerating cloud-native application development to ensure faster innovation. Cloud-native applications enable you to supply digital value to end-customers fast and efficiently, and it allows you to use your apps to stay ahead of the competition. With cloud-native application development, the enterprise will accelerate business outcomes. You will be able to deliver new application value and innovate with the speed and agility that cloud computing enables, providing always-on services while enabling mobile-app centric opportunities. As software takes a central role in modern business models, application delivery has become the key enabler of disruption and opportunity. Every enterprise needs to think like a commercial software company—with your apps being key assets.

Enable choice between multiple cloud services

You need to increase flexibility and performance by enabling choice between multiple cloud services. By offering multiple service choices, business units are able to respond to fluctuations in the market by adjusting their IT requirements and optimizing their cost structure at will. A multi-cloud approach offers not only the hardware, software and infrastructure redundancy necessary to optimize fault tolerance, but it can also steer traffic from different geographies through the fastest possible parts of the network. Certain clouds are better suited than others for a particular task. For example, a specific cloud might handle large numbers of requests per unit time (requiring small data transfers on the average), but another cloud resource might perform better for smaller numbers of requests per unit time (involving large data transfers on the average).

Automate and orchestrate services

Service automation and orchestration speeds IT operational tasks and service delivery in an overall hybrid IT environment, while ensuring business needs are met with service lifecycle controls. The increased speed of service creation, delivery, and management tasks also minimizes risk. Most of your value is coming from your data and applications. However, risk is everywhere and the risk landscape is getting more diverse. IT must mitigate risk across the business to avoid business disruption, data loss, lost opportunities, as well as the impact to brand value. To deliver effective administration of multi-cloud and the hybrid IT environment, service automation and orchestration is needed for efficient management of workloads, workload migration, data, users, compliance, and security.

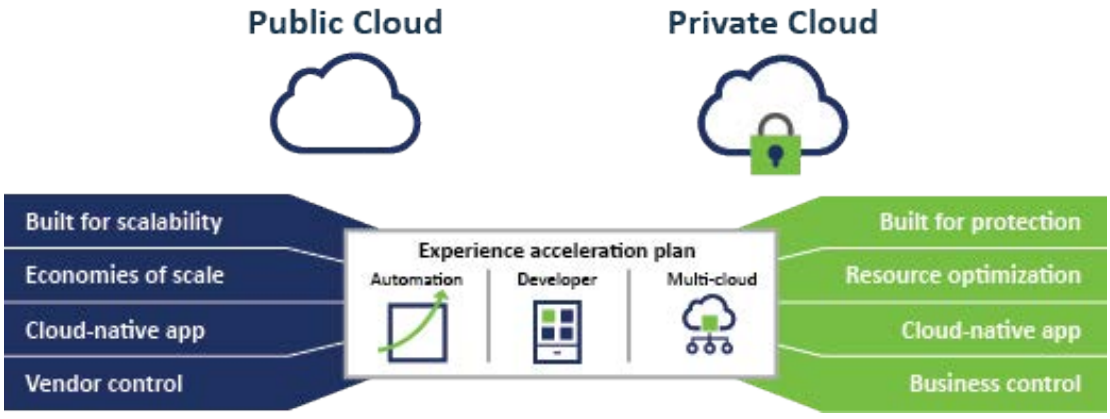

Figure 2: The right mix of cloud computing models accelerates digital experiences

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Checklist: best practices for digital experience acceleration

The following checklist presents the best practices for digital experience acceleration. This checklist is divided by the three technology priorities of this section: accelerate cloud-native application development, enable choice between multiple cloud services and automate and orchestrate services.

Accelerate cloud-native application development

- **Architect for cloud:** Understanding your application requirements is a critical first step in cloud-native development. While all applications require services, monitoring, logging, and data persistence, they also should be architected for the cloud with a service-oriented approach. Well-designed cloud applications use a stateless design, scale horizontally and fail gracefully, offering improved SLA adherence.
- **Design and deployment of development environments:** A cloud-native development environment must be provided that is agile and supports shorter development cycles. Developers need platforms that are open, flexible in languages and frameworks, allowing developers to easily deploy and scale their applications anywhere
- **Adopt a continuous development lifecycle:** Lifecycle implementation points should include packaging, branching and release strategy, workflows, staging introduction and current CI/CD environments. Evaluate introducing agile development techniques like Scrum, CI/CD tools automation and best practice tooling and methodologies for test.
- **Adopt application best practices and containers:** Include a review of the 12 factor application principles against application patterns and planned architectures to consider adoption impact. For the PaaS environment, establish application persistence requirements and define application production requirements such as service catalog delivery, performance, scale, troubleshooting, and resolution.
- **Define and integrate logical and physical IaaS and/or PaaS architectures:** Define the support service delivery requirements for development, test, staging, and production IaaS and PaaS services as well as needed platform automation (i.e., Ansible and Heat), scale and capacity planning

Enable choice between multiple cloud services

- **Architect for continuous value creation and quality:** Key design criteria should include ability to scale up and down in internet time, react quickly to capture business opportunities, flex painlessly to support business model innovations and evolve solutions surrounded by uncertainty.
- **Include installation host preparation configuration and deployment:** Prepare an installation host that might later form part of the cloud. This is part of the initial prototype phase to enable discovery of future deployment issues.
- **Implement continuous integration and deployment orchestration:** The architecture must go beyond the installation of the platforms. It includes the ongoing management and integration of third-party software, hardware, and duplicate platforms across multiple sites with differing network qualities.
- **Deploy computing workloads onto more than one cloud platform:** More than one public cloud, and at least one fully automated private cloud, should be part of a strategic multi-cloud strategy.

Automate and orchestrate services

- **Implement tools to automate service provisioning and reduce delivery time:** Automate as many of your service design, ordering, and provisioning tasks as possible.
- **Identify and automate top IT manual management and maintenance tasks:** Find manual tasks that most impact service quality and issue resolution to improve response time to the business and overall service performance. Simplify and standardize them before automating.
- **Gain control of the service lifecycle:** Implement orchestration tools to provide visibility into performance, usage, and demand across all the layers of a service. Integrate with automation tools to speed operations for service deployments, changes, or de-provisioning.

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Focus on digital renovation

Getting full benefit from your technology can be a challenge, despite the capital investments you make. Many businesses find it difficult to develop products or services quickly—with rigid and inflexible infrastructure cited as the leading roadblock. Simply focusing on innovation as a strategic imperative is not enough. Accelerating innovation requires substantial and constant upgrades to the IT infrastructure. The enterprise must adopt new architectural thinking that treats IT resources as flexible infrastructure that can be continuously re-configured and renovated using cost-optimized workload platforms. Being able to easily reconfigure and repurpose, in addition to performance gains from new technology, will allow you to provide the right hybrid infrastructure to power your right mix of current and future IT services. When transforming both core and composable IT environments during a digital renovation, businesses need to focus on three key priorities in their plans.

Key priorities for digital renovation

Modernize platforms and workloads

Harness innovation to modernize your platforms and workloads in your hybrid infrastructure. Let IT use breakthrough technologies to enable faster service delivery and performance. New technologies will also help ensure every square meter of the data center operates at the lowest cost and highest ROI. Faster time-to-markets is a competitive mandate and organizations are under constant pressure to innovate more quickly. Harnessing technology innovation impacts your success with payoffs in financial performance, brand value, and differentiation from competitors.

Modernization allows you to create a balance of both core and innovative composable IT environments to power your hybrid infrastructure right mix. The core IT environment is the solid, reliable, and resilient infrastructure that typically runs your core business critical transactional systems and data. Composable infrastructure is software-defined, providing a more fluid approach to provisioning and de-provisioning hardware. Composable IT provides a common platform that is flexible for different applications by allowing the components—compute, storage, and network—to be reconfigured for optimal performance of any application, increasing the utilization, efficiency, and agility of the resources.

Due to budget constraints, an enterprise cannot modernize their entire infrastructure all at once. A strategy to select and refresh the highest impact elements needs to be well planned and executed.

Consolidation

Creating an IT strategy for consolidation will help determine how much data center floor space is needed and at which facilities you should deploy and operate those resources. The consolidation strategy and plan will deliver a data center floor space that matches the new demands of business in the digital era and a future dominated by the “build versus consume” right mix question.

Mergers and acquisition also play a role in determining the right location and size of data centers. Strategies must consider colocation possibilities, building new capacity or deciding to simply consume services elsewhere. Strong implementation program management (PM) must include proven PM methodologies to ensure any changes do not impact the business from a daily operational perspective.

Migrate from proprietary legacy systems

Migrating workloads from proprietary legacy systems to open industry-standard platforms will significantly cut costs. Migration of these proprietary system workloads will also lower the cost and risk of vendor lock-in and accelerate the standardization to open standards across the data center, driving costs down further. This aspect of a digital renovation initiative is focused on taking out as much cost as possible from the existing legacy IT environment so that the savings can be better invested in more efficient IT innovations.

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Workloads should be migrated from high cost platforms to more open, industry-standard, lower cost alternatives that can still deliver the same reliability and performance. The expensive, closed, proprietary platforms that many enterprises still use have high costs of maintenance, contractual support, and administrative support.

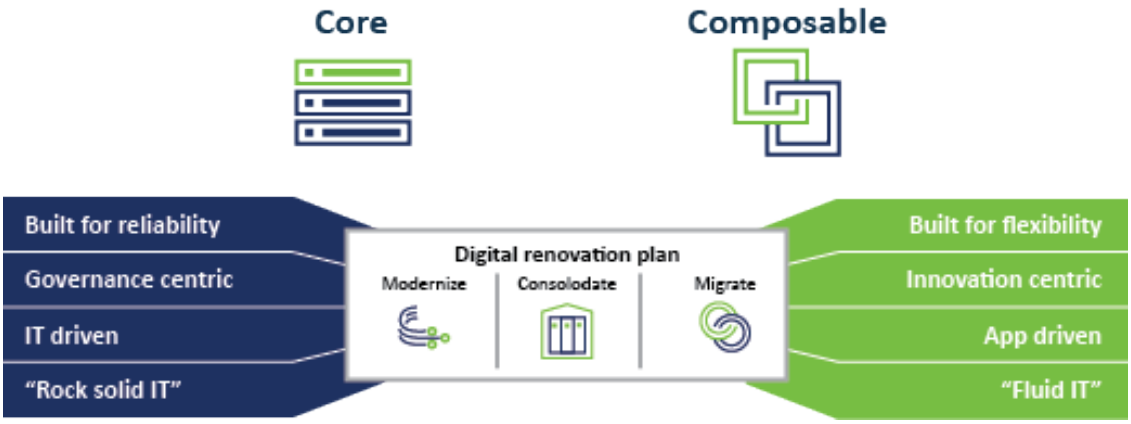

Figure 3: Renovate with the right mix of core and composable infrastructure to enable your digital platform

Checklist: best practices for digital renovation

The following checklist presents the best practices for digital renovation with the right mix of hybrid infrastructure. This checklist is divided into the three recommended priorities outlined above: modernize platforms and workloads, consolidation, and migrate from proprietary legacy systems.

Modernize platform and workloads

- **Use software-defined infrastructures:** Deploy composable modern platforms and architectural innovations that can be software-defined to increase agility and efficiency.
- **Consider lower power processors:** Low power processors help to reduce power consumption, lower overall energy costs, and free up power capacity in the data center.
- **Consider higher density and more reliable storage:** Storage innovations can handle more demanding workloads and transform growing volumes of Big Data into insights. Density optimized platforms provide a more cost-effective data center solution to meet massive scale needs. Storage options like all-flash or hybrid storage help you keep up with demand of mission-critical services.
- **Consider hyper-converged systems:** Systems that integrate compute, software-defined storage and software-defined networking allow deployment of services at cloud speed, while reducing your IT operations complexity and costs with streamlined deployment, management, and scaling.
- **Migrate to next-generation infrastructure for mission-critical apps:** Evaluate next generation innovations that can deliver significant performance advantages for applications, such as SAP® or Oracle.
- **Add composable infrastructure to your mix:** Evaluate composable hardware for greater flexibility in defining your resources to meet both traditional and cloud application needs in real time. Innovative new technologies like HPE Synergy give you more flexible, powerful infrastructure for every square foot of data center

Consolidation

- **Server and storage virtualization:** Choosing to implement a virtualization strategy provides benefits to such as faster server provisioning, reduced data center footprint, reduced power and enables overall business agility.
- **Move applications to cloud computing alternatives:** Free up space and resources for new production or growing legacy workloads not suited for the cloud by moving suitable applications to cloud alternatives. Gain a clear understanding of current and upcoming data center resource use and operational costs for each candidate application to determine its impact on your consolidation plan.

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Migrate from proprietary legacy systems

- **Replace mainframes with smaller blade server systems:** Replacing mainframes with blade servers eliminates the difficult to integrate mainframe applications with open technologies. This reduces or eliminates licensing costs as well as diminishing IT development skills.
- **Identify candidate legacy applications and workloads:** Evaluate migration candidates based on the level of benefit and the business impact in moving to more open systems from a cost, reliability, agility, and performance point-of-view.\
- **Prioritize which applications to move and when:** Prioritize applications based on those that will gain the most benefit to the business and cause the least disruption to the enterprise when moved.
- **Deploy each migrated solution:** Migrated applications should operate on the new systems in parallel with the legacy application system to enable confirmation of stability and reliability.
- **Develop and implement decommissioning plan for each system:** Have a detailed plan for decommissioning all system assets and resources when all applications have been migrated off each target legacy system by a specific date.

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Focus on hybrid IT operations

Enterprise IT in the digital economy requires a new hybrid IT operating model. New capabilities are needed that allow for brokering of an expanded set of internal and external services, which enables competitive leadership and innovation. Moving to hybrid IT operations provides an approach for enterprises to still maintain a centralized approach to IT governance, while expanding to public and private cloud services. To optimize your right mix of hybrid infrastructure, operations of hybrid IT must be integrated into the enterprise IT management environment, to accelerate "go to market" speed. It also presents a new business approach for IT when it comes to working with service providers and partners.

Hybrid IT operations is the where IT fully embraces innovation and turns it into value for the enterprise by shifting more resources from a focus on day-to-day internal IT maintenance, to becoming a service provider that manages and continually expands the mix of both internal and external services capabilities available to meet business needs. To make this shift, enterprise IT must simplify operations with automation and orchestration for centralized management, security, and continuous delivery across their hybrid environment in order to optimize the potential performance, cost management, and scalability. There are three key priorities a business must consider in their transformation plans for hybrid IT operations.

Key priorities for hybrid IT operations

Enable a cloud service-centric operating model

To provide the best value to customers, you must increase business agility, which in turn will speed IT services and lower costs. By focusing on how to deliver full services with optimal results and moving to IT as a service (as opposed to just infrastructure delivery), the services customers require are delivered when and how they are needed. This change in focus also helps control shadow IT by speeding service delivery and improving satisfaction with the services delivered and governed by the IT organization. In order to take advantage of today's digital opportunities, IT must deliver better experiences and business results by leveraging speed and innovation—while still dealing with market uncertainties.

Broker the digital supply chain

Enabling IT to act as service broker—and manage digital service provider partnerships for the enterprise—lets you reduce costs while adding value to the business. Service provider selection, service placement, and service access need to be streamlined with aggregated customized service options that are easy to choose from. As your environment continues to evolve, you must optimize the delivery of applications and services to meet your end-user needs. As a value creator and broker of IT services, it's critical to for IT to deliver high-quality end-user experiences, while ensuring effective security, compliance, and performance across your hybrid environment. It's also critical to focus on end-user experiences, leveraging automation and analytics to realize continuous improvement.

Evolve your IT workforce

Mastering the new technologies and management capabilities required for a hybrid IT organization enables enterprises to protect and fully utilize their people assets as they enable real business innovation in their transformation to hybrid IT. Business innovation is realized by the rapid assimilation of technology and digital provider partners, and then sold through digital channels and platforms. Success is dependent on the capability of organizations and their staff to adopt new processes and master new technologies while avoiding disruption caused by change.

There is a balance to aligning with corporate culture while building a hybrid IT culture. A traditional, risk-averse corporate culture will stifle even the most innovative digital business strategy. Creating a new culture for digital innovation is essential. IT organizations must incorporate change management to ensure one of their most important assets, their people, are empowered to support and manage the new hybrid IT environment.

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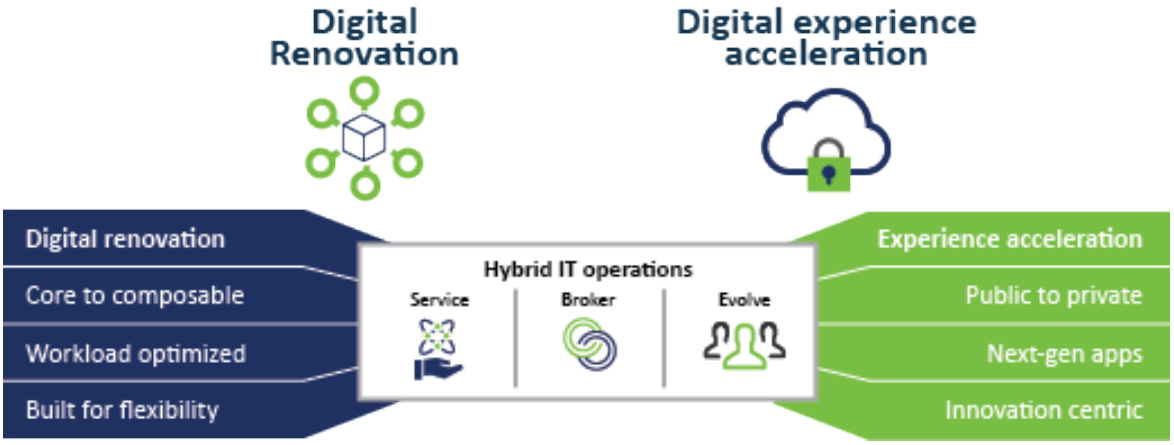

Figure 4: Evolve IT into service provider role to enable new hybrid IT operating model

Checklist: best practices for implementing hybrid IT operations

The following checklist presents the best practices to help you implement hybrid IT operations. This implementation checklist is divided into the three priorities outlined above: enable a cloud service-centric operating model, broker the digital supply chain, and evolve your IT workforce.

Enable a cloud service-centric operating model

- **Identify services and applications as candidates to move to cloud:** Identify services and applications that enable new business models as top candidates. Cloud computing is not always cost effective or suitable for every application. An assessment and migration plan should be created for each type of application based on their usage, performance, security, and compliance requirements and cloud migration costs.
- **Align governance and security processes:** The new cloud service models should be assessed against compliance and security requirements to determine how current processes will need to be augmented.
- **Plan a strategy for separate environments on both private and public cloud platforms:** Enable the business to select the right mix of each cloud platform based on the benefits and drawbacks of each platform for each type of workload. Utilize private cloud for workloads needing more protection, resource optimization or stringent SLAs and public clouds for short-term dev/test needs or for cloud-native applications that do not require storing sensitive data or ensuring compliance.
- **Design and implement the cloud architecture based on the strategy:** Evaluate your design and cloud platform options for interoperability and workload portability with other cloud services—while retaining the ability to develop in one place.
- **Measure value achieved from cloud workload deployments:** Plan in advance for what metrics to measure and take measurements prior to implementation for impact comparison so changes can be made based on this baseline data to continuously improve.

Broker the digital supply chain

- **Enable the business to select the providers needed:** Often it will not be possible to select a single provider capable of delivering the mix of capability and cost structures to meet the mix of requirements from your various business departments. IT must work with the lines of business to understand the providers they have chosen, then build value and trust by off-loading the back-end management tasks required to keep those providers operating effectively.
- **Create/change the broker IT services process for end users:** Create a single interface for end-users and a common control point for IT for services across traditional IT, private and public clouds. Create a governance structure that assures speed and agility in service delivery and adopt tools specifically designed to enable and automate service delivery processes.

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- **Create a service broker catalog:** Assess current services first to establish a service portfolio for IT and LOB users through an easy-to-use catalog, which aggregates and integrates services from multiple providers. Facilitate the selection and adoption of internal and external cloud resources and inventory them. Capture, review, and prioritize all business and IT demand to create service portfolio guidelines based on business goals and objectives that helps determine which services should be placed, and where.
- **Develop migration plan for broker catalog:** A migration plan for services to the broker catalog should include workload portability discovery and suitability analysis stages to understand the characteristics and needs of each app followed by mapping the workloads to the right kind of cloud—private hosted, managed, or public. If hosted or public cloud is used, the plan should include analysis of which specific provider may specialize in the different workload areas. Employ workload migration tools to automate the movement of workloads to the chosen cloud environment.
- **Establish best practice governance over provider services:** Provider service processes and policies should ensure services are negotiated at the right quality, functionality—and at the right price.
- **Secure the hybrid IT environment:** Processes should be created for identifying if a service or application accesses any sensitive data to automate its placement policies. Integrated security and compliance management tools should also be implemented to ensure proactive monitoring across the different layers of the hybrid IT environment.
- **Broker the supply chain:** Streamline supplier selection and create basic evaluation policies for attributes such as service level, price points, geographic location, and compliance requirements. Deploy cloud brokering and management tools to help manage this process.
- **Monitor brokering effectiveness:** Implement management tools that provide real-time discovery of services and their performance using external source traffic analysis, impact and risk, to understand what is actually being delivered and then address gaps.

Evolve your IT workforce

- **Improve staff skills:** Bring new skills online to deliver an effective hybrid IT environment. Targeted training to support a hybrid infrastructure environment should include skills to leverage new technologies (i.e., OpenStack® technology), manage hybrid IT assets, broker hybrid services, hybrid/DevOps operations, service centric operations, agile approaches on project management, agile development, and rapid prototyping.
- **Create the right culture in organization:** Manage the cultural transition. Assess process and organizational impact for these new cloud technologies before embarking into any massive transformation.
- **Implement change management:** Partner with important business stakeholders to develop a shared understanding of hybrid IT and what it means to the business. Implement a formal change management plan that prepares and supports IT and business roles throughout the required technology, process and organizational changes. The plan should include communication, tools, and training elements for optimal results.

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Determine your specific use case needs

Customers should evaluate and prioritize the following common strategic use cases as they transform to a hybrid infrastructure, focusing on those that can resolve the most pressing problems and achieve the best business outcomes, for your specific organization. Exploring and including these use case specific requirements, capabilities, and outcomes in your transformation plan will help you further refine the right mix of hybrid infrastructure and technology selections you will ultimately need to enable these use cases. Each of these use cases has natural alignments with one or more of the three focus areas identified in the transformation to hybrid infrastructure methodology. HPE and many HPE Ready Partners offer expertise with the design and deployment of these use cases. This expertise includes implementation best practices and existing reference architectures to speed success as well as offering additional implementation and management services that may be needed.

- **Rapid infrastructure provisioning:** implement self-service delivery of infrastructure services in just minutes with a private cloud for dev/test, IaaS, or VM vending to cut app development/delivery time and reduce IT costs.
- **Move traditional applications to cloud:** deploy traditional or cloud-optimized applications to a hybrid cloud faster and with less risk to improve performance, increase availability, accelerate updates, and reduce costs.
- **Develop and deploy cloud-native applications:** modernize application development with a cloud development platform that is flexible, integrated, and automated to reduce development time and costs while accelerating innovation and growth.
- **Storage in the cloud:** deploy cost-effective cloud storage to keep up with exploding growth and provide: improved collaboration and sharing experiences; stronger backup and archiving; and enhanced access to the content that keeps business activities moving.
- **Modernize enterprise applications foundation:** implement breakthrough, next-generation technologies to enable higher performance for the growing number of apps, at a lower cost, to drive business growth.
- **Virtualize clients and applications:** convert infrastructure silos into shared, virtualized pools of IT resources to improve utilization and reduce the cost of keeping up with demand anytime, anywhere with needed services delivered faster and managed easier.
- **Data center automation:** automate IT tasks and orchestrate IT processes for provisioning, patching, and compliance across servers, networks, databases, and middleware in heterogeneous environments.
- **Broker and manage multiple clouds:** transform to an internal service provider who can broker and provide control across needed cloud services from multiple providers. This capability will improve productivity and service delivery while lowering costs and risk.
- **Hybrid infrastructure for AWS:** seamlessly migrate apps and data between the AWS public cloud and your own AWS-compatible private cloud for the right mix of cloud services. This capability will help you meet security, compliance, cost, or specialized performance needs.
- **Integrate cloud operations:** deploy advanced cloud management tools that integrate your existing layers of management. This capability will provide the visibility and automated controls that increase satisfaction, speed response to changes in demand and issues, and reduce service costs.
- **Continuous delivery and deployment:** Deliver innovation at the speed of business through automation, infrastructure as code and release management across the delivery value chain to drive continuous improvement and improved customer experiences through more predictable application release cycles at a reduced cost to the business.

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Summary points, starting and transformation

When planning a transformation to the right mix of hybrid infrastructure, enterprise IT should ensure they cover three main stages in their overall approach. Step one is to map out a plan covering initiatives for each of the three hybrid infrastructure focus areas with the prioritized implementation best practices and use cases:

- **A focus on digital experience acceleration.** Focus on how IT can accelerate the creation of value delivered to customers and other key audiences as they consume innovative new applications and digital services.
- **A focus on digital renovation.** Focus on how new architectural thinking can make core IT resources ready and relevant to support the new digital enterprise. Think about how to evolve to an agile infrastructure with flexible, cost-optimized composable workload platforms that can continuously be re-configured. Performance gains from new innovations will provide the right hybrid infrastructure to power your current and future IT services while maximizing value from your infrastructure investments.
- **A focus on hybrid IT operations.** Focus on changing the way IT conducts and runs the IT business as they make the big shift from focusing on day-to-day internal IT to becoming a service provider that manages a mix of both internal services and external services to meet business needs in real-time. IT teams must centralize management with automation and orchestration that optimizes performance, economics, and scalability across their hybrid IT environment.

Step two is to develop detailed priorities for each of the enterprise's unique set of identified use cases and needs. This step will involve discovering the current status and then defining the drivers and objectives for the desired future state of the use case. Server Cloud Canada can input into methodology that helps you effectively plan to achieve each use case based on IT capabilities, existing weak points, and white spots analysis, coupled with reference architectures and proven hybrid IT model capabilities. Step three of the approach will be to execute the plan using the enterprise's established methodology or best agile approach. This should include an implementation roadmap as well as execution plans for each implementation point. Both the roadmap and the execution plans should be continuously reviewed and adjusted throughout the transformation.