

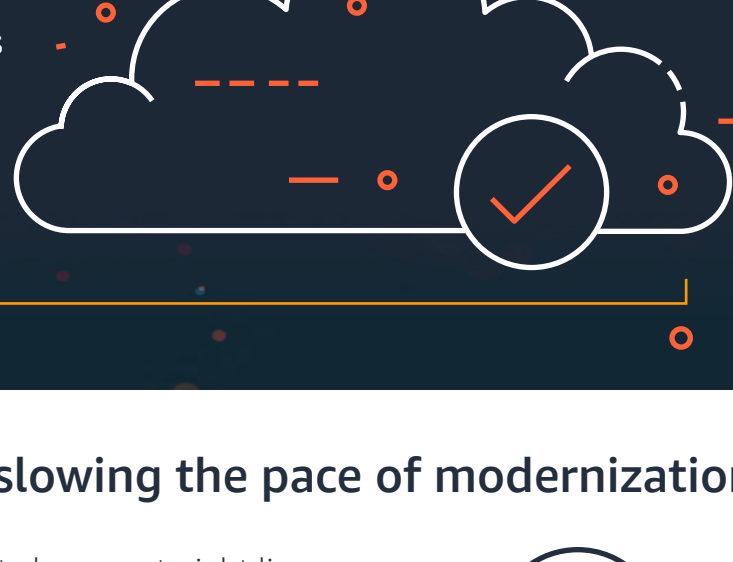
How AWS Solves Three Modernization Challenges

Understand the benefits of migrating enterprise workloads to the cloud, and learn how to solve any potential challenges

Many organizations today are interested in modernizing their workloads by migrating to the cloud so that they can take advantage of the agility, expenditure, and scalability advantages. When trying to modernize your IT environment, some workloads can present a challenge: your organization might have legacy or difficult to migrate on-premises applications because of latency-sensitive system interdependencies, specific data residency requirements, or it might have local datasets that can't be easily migrated to the cloud.

For the wider organization, IT modernization promises a range of benefits, including:

- Greater business responsiveness
- Cost savings
- Enhanced operational resilience
- Reduced risk
- More business value from data



Identify three key challenges slowing the pace of modernization

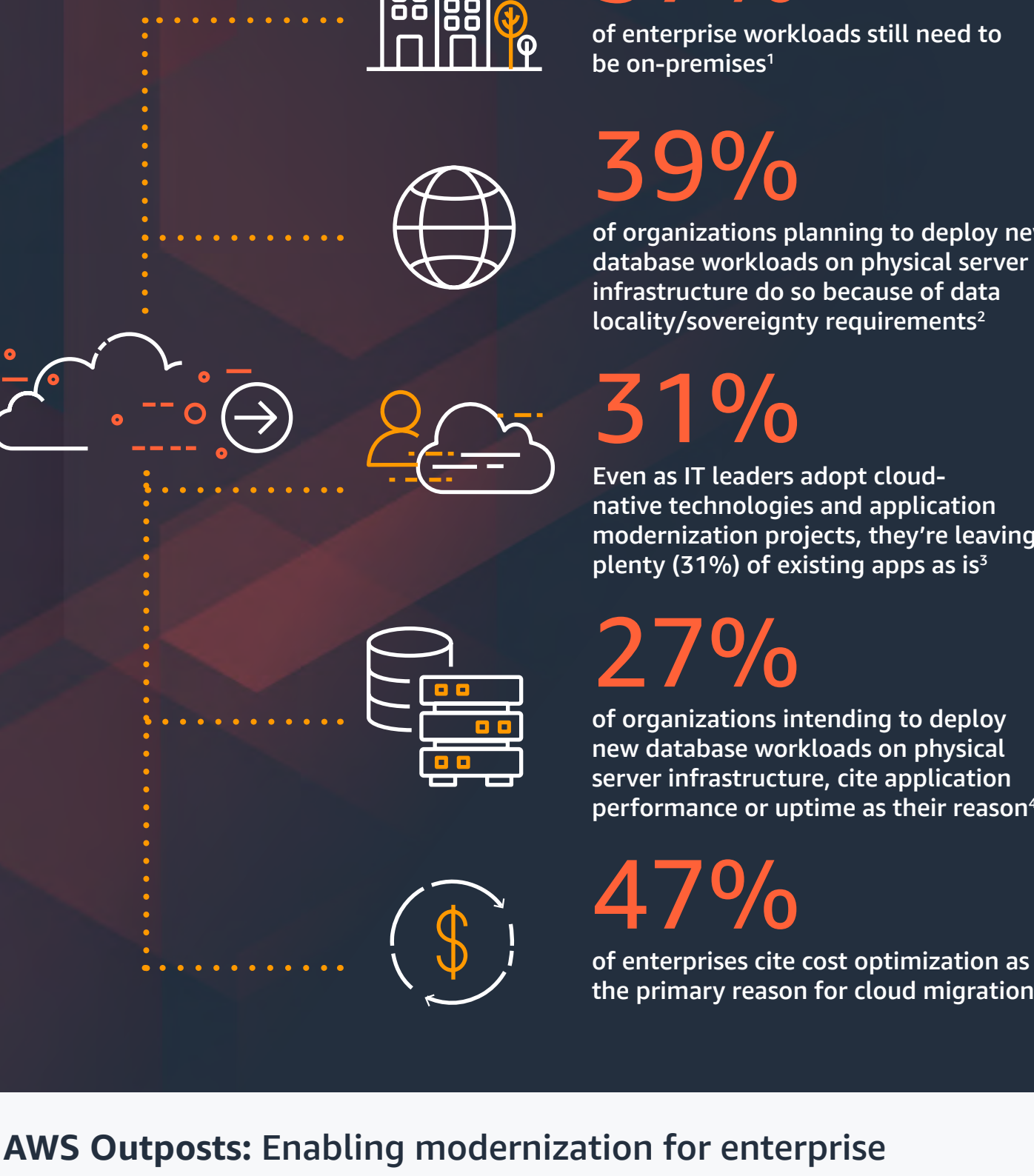
The benefits of cloud-based modernization isn't always a straight line. Particularly when it comes to workloads that have specific on-premises needs, such as:

- **Latency-sensitive workloads:** Legacy workloads are often part of a complex web of business-critical applications and data. Some of these interdependencies may be highly latency-sensitive workloads. Moving parts of the workload to the cloud risks creating performance problems that unacceptably impact the business and its customers.
- **Local data processing requirements:** Workloads that process large volumes of data can be challenging to move to the cloud, this can be due to the cost, size, bandwidth and transfer-time limitations.
- **Data residency demands:** Certain workloads or data will need to remain in a particular country, state, or municipality for regulatory, contractual, or information security reasons.



These challenges may cause hurdles for many enterprise modernization journeys, slowing the pace of innovation and constraining the organization's ability to fully benefit from cloud-based advantages.

Modernization still has needs for on-premises workloads



AWS Outposts: Enabling modernization for enterprise workloads that must stay on premises, while addressing three challenges to modernizing.

Latency-sensitive workloads, local data processing requirements and data residency demands, can prevent workloads from being modernized using the local AWS Region. In these situations, AWS Outposts delivers the bridge between on-premises infrastructure and cloud. If you're already running your applications on Intel® Xeon® servers on-premises and benefiting from the software optimizations and testing Intel performs for enterprise applications, open source libraries and operating systems, you'll enjoy those same benefits on Outposts.

Delivered as a fully managed service, Outposts provides the same AWS infrastructure, services, APIs, and tools to virtually any data center, colocation space or on-premises facility, providing a truly consistent hybrid cloud experience to help overcome the modernization challenges set out above:

- **Reach data requirements as you modernize:** Outposts allows low-friction movement of workloads between the cloud and on-premises workloads, making it easily adaptable to any regulatory changes that stipulate that data must remain in a certain place.
- **Meet local data processing needs:** Applications can leverage the benefits of AWS services, while processing data locally to minimize bandwidth usage.
- **Remain highly latency-sensitive:** Migrate complex legacy workloads without effecting performance or customer experience.

90% Gartner predicts that 90% of organizations will adopt hybrid infrastructure management capabilities by the end of 2020.⁶

"Ultimately, AWS Outposts allows us to accelerate the adoption of cloud technologies within our development teams, keep up with accelerating business and customer needs, and support our long-term journey to the cloud."
James Rhodes, CTO, Morningstar

AWS services available on Outposts

Organizations can run a variety of familiar AWS services on-premises with Outposts, using the same infrastructure as found in the local AWS Region.

Services available on Outposts include:

Amazon EC2

EC2 provides secure, resizable, compute capacity in the cloud. Outposts' catalog of instances, powered by the latest Intel® Scalable processors, are optimized for compute, memory, graphics, or I/O. EC2 is designed to make web-scale cloud computing easier with a simple web service interface allows you to obtain and configure capacity with minimal friction.

Amazon S3 and EBS

S3 delivers object storage to your Outpost, for easy data storage and retrieval, helping you meet data residency and local data processing needs. EBS offers gp2 volumes for persistent block storage too. Just as in the AWS Region, you can use EBS gp2 volumes for boot or data volumes, and attach or detach EBS volumes to EC2 instances on your Outpost.

Amazon RDS

Amazon RDS makes it easy to set up, operate, and scale a relational database in the cloud. On Outposts you can bring the same benefits of cost efficiency, resizable capacity, and automation, to your on-premises Outposts deployments. You can run fully managed databases on premises for low latency workloads that need to be run in close proximity to on-premises data and applications.

Amazon ECS and Amazon EKS

Running ECS on Outposts, easily run and scale containerized applications. With Amazon ECS, Outposts eliminates the need for you to install and operate your own container orchestration software, manage and scale a cluster of virtual machines, or schedule containers on those virtual machines on premises. While EKS enables you to run Kubernetes on Outposts without needing to install and operate your own Kubernetes control plane.

Amazon EMR

EMR processes vast amounts of data using Open tools such as, Apache Spark, Apache Hive and Apache HBase. On Outposts you can deploy secure and managed EMR clusters in your data center in minutes, giving you the latest software versions to access critical on-premises data sources and systems for big data analytics.

Need further modernization help from AWS?

AWS provides consulting support, training and service credits to help enterprises migrate existing workloads to AWS, to help organizations overcome common challenges, including:

- Understanding the on-premises technical environment and interdependencies
- Detailing current operational processes
- Policy issues, business rules and regulations
- Security
- Cultural challenges
- Covering the cost of running a cloud proof-of-concept or proof-of-value

AWS migration services and tools include:

- **AWS Migration Acceleration Program (MAP):** Provides consulting support, training, and services credits to help offset initial migration costs
- **Migration Evaluator:** Helps organizations build a data-driven business case for the first step of their AWS migration
- **AWS Migration Hub:** Offers a single location to track progress of application migrations across AWS regions and partner solutions
- **AWS Migration Competency Partners:** Validated partners with demonstrated ability to help businesses migrate applications and legacy infrastructure to AWS

Get started with AWS Outposts in three easy steps

- 1. Engage**
Reach out to your account team or fill out our [online form](#). Alternatively, go into the AWS Management Console.
- 2. Choose**
Select your size and then order the Outpost rack configuration that best suits. Custom configuration is available.
- 3. Install and Launch**
AWS will install and deliver your configuration. Use standard AWS APIs or Management Console to launch and run AWS resources locally.

Accelerate your modernization journey with AWS Outposts – a truly consistent hybrid experience.

Learn more <https://aws.amazon.com/outposts>

1. Flenera 2020 State of Tech Spend <https://www.flenera.com/blog/2020-state-of-tech-spend-it-spending-benchmarks-and-trends/>
 2. Shelter-in-place: 451 Research Survey Shows Why Some Database Workloads Remain On Premises <https://www.popperdata.com/shelter-in-place-451-research-survey-shows-why-some-database-workloads-remain-on-premises/>
 3. The State of Enterprise Open Source <https://www.redhat.com/en/enterprise-open-source-report/2020>
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