

Tackle hybrid cloud challenges with an edge-to-cloud approach



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As companies modernize IT and power up new data-first strategies designed to create competitive advantage, hybrid cloud holds enormous promise.

Yet managing a disparate IT landscape that spans on premises, edge, public cloud, co-location, and multicloud can be complicated by integration, cost management, security, and data governance challenges. What's more, a growing IT skills gap often stands in the way of successful deployment. What's needed is a more flexible path to hybrid cloud—one that brings the cloud experience and operating model to data and apps wherever they reside.

The sudden shift to hybrid and remote work, along with virtual experiences, accelerated digital transformation and cloud migration. Suddenly, companies had to double down on efforts to improve business efficiency, boost employee productivity, and deliver new experiences designed to delight customers and keep them engaged.

Yet a sizable number of apps and data volumes remain outside the cloud. Reasons include data gravity, latency, intellectual property protection, performance, and app entanglement (according to some estimates, close to 70%¹). Storage and compute capacity may seem infinite in the cloud, but costs mount quickly when processing and analyzing data at scale, leaving room for a more cost-effective strategy. Skills are another major hurdle as IT organizations struggle to stay abreast of the rapidly changing technology landscape.

As companies recalibrate for the new era, hybrid and multicloud environments are emerging as the preferred foundation for modern IT. IDC research found companies are already leveraging a mix of private and public cloud services with orchestration between platforms.²

While almost half (47%) of those surveyed are currently migrating data between cloud environments and organizations, they see the landscape getting even more complicated. In fact, 77% of companies IDC surveyed said they expect the difficulties associated with hybrid environments to surge as they implement multicloud strategies that involve working with more than one provider.

Defining hybrid cloud

HPE defines a hybrid cloud environment as one that combines a private cloud comprising on-premises or hosted infrastructure with public cloud. HPE advocates for a flexible solution that can change as business needs change. This allows organizations to start the hybrid cloud journey anywhere they see fit and route workloads and apps to where they make the most sense.

The HPE GreenLake platform uses an edge-to-cloud approach to meet that challenge. HPE GreenLake delivers a cloud operating model for all workloads—traditional, cloud native, and mission-critical—while providing the scalability necessary for today's rapidly changing business climate. In addition, the HPE GreenLake edge-to-cloud platform brings the speed, pay-per-use, and scalable self-service experience of the cloud model to apps and data wherever they reside.

Analysis of data from the edge to the cloud is vital to improving both business and environmental, social, and governance outcomes. On-premises resources are required to uphold data sovereignty requirements, maintain security mandates, and avoid public cloud vendor lock-in. The hybrid operating model is the key to unlocking value for edge-to-cloud workloads and data.

¹ Q2 Cloud Pulse Survey, July 2022, IDC

² IDC BuyerView Cloud Pulse Survey, 2022

“Edge to cloud is not edge AND cloud—it is about standardizing, connecting, and integrating service experience between different locations,” says Hande Sahin-Bahceci, HPE GreenLake, Global Marketing. “How do we do this? By giving customers the flexibility to store and move data and workloads distributed across different environments so they can gain greater control easily and securely.”

The hybrid cloud challenge

So how should companies think about their hybrid cloud journey? Instead of defining cloud as a place, they should aim to deliver a true “cloud experience” that executes workflows and business processes with superior scalability, agility, and value. This in contrast to alternative approaches that are often constrained by limited infrastructure, storage, or computing parameters.



It’s also important to embrace a holistic hybrid cloud approach that transcends edge, data, cloud, and security. Key considerations include:

1. Connecting the edge

To drive data-first business, companies need to act on data where it’s being generated, which increasingly means the edge. By the year 2025, IDC predicts there will be an estimated 55.7 billion connected internet of things devices on the planet.³ At the same time, Gartner expects more than half of enterprise-managed data to be created and processed outside the data center or cloud.⁴

The breadth and scale of edge applications vary widely. A manufacturer could harness real-time data from cameras and a robot-driven assembly line to predict quality defects. A financial company requires compute, network, and storage capacity at the edge to analyze online transaction data to determine credit card fraud. In medicine, edge applications abound, including harnessing data from wearables and medical devices to deliver highly personalized and patient-specific health care services.

While the potential is huge, there are challenges, including the need to manage disconnected and siloed data that is not readily accessible. Users need to securely connect, analyze, and act on data across apps, users, devices, and locations, regardless of where they are running. To avoid data migration headaches, data must be managed across sites as a single logical infrastructure, from edge to cloud, complete with enterprise-grade governance, security, and availability. With business requirements in constant flux, organizations must accurately forecast and scale compute and storage capacity easily based on changing needs.

³ IDC Worldwide Global DataSphere Forecast, 2021–2025: The World Keeps Creating More Data—Now, What Do We Do with It All? March 2021, David Reinsel, John Rydning, John Gantz

⁴ Predicts 2022: The Distributed Enterprise Drives Computing to the Edge, October 20, 2021, Gartner—Bob Bill and Tom Bittman—ID G00757917

“Whether it’s an edge location like a factory, a supermarket, or a hospital, it doesn’t matter—it’s just a center of compute that cannot move to the cloud,” says Denis Vilfort, HPE’s Director of Business Development. “That makes up about 70% of the data continuum, and that’s what the edge-to-cloud platform HPE GreenLake is built to handle.”

2. Securing the landscape

The complexity of the threat landscape is escalating, and IT organizations are under constant pressure to close gaps in their security infrastructure and minimize corporate exposure and compliance risks. According to a [2023 Ponemon Institute survey](#), only 44% of respondents say their organizations are highly effective at keeping up with the constantly changing threat landscape. The security challenge is magnified as compute and storage moves from the data center to the edge and hybrid cloud takes hold as the preferred model.

What’s needed is a new way of thinking about security and protecting the data that is now the lifeblood of modern business. Organizations need to shift away from a perimeter-based security strategy to a silicon-to-cloud approach that safeguards infrastructure spanning multiple clouds, data centers, and the edge. A zero trust framework, continuous data protection and compliance, and automation are hallmarks of a modern security strategy. “Security needs to live at all levels, all the way up to the application,” Vilfort says.

3. Turning data into intelligence

Companies are awash in data, but that data is only an asset when it’s unlocked from siloed systems and delivering valuable business insights in a timely fashion. With data sets that are vast and massively diverse, organizations need a way to create a single source of truth,

gaining insights on demand with the help of automated AI pipelines and orchestration, while establishing enterprise-grade governance no matter where data resides.

4. Building a cloud

There are no one-size-fits-all cloud solutions. Organizations need a flexible path to modernizing multigenerational IT in a way that works best for their organization and their particular set of business needs. They need a solution that delivers a secure, unified cloud user experience and operating model for apps and data wherever they reside, ensuring the flexibility to run workloads where they run best.

Organizations must more efficiently manage IT assets and maximize data through self-service and hybrid analytics. Many favor as-a-service models, which provide freedom from the cost and complexity of capital expenditures.

HPE GreenLake transforms hybrid, multicloud IT

The HPE GreenLake edge-to-cloud platform tackles the challenges of the modern IT estate, serving as the connective tissue between hybrid, multicloud silos. HPE GreenLake does so through delivery of networking, storage, data protection, and compute functions. These bring the cloud experience to data, applications, and workflows wherever they are running, to drive the most business value.

HPE GreenLake ensures a unified, secure cloud experience for all workloads across the hybrid, multicloud landscape via a single pane of glass. All multi-vendor tools, processes, and workflows can be centrally managed and are accessible from one integrated service catalog. This provides better controls and visibility across the hybrid cloud environment.

Support for an open and vendor-neutral architecture based on advanced cloud-native technologies ensures workloads can be moved between HPE GreenLake and any public cloud environment for seamless operations. In comparison, hyperscalers like Amazon Web Services and Microsoft Azure can only integrate with an on-premises environment that supports their specific technologies.

HPE GreenLake also allows for policy-based bursting to public cloud without having to copy or move data from on premises to cloud—another way to drive performance, uphold security, and reduce latency.

HPE GreenLake tackles the complexity of the multicloud, hybrid landscape with built-in automation across all workloads. Specifically, policy-based, automated workflows facilitate provisioning and management of resources across public and private clouds along with incident notification and problem resolution. The edge-to-cloud platform also supports automation and governance for service management.

Designed for multigenerational, multi-vendor environments, HPE GreenLake integrates over 70 IT operational management tools, augmented by HPE intellectual property. The platform achieves service management excellence through AIOps for predictive and preemptive analytics, including 99.997% event correlation and auto-remediation.

The bottom line

As companies advance a hybrid cloud journey, they need a platform that will accelerate data-driven workloads. The HPE GreenLake edge-to-cloud platform lets organizations direct IT modernization from one place, paving the way for better decision making and more impactful business outcomes.

For more information, go to
GreenLake.HPE.com/cloud