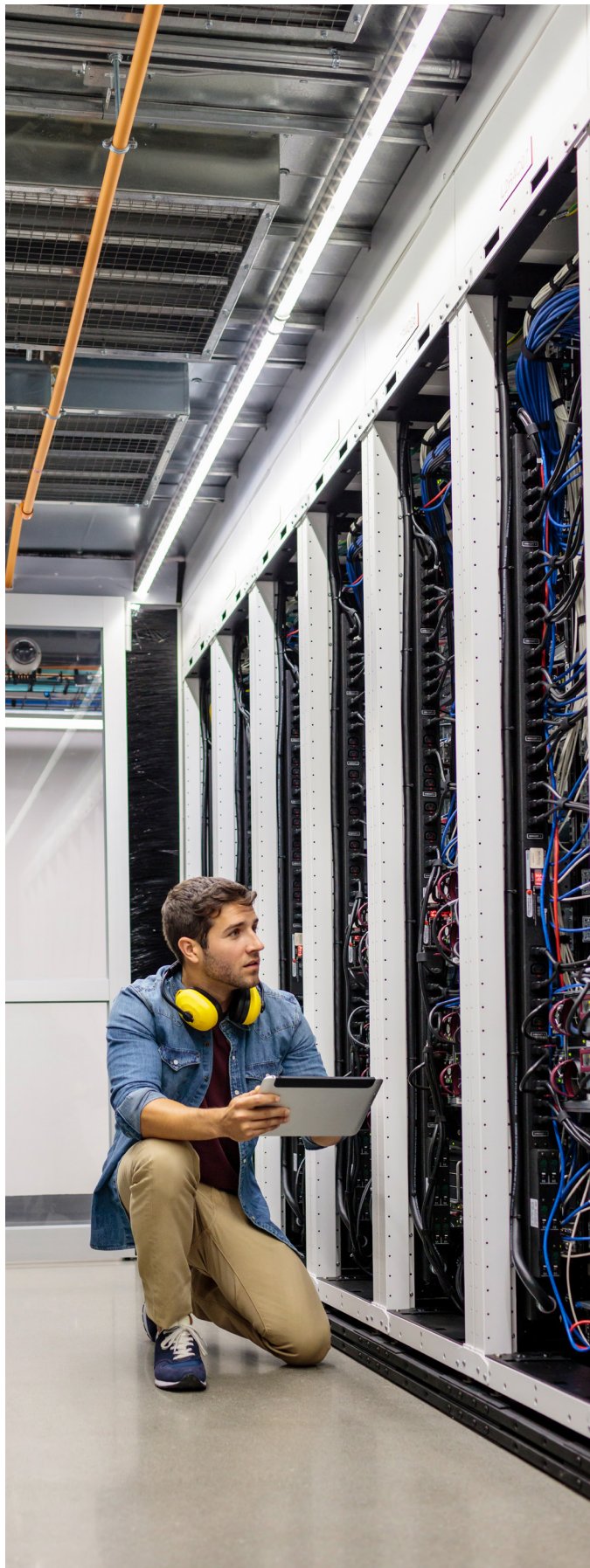




Managing your  
hybrid cloud  
doesn't have to  
be complicated





## Here's how to overcome five common challenges.

Hybrid cloud is becoming the preferred strategy of enterprise decision-makers. Driven in large part by the growth of AI workloads, IT leaders are now debating whether a solely public or private cloud architecture makes sense for the future. Sure enough, in a new study, IT leaders named hybrid cloud as one of the four most essential elements to achieving AI success.<sup>1</sup> To that end, nearly 70% of enterprise decision-makers are now opting to host their generative AI initiatives in either private clouds or a hybrid public-private infrastructure.<sup>2</sup>

Of course, managing a disparate IT landscape spanning private cloud, edge, and public cloud operations can add managerial complexity, particularly when AI workloads are involved. Yet, that shouldn't stop you from embracing hybrid cloud. Here are a few of the most common hybrid cloud challenges, with practical advice on how to overcome each.

## 1. Integrating on-premises and cloud environments

Ensuring seamless interoperability of your on-premises and cloud environments starts in the planning stage. The choices you make early on will have a great impact on how your hybrid cloud ultimately works. That means it's critical to clarify your objectives for using a hybrid cloud architecture and identify what applications, data, services, and AI workloads will need to work together. You can employ many different integration strategies and tools to successfully integrate older and more modern technologies. Assess the requirements of your systems and choose the strategy that best meets your organization's needs.

To keep your integrated environments running smoothly, you can implement tools that allow you to monitor and manage your on-premises and cloud environments from a single interface. This will help you maintain visibility, troubleshoot problems, and optimize performance across your hybrid cloud.

<sup>1</sup> ["Deploying AI? Hybrid cloud by design is your best bet,"](#) Hewlett Packard Enterprise, 2024

<sup>2</sup> ["Weighing the Open-Source, Hybrid Option for Adopting Generative AI,"](#) Harvard Business Review Analytic Services, 2023



## 2. Managing multicloud complexity

While the flexibility of multiple cloud services can promote greater productivity and innovation while boosting AI performance, it also adds complexity that must be managed. Optimizing resources, minimizing security issues, and enforcing policies can all become more difficult in a hybrid architecture across multiple environments. “As the demand for integrating AI into existing workloads increases, so too do the governance challenges and concerns,” says Shohei Maruyama, director of cloud platform and application modernization at HPE Services.

Cloud governance encompasses the process of creating and monitoring policies that guide your organization’s cloud operations and overseeing how users work in your cloud environments. It enables you to get more control over system integration, data management, compliance practices, and other areas of your cloud operations, ensuring your hybrid cloud consistently meets your organizational goals while minimizing interruptions and risk. You can develop a cloud governance framework from your organization’s existing IT practices or create a new set of rules and policies specifically for the cloud. The most important thing is to design a cloud governance model that suits your business’s needs. And it’s also important to appoint a savvy chief data officer to manage it, says Maruyama.

## 3. Maintaining visibility into operations powered by AI

As organizations integrate private cloud capabilities and public cloud services, it becomes more challenging to gain valuable insights into the availability and performance of compute resources, network resources, service usage, operational costs, and other factors that indicate the overall effectiveness of your hybrid cloud. AI, however, can add visibility into current operations and help you forecast issues that may impact future operations.

While a single-pane-of-glass solution — a dashboard-style monitoring tool that unifies data from multiple sources into a single view — is often recommended as well, it isn’t always practical given the mesh of different technologies that make up hybrid cloud architecture, Maruyama says. Instead, he adds, it’s more important to decide on a consistent set of metrics to report on what factors matter most to you, regardless of the tools you use.

“Once you have visibility into your operations,” says Maruyama, “you will be better positioned to run AI workloads on a continuous basis and in an efficient manner. This will in turn help you set a baseline for long-term performance improvements.”





## 4. Ensuring security across the network

As cybercrime continues to increase, organizations are under more pressure than ever to protect their customers' data from theft and prevent interruption of their critical business operations. SecOps work is more difficult for organizations when their networks are no longer confined within the four walls of an on-premises data center.

"The major concern stems from the ever-increasing volume of data that organizations have to wrestle with," says Maruyama. "AI workloads in development and operation require access to large volumes of data, which are not always on-premises. That raises concerns about privacy and confidentiality."

Using a Zero Trust architecture is critical for securing your hybrid cloud, Maruyama says. Instead of trusting the users and devices connecting to your network by default, a Zero Trust approach assumes no user or device should be automatically trusted, regardless of their location or what resource they're attempting to access. A Zero Trust architecture uses strict policies and permissions and advanced technologies such as AI to ensure authorized users can access only the resources they need to perform their role and nothing more.

## 5. Keeping cloud costs and utilization in check

Hybrid cloud can introduce new cost management challenges. Because these environments typically involve multiple cloud providers, managing the different service offerings, pricing models, and billing structures can get complicated. It can also be difficult to get a handle on data costs, as each platform has unique cost management tools and interfaces, making it difficult to consolidate and compare cost and utilization data. In addition, it can be challenging to properly allocate resources over multiple environments, resulting in unnecessary expenses due to underutilization.

The first step toward improving cost and utilization management is to get visibility into your hybrid cloud expenses with effective monitoring and analysis software. These tools can help you track spending and analyze trends and patterns so you can optimize the cost, utilization, and performance of your cloud resources. Another way to reduce unnecessary costs is to implement automation and DevOps to provision and scale resources according to workload demands, ensuring resources are provisioned only when they're needed. It may also be necessary to enlist the help of a cloud partner that can provide expertise in optimizing your cloud experience and ensure it's working for your organization.



## Let business needs guide your hybrid cloud strategy

When tackling hybrid cloud challenges, it's important to look at each holistically and consider your overarching business goals, Maruyama notes.

"Hybrid cloud gives you the flexibility to choose when and where to run certain AI workloads," he says. "But you also need the right people and the right processes to make all of that possible. With all those pieces of the puzzle in place, you set the stage for successful business transformation."

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