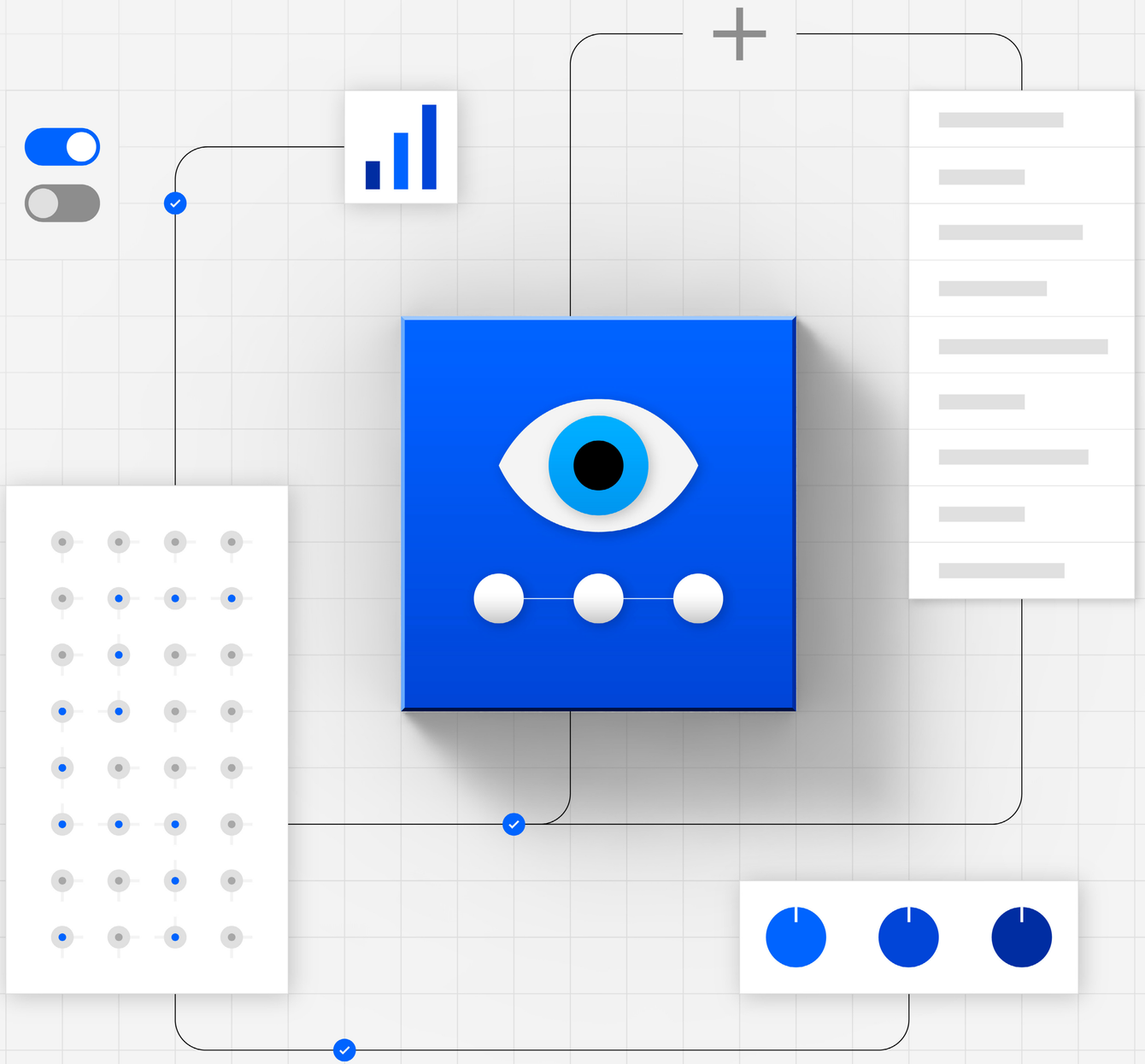
Realize the full value of hybrid cloud for AI

Optimizing IT with an intentional hybrid by design approach



IBM

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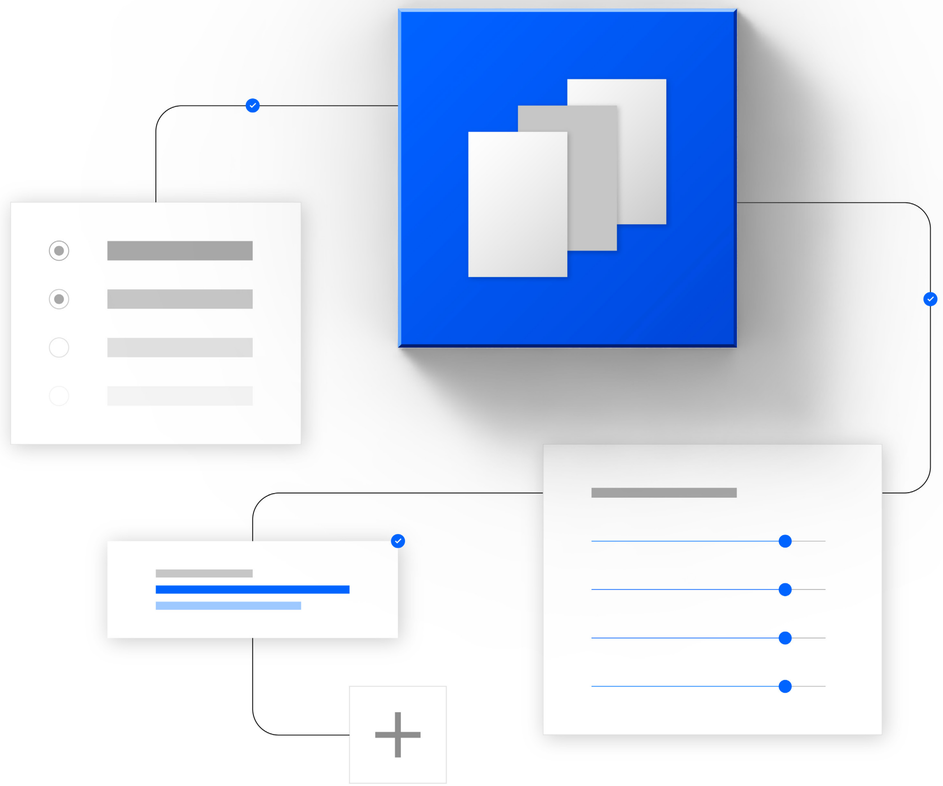
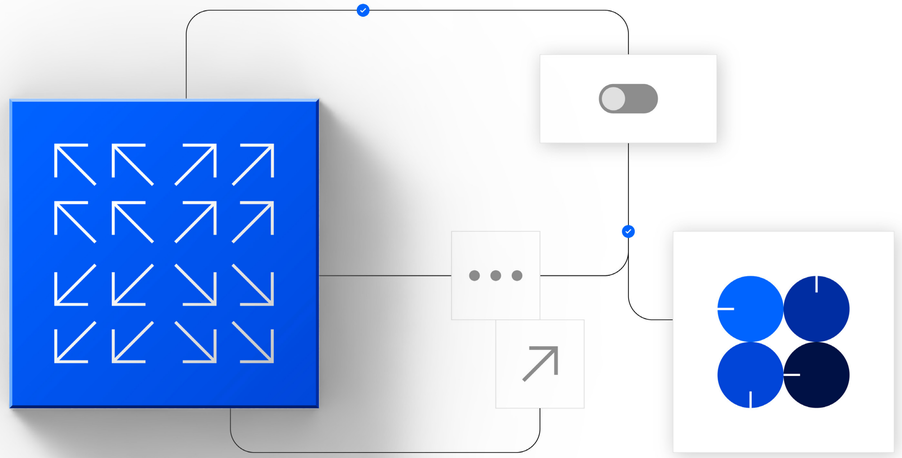


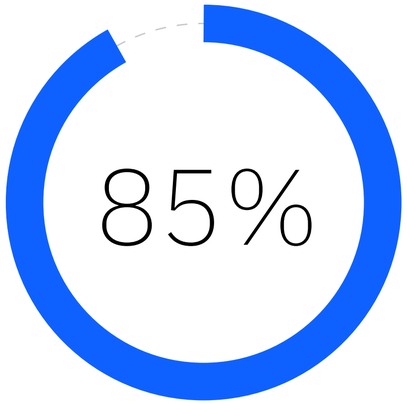
01

Meeting the demands of a rapidly evolving business landscape

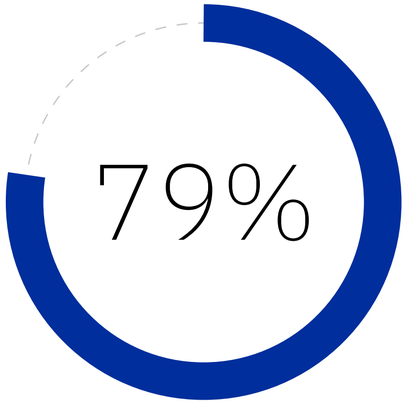
Organizations are experiencing increased pressure to deliver greater value at lower cost to customers who demand more. Business priorities remain consistent—expanding revenue streams, reducing costs, driving security resilience and sustainability. However, the rise of generative AI (gen AI) has created an opportunity to accelerate digital transformation and deliver greater value.

Organizations must evaluate their existing technology and build strong, intentional hybrid foundations to support this next wave of innovation. Some have struggled to create an IT architecture that serves as the backbone for standing up AI. Others understand the power of creating consistent environments across multiple clouds and on-prem environments—a hybrid cloud—and implement an intentional hybrid by design approach that can prevail and thrive during this inflection point.





of organizations lack a clear and articulated future-state for their cloud transformation.[1]



of US-based respondents agree that without a hybrid cloud strategy, it’s difficult to realize the full potential of AI.[2]

For many organizations, AI has been a catalyst for change. Some firms have adopted siloed cloud or multicloud strategies to address immediate business and customer needs with limited long-term planning or outlook to realize return on investment (ROI). They're moving quickly and focusing on pilot programs to fulfill the promises of AI to provide tangible business results without thorough consideration for an overall technological strategy.

Ultimately, this approach leads to reactionary strategies and growing silos, resulting in:

Complex IT environments

Unrealized business outcomes

Cloud and tech sprawl

Overspending and inefficient operations

Slow adoption of new technology and innovation

Scaling AI pilots seems to be a component of garnering the value of enterprise AI, but many organizations experience failure after their adoption. To deploy AI at scale and see real results, businesses must leverage their existing data and compute resources across multiple clouds and on-prem environments.

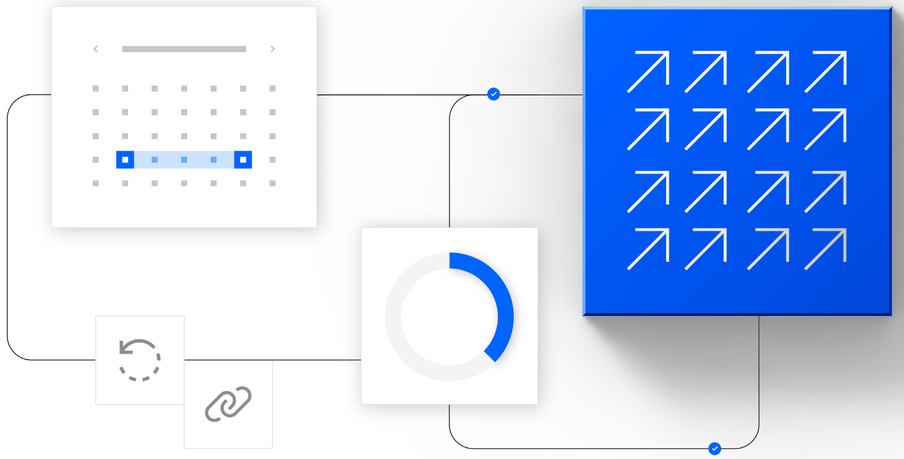
These endeavors can be difficult if IT environments are siloed and inconsistent—not to mention the added challenges of people and process changes. A more intentional strategy toward a hybrid multicloud architecture can help unify disparate platforms and create consistency across cloud and on-prem environments—setting up an organization for success.

02

Optimizing IT with a more intentional hybrid cloud approach for AI

Imagine if technology architectures were purposefully built, ready for innovative solutions. IT estates designed to support business strategies, meeting evolving customer demands, realizing desired outcomes and creating value.

A hybrid by design approach can leverage the investments that organizations have already made, as well as help leaders optimize and integrate multicloud and on-prem environments—accelerating time to value and improved business outcomes.



See it in action

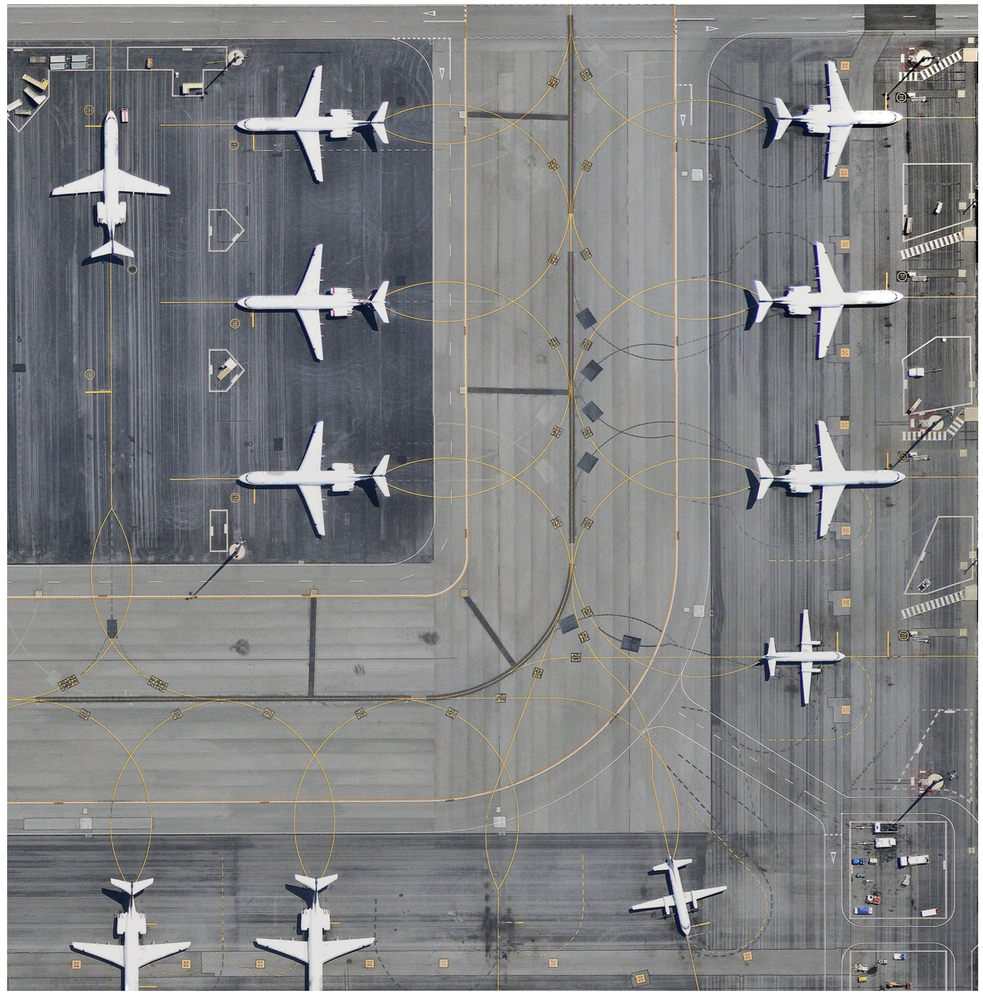
Delta Air Lines

When the time came for one of the longest-running airlines to drive innovation and migrate to the cloud, it adopted the IBM Garage™ Methodology alongside the experts of IBM Consulting®. Using Red Hat® OpenShift® Platform services, Delta Air Lines could deploy anywhere and take a consistent, standards-based approach to development—thanks to an intentional hybrid cloud approach.

Read the story →

90,000+
Employees needed different tools and insights to increase speed to market

25-30%
Expected increase in speed to market



Optimizing existing technology and creating consistent environments that work together across an IT estate leads to transparent operations and trusted AI outputs. Moreover, Gartner reports that most enterprises will deploy gen AI across hybrid or multicloud environments to:

Run where the workflows, applications and data live.

Infer where business runs to drive performance, cost and simplicity.

Drive security benefits through data location.

Drive regulatory compliance to influence location selection.[3]

IBM brings together AI-ready infrastructure as-a-service with a hybrid cloud platform from Red Hat and consulting expertise to optimize IT operating models for AI workloads. There are three major outcomes when a business optimizes its technology through an intentional hybrid cloud approach built for AI:

Consistent IT environments for cost efficiency

Unified and flexible management for secured and accessible data

Application modernization for increased productivity

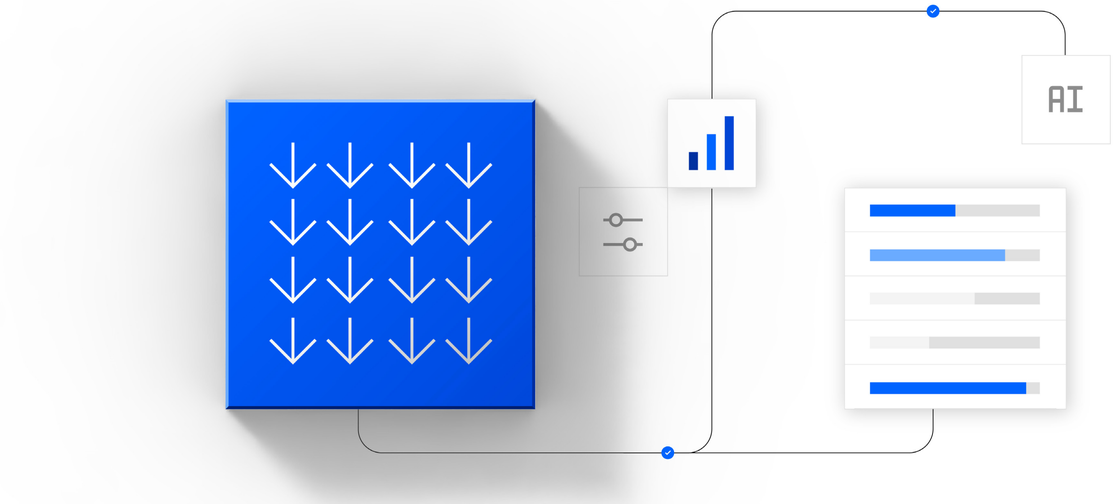
Let’s explore each of these outcomes and their unique benefits.

Cost efficiency and consistency

Maximize ROI of IT investments and simplify operating models

Since **40% of firms surveyed believe they're overspending on their IT infrastructure across private and public estates,**[4] cost reduction is a critical factor for business decisions. Moreover, organizations need simplified, integrated and automated solutions to help optimize IT spend, improve operations and drive greater financial returns.

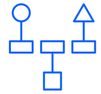
IT leaders should seek to improve economies across their hybrid cloud environment by using cloud financial management designed to bring accountability to the variable, consumption-based spend model of cloud. This optimization can enable more effective and efficient management of workload deployment and placement strategies.



To achieve greater cost savings and maximize ROI, consider the following three areas:

Optimizing technology and multicloud usage
Using an everything-as-a-service (XaaS) model affords shifting usage for greater ROI and consumption-based cost. Leverage the best features of products and services and create a tailored technology environment that's geared toward specific applications and workloads. Furthermore, integrating optimization and automation software can help manage cloud costs and optimize application resourcing.

Storage and compute needs
Meet intensive data storage and compute needs to maximize AI and mission-critical workloads by deploying IT automation, management and cost optimization across public and private deployments.



Take a holistic approach
Evaluate the entire IT estate holistically and design a hybrid cloud infrastructure intentionally. This approach can include practices, specialized skills and technology to reduce integration costs, resulting in accelerated digital transformation and creating longevity for IT. Simultaneously, it can help establish a technology infrastructure that is prepared for future integrations and innovation adoption.

See it in action

CVS Health Corporation

When health leader CVS Health embarked on its hybrid cloud journey, it took a holistic approach that ultimately led to considerable cost reduction and helped transform how it provided service.

“We can literally build integration capabilities at about a third of the cost that we could four years ago.”

Claus Jensen
CTO,
CVS Health Corporation

Read the story →

Explore the solutions
Move your hybrid cloud and AI journey forward with an open, integrated foundation that can be accessed quickly and consistently across digital environments.

Let’s go →

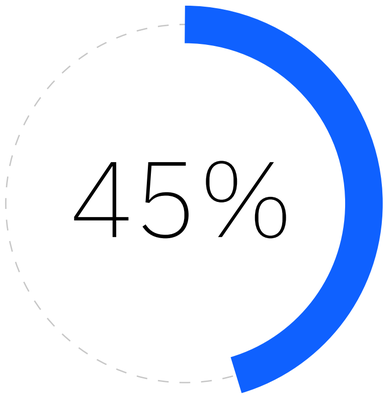
IBM Consulting can help transform your business with consistency, security and scale across essentially any cloud, on prem or at the edge with Red Hat technologies.

Start exploring →

Data management to fuel AI

Access and leverage data–wherever it resides

Trusted data is the lifeblood of all AI endeavors. Yet, some IT leaders see gen AI as a risk for their data, with 45% of executives that work on cloud initiatives indicating concerns about cybersecurity and confidentiality of data and information when adopting gen AI.[5] Meanwhile, fundamental data challenges—silos, complexity and inconsistent data sets—can limit usage and access.



Executives that work on cloud initiatives indicate concerns about cybersecurity and confidentiality of data and information when adopting generative AI.[5]

Here are three considerations for why a flexible, open and unified data management approach is critical to scaling enterprise AI.

Company-wide connection
Connect and optimize data silos throughout your business and AI efforts with an open ecosystem of storage options—including non-IBM platforms—from edge to core to cloud. Drive trusted AI-driven solutions by unifying your data across the entire IT estate.

Governance, risk and compliance
Securing your AI solutions starts at the data. Control data privacy and security locally with built-in governance, metadata management and security. Also, deploy globally with enterprise-wide governance solutions to achieve compliance.

Accelerate deployment, avoid lock-in
Vendor lock-in makes it difficult to migrate data without substantial cost and effort. Open-source technology can enable businesses to use the best solutions—regardless of vendor. And an open, intentional hybrid multicloud can create a strong foundation for data flow and interoperability to support successful AI deployment.

See it in action

University of Birmingham

A premier research institution, the University of Birmingham deployed IBM® Storage solutions to increase transparency around its data's location and who accesses it.

"We support research in a wide range of areas including applying and developing techniques to use AI and deep learning."

Simon Thompson
Research Computing Infrastructure Architect,
University of Birmingham

Read the story →

Explore the solutions
Connect data silos throughout the organization with an open ecosystem of storage options, including non-IBM storage platforms, from edge to core to cloud using IBM Storage Scale.

Start exploring →

Continuously monitor and detect anomalies, like ransomware, with IBM® FlashSystem. Respond to cyberthreats quickly, identify risks in real time and use AI to improve detection times.

Dive deeper →

Modernize and deploy apps using AI

Increase productivity and accelerate time to market

If existing applications can’t deliver agility, innovation or business value, they pose a liability to success. In fact, **67% of surveyed executives say they need to transform quickly to keep up with the competition,**[6] signaling that the pressure of customer demand is stronger than ever. While IT leaders are eager to modernize, they need the right foundation to prevent ROI bottlenecks. How can an intentional hybrid cloud approach and AI help?

Build the right foundation
Use gen AI to accelerate application modernization, including mainframe apps, while potentially lowering cost and risk. Additionally, extend these apps to the cloud while developing new, cloud-native apps and integrate them with existing data and application workloads.

Increase developer productivity
Accelerate the end-to-end application developer lifecycle using gen AI-assisted products. Developers can automatically refactor selected elements of an application while continuing to modernize or selectively transform code. This is done by leveraging gen AI using a highly tuned large language model.

Drive efficiency and speed
Reduce time to value with innovative patterns, tools and practices. Businesses can boost the speed, performance and scalability of cloud adoption through AI-driven automation, creating a migration strategy for a secured, repeatable and scalable path ahead.

See it in action

IBM Chief Information Officer (CIO) organization

The IBM Chief Information Officer (CIO) organization needed a single platform on which digital business application components would run—with full observability, transparency and optimized cost for performance. Using the Red Hat OpenShift Platform, the organization created a single umbrella hybrid cloud platform for containerized applications and a heterogeneous set of architectures.

Read the story →

2,000+
Application components onboarded to the CIO hybrid cloud platform

55%
Fewer DevOps hours spent on operations

90%
Cost savings—leveraging hybrid cloud containerized workloads

“We must leverage IBM's products and technology at enterprise-scale. This meant using IBM's hybrid cloud technology to build an intelligent application platform to run internal applications, integrations, digital workflows and data components.”

Matt Lyteson
CIO, VP Technology Platforms Transformation
IBM

Create an intentional, unified hybrid platform that is fully automated and affords extension into any on-prem, edge or public cloud environment leveraging Red Hat OpenShift on IBM Cloud.

Let’s go →

Use IBM watsonx™ Code Assistant for Z to power application modernization and enable enterprise agility with gen AI.

Start exploring →

IBM Consulting application modernization services enable you to modernize your existing applications with hybrid cloud and AI.

Let's dive in →

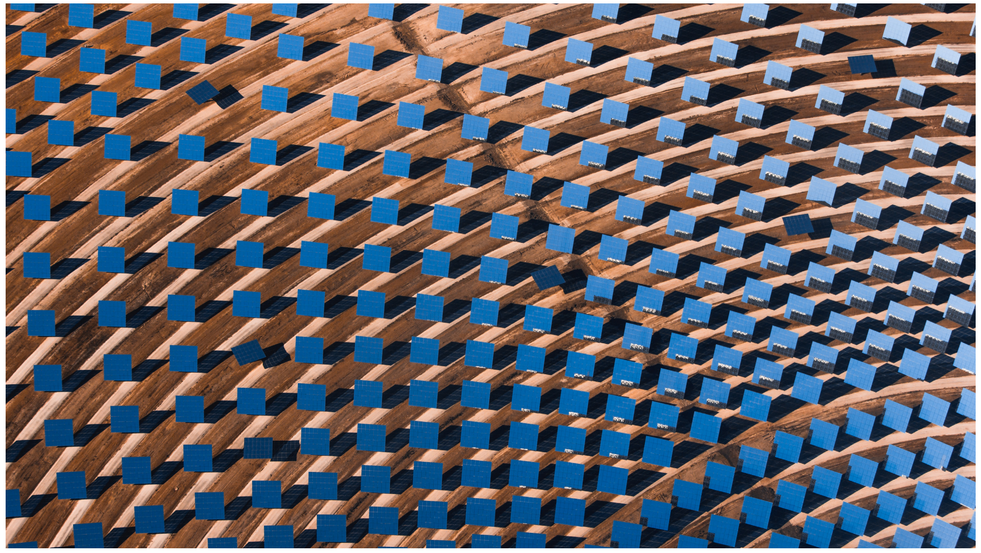
06

Meet innovation head on

Silos and disjointed strategies can make scaling AI problematic. Scaling AI across the enterprise requires an intentionally designed hybrid cloud architecture. With this approach, you're able to modernize and deploy apps essentially anywhere, manage and secure your data and optimize the power of your existing IT estate. The experts at IBM Consulting can help you build comprehensive IT solutions fit for purpose, enabling more value and better outcomes wherever data and applications reside while mitigating compliance and security risks.

Want to dive even deeper? Learn how to maximize your business value with hybrid cloud.

Read the Maximize the value of hybrid cloud in the generative AI era white paper →



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2. IBM AI Leadership Index, conducted by Harris Poll, May 2024.

3. Hype Cycle for Generative AI, Gartner, 2023.

4. Future of Digital Infrastructure Worldwide Sentiment Survey, IDC June 2023.

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6. Application modernization on the mainframe — Expanding the value of hybrid cloud transformation, IBM Institute for Business Value, April 2023.

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