



IBM + AWS: Reimagine application migration and modernization with AI



In collaboration with





Table of contents

The value of migration and modernization on AWS.....	3
A smarter business requires speed and scale.....	4
IBM Consulting services for AWS Cloud.....	5
Powering AWS journeys with AI.....	6
Migration and modernization success stories.....	14

The value of migration and modernization on AWS

How do you boost innovation, respond quickly to changing customer demands, and drive sustainable business transformation? For many organizations across industries, the answer is migrating their infrastructure and applications to the Amazon Web Services (AWS) Cloud. On average, migrating from on-premises infrastructure to AWS delivers:

Up to **77%** reduction in licenses required¹

Up to **66%** infrastructure cost savings¹

45% fewer security related incidents¹

43% faster time to market for new features¹

29% increase in staff focus on innovation¹

Once in the cloud, modernizing applications becomes faster and more efficient—boosting agility, reducing total cost of ownership (TCO), and accelerating sustainable outcomes. Cloud-driven capabilities enable quicker application releases, lower operational costs through streamlined management and data center consolidation, and free up resources for innovation by offloading administrative overhead.

Clearly, migrating to the cloud is good for business, but every organization has challenges and requirements that necessitate a migration and modernization strategy that is uniquely its own.

¹ [Maximizing Economic Advantages by Migrating to AWS Cloud Infrastructure](#), Enterprise Strategy Group, 2023





A smarter business requires speed, scale—and a partner

#1

Area where enterprises are planning to increase spending in 2025 is **for migrating applications from on-premises to cloud (IaaS or SaaS)**¹

AI

Is now the top priority for organizations moving to the cloud—workloads are easier to AI-enable and then deploy within elastic, high-performance infrastructure¹

32%

Of organizations achieve their goals of going cloud-native, but the **larger majority struggle with migrations**²

In a cloud-first environment, moving quickly and strategically is essential. Without speed and focus, organizations risk losing momentum and executive backing as ROI declines.

As an AWS Premier Tier Services Partner, IBM helps organizations just like yours accelerate cloud adoption, streamline migration, and drive modernization on AWS—delivering a smarter business at speed and scale and bringing the power of generative AI and agentic AI capabilities to the transformation.

1. Future Enterprise Resiliency and Spending (FERS) Survey Wave 11

2. [HFS market vision paper](#)

IBM Consulting integrates AI to accelerate and optimize every step of your AWS transformation journey

CLOUD STRATEGY, MIGRATION, AND MODERNIZATION



IBM can create an integrated transformation program that leverages AI-powered roadmaps to accelerate cloud strategy, migration, and modernization. By utilizing reusable assets, automation toolkits, and agentic AI models, IBM enables faster decision-making and delivers value-driven outcomes from your AWS investment.

DATA CENTER OPTIMIZATION AND MIGRATION



IBM helps you optimize data centers by migrating or containerizing workloads on AWS to align with your organization's financial goals and business priorities. Through platform-led orchestration and agentic AI, IBM streamlines large-scale exits and maximizes cost savings, including support for infrastructure buyouts or leaseback.

CLOUD-NATIVE APPLICATION DEVELOPMENT



Partner with IBM to build next-gen cloud applications that launch faster, scale effortlessly, and cost less. By leveraging containerization, microservices, automation, and DevOps, IBM simplifies development—powered by AI-infused frameworks and pre-built accelerators on its transformation platforms.

CLOUD PLATFORM ENGINEERING AND MANAGEMENT



IBM integrates automation, AI, and other technologies to centralize control and visibility, creating a single pane of glass to optimize cost, performance, compliance, and security across AWS environments. IBM's hybrid cloud management platforms and agentic AI capabilities drive intelligent observability and continuous optimization.

As an AWS Premier Tier Services Partner, IBM Consulting has:

- 25,000+ active AWS certifications
- 31 AWS competencies to develop cloud-native applications on existing AWS environments
- 23 validated service delivery programs (SDDs)
- Hundreds of SAP engagements delivered with AWS (including SAP RISE)

With deep cloud transformation experience and AWS competencies—including Migration and Generative AI—IBM Consulting is uniquely positioned to lead enterprises through complex and high-impact AWS Cloud journeys. IBM leverages methodologies and proprietary assets to deliver optimized cloud strategies for AWS that reduce risk, lower costs, and accelerate business outcomes.

IBM and AWS: a collaboration built on experience

[The AWS Migration Acceleration Program \(MAP\)](#) is a comprehensive and proven cloud migration program based on the AWS experience of migrating thousands of customers to the cloud. The program packages best practices, tools, expertise and financial incentives with the wide breadth of experience and solutions delivered by AWS Partners for making cloud adoption easier and helping customers reach their business goals faster.

Powering AWS journeys with AI assets and accelerators

We're meeting the era of AI with an approach we call the [Science of Consulting](#)—a strategy designed to deliver maximum value to our clients. To align with this goal, our services are infused with AI and proprietary assets that improve the quality of deliverables and reduce time-to-value. This AI-infused approach simplifies and accelerates how IBM Consulting provides rapid solutioning and prototyping, delivers with precision, operates with agility, and optimizes continuously—helping create better outcomes, faster and at scale.

Our suite of assets and accelerators include:

1. IBM Consulting Advantage for AWS journey

At the heart of the *Science of Consulting* approach is **IBM Consulting Advantage**, an AI-driven delivery platform that combines proprietary methods, domain-trained digital assistants, and generative AI capabilities. Built on IBM watsonx and tightly integrated with AWS AI tools like Amazon Bedrock and Amazon Q, the platform powers rapid and scalable transformation across the cloud lifecycle.

The platform offers expert rule-based automation for optimal modernization paths as well as prescriptive journeys with reference implementations and playbooks. This reduces dependence on SMEs, with automation and guided workflows delivering continuous innovation and asset harvesting across engagements.

Key capabilities integrated into IBM Consulting Advantage:

- Digital Assistants that can deliver productivity improvements through guided workflows.
- Microservices Builder (DMB) can accelerate time-to-market with automated code scaffolding.
- Developer Experience Platform can enable automation through Infrastructure as Code (IaC) and DevOps tools.
- AI-Augmented Testing can reduce testing costs by using intelligent test automation.



2. IBM Consulting Advantage for Cloud Transformation (continued)

IBM Consulting Advantage for Cloud Transformation is a generative AI-powered platform designed to fast-track AWS cloud adoption with consistency and predictability. It supports hybrid and cloud-native modernization, orchestrating a wide spectrum of tools from IBM, open-source, as well as third-party technologies.

The platform consists of a comprehensive suite of intelligent accelerators tailored to modernization needs:

a) Discovery and design automation

- IBM Analysis and Renovation Catalyst (ARC) automates legacy code analysis and extraction of business rules, significantly reducing analysis time.
- Cloud Transformation Insights provides a 360° view of application dependencies using graph analytics helping reduce assessment time.
- Mainframe Application Modernizer (MAM) identifies modernization increments from mainframe applications identifies modernization increments with the fastest and most effective strategies.

b) Modernization and build automation

- Candidate Microservices Advisor (CMA) recommends domain-aligned microservices from monoliths, thus reducing design effort.
- Code Transporter (CT) automates code transformation across frameworks.
- Digital Microservices Builder (DMB) generates ready-to-deploy microservices with CI/CD and observability baked in, offering productivity gains.
- Digital Scenario Builder (DSB) orchestrates multiple microservices with automated code generation, cutting development effort.

c) Migration orchestration and execution

The Delivery Curator (DC) drives automated migration curation, from discovery to execution, helping reduce discovery effort and enabling faster migrations based on reusable patterns.



Proven synergy for accelerating cloud journeys

AWS has helped thousands of businesses successfully migrate and modernize on the cloud and has the industry's most comprehensive and mature cloud platform.

IBM and AWS work closely with organizations at every stage of the migration journey—from assessing business needs, to planning and execution of migrations.



3. Migration and Modernization Factory for AWS powered by agentic AI (continued)

IBM Consulting's Migration and Modernization Factory for AWS offers a structured and efficient framework for migrating large-scale workloads to AWS. Built on IBM Garage™ methodology, it includes proven frameworks and processes, automation, migration templates, security practices, and AWS-specific migration squads that accelerate and enhance overall delivery efficiency.

The Factory with AI assets and assistants built using Amazon Bedrock, IBM watsonx, and other tools combined with unique commercial models provide clients with the transparency and flexibility they need to choose the right migration patterns for their unique needs. With IBM's Migration Factory, organizations can see up to 25 percent faster migration* and modernization to hybrid and cloud platforms.

With the evolution of AI, IBM brings an agentic AI-infused factory method to application migration and modernization on AWS. The agentic AI approach involves dynamic, autonomous, and intelligent agentic workflows. These workflows are orchestrated by hybrid squads of agents and human(s) in the loop to deliver faster, smarter, and more adaptive modernizations at scale than ever before.

The method employs an array of specialized AI agents. Each agent possesses specific skills and knowledge related to different aspects of migration and modernization, such as application infrastructure discovery, code analysis, cloud service provisioning, testing, or security. These agents communicate, negotiate, and coordinate their actions to achieve the overall goals. Where required, the humans in the loop can provide oversight, governance, and necessary course corrections to the outputs by agents.

This agentic AI-infused method can help significantly accelerate delivery, reduce manual intervention, and mitigate potential risks. Consequently, modernized applications benefit from improved performance, scalability, and maintainability.

**indicates outcomes from past client engagements, but results may vary across companies*



Accelerating cloud migration: From debt to dividend

For some organizations, unchecked technical debt can quickly become a major liability. Actively managing and modernizing systems to address technical debt is essential for maintaining operational efficiency, scaling effectively, and enabling digital transformation. Generative AI empowers organizations to convert accumulated technical debt, such as outdated codebases, fragmented processes, and legacy infrastructure, into strategic dividends. For example, by automating code refactoring, accelerating documentation, streamlining decision-making, and generating insights from siloed data, gen AI reduces the time, cost, and complexity of modernization efforts.

IBM's comprehensive solution helps enterprises proactively turn high-maintenance costs, missed opportunities, and operational risks into cost savings, higher productivity, reduced downtime, and optimized spending for cloud and infrastructure—well before they face the threat of technical debt or obsolescence.

IBM's approach: AI-enabled remediation and modernization patterns

- Empowers clients to self-fund debt remediation by building the business case for cost saving.
- Automates currency debt identification of hardware, OS, and software cycle to run a factory program.
- Drives cross-functional project office to actively work on reducing technical debt.
- Adopts containerization as a modernization step to build an application ecosystem that is nimble and easy to manage the tech stack.
- Leverages automation to eliminate, simplify, and automate the status quo and reimagining work.

IBM addresses these needs using the **IBM Consulting Advantage Platform** and a set of structured, AI-enabled remediation and modernization patterns:



License debt remediation	<ul style="list-style-type: none">• Targets: VMWare, Oracle, Power, VDI• Focus: Reducing licensing cost and complexity
Technical debt remediation	<ul style="list-style-type: none">• Targets: OS, database, middleware, .NET upgrades• Focus: Eliminating obsolete or unsupported components
IT Process and skill debt remediation	<ul style="list-style-type: none">• Focus: Modernizing IT processes and upskilling teams
Code modernization	<ul style="list-style-type: none">• Focus: Code conversion, upgrades, and refactoring
Developer experience enhancement	<ul style="list-style-type: none">• Toolchain modernization (e.g., GitHub, Red Hat Hub)• End-to-end CI/CD pipelines• Automated code reviews

Both businesses leverage their deep experience and AI tools to help organizations accelerate migration and modernization journeys, driving innovation at speed and scale.

Our capabilities include:

1. Data center modernization with AWS

Traditional on-premises data centers are often too rigid to support rapidly evolving goals for digital transformation. Enterprises today need to focus on data center optimizations and data center exits that improve alignment with cloud-first strategies—consolidating workloads and moving them to AWS, improving process efficiencies, and automating operations.

IBM Consulting offers a comprehensive data center modernization solution designed to assist organizations in efficiently and strategically transitioning from their existing data center infrastructure to AWS. Leveraging the power of gen AI, supported by IBM–AWS joint investments, IBM enables accelerated and automated migration at scale.

Key benefits include process automation and efficiency gains that reduce costs and boost agility, access to emerging technologies like AI, IoT, and big data, and alignment with sustainability goals and legacy system modernization.

2. VMware optimization with AWS

IBM Consulting helps VMware clients navigate complex cloud transformations with tailored strategies that reduce risk, enhance agility, and enable long-term cost savings through pay-as-you-go pricing. IBM offers multiple VMware migration and modernization pathways to meet organization's unique needs:

- **Red Hat OpenShift on AWS (ROSA):** Containerize workloads using ROSA, Amazon Elastic Kubernetes Service (Amazon EKS), and Amazon Elastic Container Service (Amazon ECS), supporting both containers and VMs on a single, managed platform.
- **Elastic VMware Service (Amazon EVS):** Run VMware Cloud Foundation (VCF) directly inside your own Amazon Virtual Private Cloud (VPC), using Amazon Elastic Compute Cloud (Amazon EC2) bare-metal instances, while letting you retain familiar VMware tools (such as vCenter, vSAN, NSX, and SDDC Manager) and operational patterns with minimal changes.
- **VMware Cloud on AWS:** Lift and shift workloads with minimal changes using a fully managed VMware SDDC on AWS.
- **Re-platforming to Amazon EC2:** Migrate VMs directly to Amazon EC2 to improve performance and gradually transition to cloud-native services.
- **Application modernization:** Refactor legacy apps into containerized or serverless models with Amazon ECS, Amazon EKS, and AWS Lambda.
- **Hybrid cloud extension:** Extend on-premises VMware environments to AWS for DR, testing, or scaling workloads.
- **Phased migration:** Prioritize workloads and adopt a low-risk migration strategy tailored to business and compliance needs.
- **SaaS migration:** Transform VMware-hosted apps into SaaS offerings for flexibility and cost-efficiency.
- **Managed services:** Transition VMware environments to a fully managed AWS model with IBM as your certified MSP.





3. Mainframe application modernization

IBM Consulting and AWS help organizations modernize mainframe applications through a fit-for-purpose, hybrid cloud approach—placing each workload on the right platform to maximize value. Using advanced AI tools like IBM Consulting Advantage, IBM watsonx, Amazon Bedrock and AWS Transform, IBM streamlines the modernization lifecycle—from strategy and assessment to transformation and ongoing operations. IBM provides

- **Assessment and strategy:** Evaluate application dependencies and define modernization paths.
- **API enablement:** Unlock mainframe functionality for integration with mobile, digital, and cloud services.
- **Containerization and integration:** Deploy workloads in Red Hat OpenShift and connect to AWS hybrid environments.
- **Managed services:** Support DevOps and CI/CD pipelines to improve scalability and reduce operational costs.

With end-to-end services and AI-enhanced tools, IBM ensures business continuity, compliance, and performance optimization at every step of your mainframe transformation. Our Intelligent Workload Placement leverages automated analysis for optimal workload placement across hybrid cloud platforms. Our suite of AI-based tools such as IBM watsonx Code Assistant, Mainframe Application Modernizer (MAM) and IBM Analysis and Renovation Catalyst (ARC) utilizes source code analysis, code refactoring, and automated testing to streamline modernization.

4. SAP transformation on AWS

IBM's SAP transformation services for AWS are designed to help enterprises accelerate their journey to a modern, scalable, and intelligent ERP landscape by migrating and optimizing SAP workloads on AWS. With over 50 years of partnership with SAP, IBM is one of the world's largest SAP partners. Our industry expertise, methods, and AI assets unlock next-generation SAP applications on AWS—securely and at scale for better business outcomes. Our ability to deliver large, complex transformations and implementations on AWS as well as 'RISE with SAP' makes IBM one of the top AWS partners for SAP transformation.

Key services include:

- **SAP landscape assessment and strategy:** IBM offers a tailored roadmap to evaluate the current SAP environment, business needs, and cloud-readiness to chart the optimal transformation journey.
- **End-to-end migration services:** Migrating SAP workloads (including SAP ECC, S/4HANA, BW/4HANA, and Business Suite on HANA) to AWS.
- **Modernization and optimization:** Refactoring and optimizing SAP applications by leveraging AWS-native services and AI and automation frameworks.
- **SAP S/4HANA Implementation on AWS:** IBM offers full-stack services for greenfield, brownfield, or hybrid implementations of SAP S/4HANA on AWS, including infrastructure provisioning, application deployment, and data migration.
- **Managed services and support:** Ongoing application and infrastructure management, SAP Basis support, monitoring, security and compliance—all integrated with AWS best practices.
- **Innovation enablement:** Use AWS capabilities like AI/ML, analytics, IoT, and SAP BTP (Business Technology Platform) to extend and enhance your SAP solutions.

5. Maximo migration to AWS

IBM Maximo has been a trusted enterprise asset management (EAM) solution for decades. [IBM Maximo® Application Suite \(MAS\)](#) is a single, integrated, cloud-based application platform for asset monitoring, management, predictive maintenance, and reliability planning. IBM has announced [end of support for all Maximo 7.6](#) and add-ons by September 2025. As a result, the path forward is to move to the latest cloud-based [MAS](#). IBM offers the following services and organizations should assess needs around infrastructure, customization, and cost to choose the best fit for their business goals:

- **Red Hat OpenShift service for AWS (ROSA)** is a fully managed, jointly supported platform by AWS and Red Hat that simplifies IBM MAS deployment by offloading cluster management, enabling seamless integration with AWS tools.
- **IBM MAS Software-as-a-Service (SaaS) on AWS powered by ROSA** is a fully managed, scalable solution for running Maximo via a browser, eliminating infrastructure management and ensuring high availability, regular updates, and faster deployment.
- **IBM MAS dedicated on AWS powered by ROSA** provides a secure, high-performance IBM MAS environment on infrastructure reserved for a single organization.
- **IBM MAS on customer-hosted ROSA** offers full control MAS on AWS. It enables high customization, integration flexibility—with SAP, for example, and adherence to internal governance rules.



6. Data modernization on AWS

IBM and AWS have provide comprehensive solutions for data modernization, to help organizations transition from legacy systems to modern, cloud-native architectures. IBM provides the following services:

- **Modern data accelerators on AWS:** Expedite the implementation of data fabric architectures an integrated set of assets. These accelerators standardize data integration across enterprises, supported through Amazon Kinesis, Amazon MSK, AWS Glue, and AWS Lake Formation, enabling secure, real-time, event-driven data processing.
- **IBM databases on AWS:** Use IBM database solutions on AWS such as IBM watsonx.data, IBM Db2, IBM Db2 Warehouse, and IBM Netezza Performance Server. These enable AI-ready data consumption without the need for migration or re-cataloging, and integrate well with Amazon Redshift, Amazon S3, and AWS Lake Formation.
- **Mainframe data integration:** For organizations with IBM mainframe investments, IBM and AWS offer secure, real-time replication and virtualization of mainframe data on AWS using tools like IBM Db2 for z/OS Data Gate and AWS Glue, to support analytics use cases such as credit card fraud detection and customer intelligence.
- **Oracle Database@AWS:** Run Oracle Exadata Database Service and Oracle Autonomous Database on Oracle Cloud Infrastructure (OCI) hosted within AWS data centers. Enable seamless integration between Oracle's databases and AWS solutions, such as low-latency connectivity and unified billing/ support across Oracle and AWS.
- **DB2 on RDS:** Deploy and manage IBM DB2 as a fully managed service on AWS through Amazon Relational Database Service (Amazon RDS) for DB2, bringing IBM's enterprise-grade capabilities to AWS infrastructure for modernization and AI workloads.
- **AI and analytics enablement:** Use Amazon SageMaker, IBM watsonx.ai and Amazon QuickSight, to build ML models, dashboards, and intelligent insights directly on top of modernized data platforms.

Strategic client enablement through AWS incentives

As an AWS Premier Tier Services Partner, IBM has privileged access to AWS-funded programs that are more than tactical discounts. Clients can strategically activate AWS incentives to fund gen AI-driven modernization, reduce upfront costs, and unlock accelerated value from their cloud journey.

Through this partnership, IBM and AWS enable clients to:

- ✓ **Kickstart migration and modernization projects with joint funding**
IBM helps secure AWS-backed credits, grants, and co-investments to cover discovery, assessments, proofs-of-concept, and full-scale migrations—supporting gen AI initiatives like intelligent code analysis, infrastructure transformation, and workload planning.
- ✓ **Access AWS Migration Acceleration Program (MAP)**
IBM guides clients through AWS MAP qualification and execution to unlock structured financial and technical support, accelerating automation and GenAI-powered modernization for faster ROI.
- ✓ **Support high-impact workloads with strategic investment**
For SAP, Oracle, and mainframe environments, IBM and AWS co-design investment frameworks that reduce risk and enable modernization through traditional and gen AI-powered methods like code refactoring, dependency analysis, and test automation.
- ✓ **Seamless incentive integration via IBM delivery**
IBM embeds incentive management into project delivery—handling qualification, documentation, and AWS coordination—so clients stay focused on outcomes, not logistics.

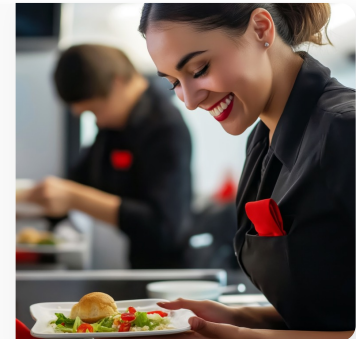


Migration and modernization success stories

IBM has helped hundreds of clients across a broad range of industries migrate and modernize successfully on AWS. Here are just a few.

Delta Air Lines

One of the world's oldest airlines, Delta looked to respond to post-pandemic economic pressures by quickly launching new premium customer experiences. To support over 90,000 frontline employees, Delta partnered with IBM to migrate and modernize hundreds of workloads using an AWS hybrid cloud environment. This transformation enabled Delta to enhance security, improve operational efficiency, and rapidly deploy new services at scale. As a result, Delta launched free in-flight Wi-Fi on over 680 planes and is set to increase speed to market by 25-30%, ensuring exceptional customer experiences and operational excellence.



Edison

Edison (part of EDF Group), an established energy provider in Italy, partnered with Amazon Web Services (AWS) and IBM Consulting® to migrate and modernize its legacy SAP systems. Striving to improve operational inefficiencies and with a goal to reduce infrastructure costs, Edison embarked on a cloud migration journey to SAP S/4HANA. Over 18 months, AWS and IBM seamlessly migrated Edison's SAP workloads, providing scalable, secure, and real-time data processing capabilities. The project was completed ahead of schedule, with zero unplanned downtime incidents, and resulted in cross-departmental process improvements. The transition reduced costs, increased flexibility, and empowered Edison to manage its national energy needs more efficiently.



Interpublic Group (IPG)

Interpublic Group (IPG), a global marketing solutions provider with a vast network of subsidiary groups, migrated its critical SAP systems to Amazon Web Services (AWS) with the help of AWS Partner IBM Consulting® as part of a corporate initiative to exit its on-premises data center and improve scalability. The four-month project, completed on time and within budget, moved SAP workloads and other applications to AWS, increasing infrastructure performance by 20 percent. The seamless migration allowed IPG to continue onboarding clients and maintain business operations without disruption, helping the company reduce operational overhead and enhance service delivery.





Ready to start your migration and modernization journey?

Wherever you are in your path to digital transformation, we're here to help.

Learn more about how IBM Consulting works with AWS to support your migration and modernization efforts.

[Learn more](#)

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