

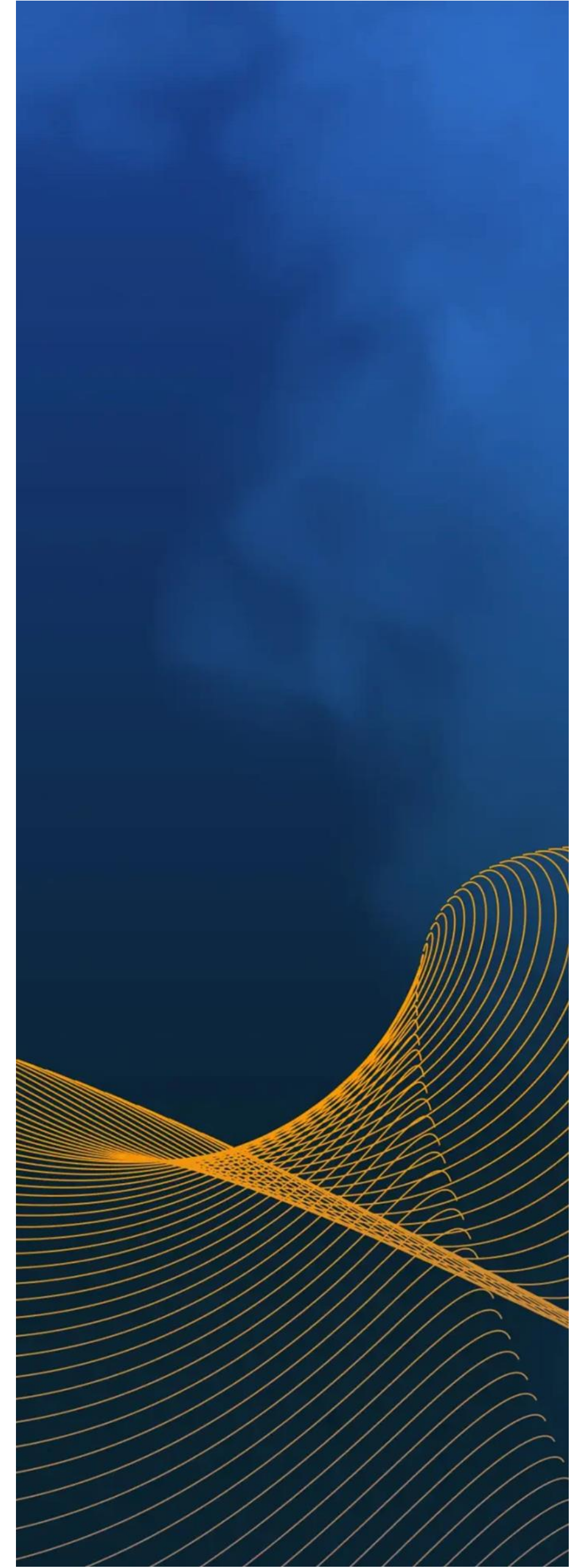


# Bexprt helps you bring the Cloud On-Premises with AWS Outposts

EBOOK



- Public Sector
- Solution Provider
- Amazon RDS Delivery
- Resilience Services Competency
- Public Sector Solution Provider



# Table of contents

<b>Introduction .....</b>	<b>3</b>
<b>The problems of incompatibility.....</b>	<b>4</b>
<b>AWS Outposts brings the cloud where you need it.....</b>	<b>5</b>
<b>Getting started with AWS Outposts .....</b>	<b>6</b>
<b>Protecting data inside AWS Outposts .....</b>	<b>8</b>
<b>AWS Outposts compliance certifications.....</b>	<b>9</b>
<b>Deciding what to migrate to Outposts and how to migrate.....</b>	<b>10</b>
<b>Creating a migration plan.....</b>	<b>12</b>
<b>How AWS Outposts helps you modernize your enterprise .....</b>	<b>14</b>
<b>Getting started with AWS Outposts .....</b>	<b>16</b>
<b>About Bexprt.....</b>	<b>17</b>
<b>Benefits of working with Bexprt .....</b>	<b>18</b>
<b>Learn more .....</b>	<b>19</b>



## INTRODUCTION

# The fast road to modernization

The pace of change in virtually every industry is quicker than it's ever been. In response to these evolving conditions, organizations are being forced to innovate faster. At the same time, the need to reduce costs is ever-present. By modernizing their technology foundations, businesses can reduce overhead while increasing agility, efficiency, and growth.

Organizations can simplify their on-premises IT by incorporating a hybrid cloud solution that has the ability to fully manage infrastructure. This type of deployment can lead to increased agility and better responsiveness to business needs. It can also help amplify developer productivity with common APIs, management, tools, and a broad ecosystem of partner solutions.

Certain workloads can be moved to the cloud relatively easily, while others can be more challenging. Some legacy applications may also need to be modernized in stages before they can be fully migrated to the cloud.

Issues such as these explain why some organizations haven't fully modernized their IT infrastructure using the cloud. What's needed is cloud infrastructure and services, delivered on-premises to help organizations accelerate their modernization efforts. With AWS Outposts, customers can run applications wherever they need them.

"The market and hyperscalers are moving at a very fast pace. The Bexprt team leverages the latest technologies and capabilities for our clients. Work with us and utilize our specialities in Advanced Analytics, Generative-AI, Resilience & Telco Cloud."

**Gwen Edwards**, Bexprt CMO



# The problems of incompatibility

On-premises data centers traditionally use a variety of infrastructure, tools, and APIs. The disparate assortment of hardware and software solutions results in complexity. In turn, this leads to greater management costs, the inability of staff to translate skills from one setting to another, and limits innovation and knowledge-sharing between environments.

Developers feel frustration when they have to use different services and APIs, depending on where they're working. Disparities between environments mean they demand different tools for automation, deployment, or security controls. Applications require different code and processes, depending on where they're being built. This drives inefficiency in the development process and requires team members to learn different skill sets for each environment.

IT administrators and operators remain frustrated by the complex procurement and provisioning cycles required by on-premises hardware. Procurement can involve coordinating numerous vendors and take months to get servers installed. Once installed, technicians constantly battle with the need to patch and upgrade equipment, and then face incompatibility issues across the various hardware and software components affected by those upgrades. These teams must also juggle application downtime during maintenance, so that upgrades can happen safely and minimize impact on business continuity and operations.

The business itself also faces challenges by maintaining traditional on-premises infrastructure. These legacy applications and systems, and the people power required to maintain them, slows the pace of innovation.

# AWS Outposts brings the cloud where you need it

AWS Outposts offers you the same AWS hardware infrastructure, services, APIs, and tools to build and run your applications on premises and in the cloud for a truly consistent hybrid experience.

AWS Outposts is fully managed and supported by AWS, from delivery to installation to monitoring and updating. This full service reduces operational risk and the time, resources, and maintenance downtime required for managing IT infrastructure. Your organization can order an Outposts configuration that offers the best mix of compute and storage capacity for your needs. Then AWS personnel deliver hardware to your site, connect it to power, and set up network connectivity to an AWS Region and local networks. Once installed, your team uses standard AWS APIs or the AWS Management Console to launch Amazon Elastic Compute Cloud (Amazon EC2) instances on Outposts. Your development team can build and run apps using native AWS services that run locally on Outposts or in the connected AWS Region.

Once Outposts is installed, developers benefit from one set of tools that translates to any environment, and your operations team offloads hardware procurement and maintenance to AWS support. AWS Outposts essentially brings the ease of cloud to on premises, using the same AWS-designed infrastructure as found in AWS data centers. Cloud and on-premises sites enabled by Outposts both use the same Amazon EC2 instance types, helping to ease customer migration strategies. Amazon EC2 instances enable developers to take advantage of the latest cloud technologies to accelerate business innovation. AWS Outposts is fully managed, monitored, and operated by AWS, as though it were located in an AWS Region. To operate your Outposts capacity, you use the same AWS Management Console, CLI, and tools you would use when operating in AWS Regions.

# Getting started with AWS Outposts

Based on the workloads identified to migrate to Outposts, the right compute and storage configuration can be chosen from a pre-validated catalog of options. Each configuration comes fully assembled with pre-validated SKUs that offer a mix of Amazon EC2 and Amazon Elastic Block Store (Amazon EBS) volumes, and built-in networking. After you place an order, AWS delivers to your site within a few weeks during your preferred delivery window. AWS installs and configures Outposts to connect to the AWS Region and your local network. After installation, you can launch and run AWS resources locally.

There are several recommended best practices to follow that make migration and modernization easier. First, it's essential for stakeholders and senior leaders within your organization to be aligned on the business objectives to be achieved by the migration. Once that is accomplished, your organization should set quantifiable, measurable goals. Starting with clear objectives helps clarify the outcomes you want to achieve. It also helps to choose the right migration pattern. The goals can range from being relatively simple, such as retiring legacy applications, to more complex, such as refactoring those applications to work in a cloud-native environment.

Some organizations do not feel at ease navigating the modernization pathway on their own. AWS Technology Partners provide specific solutions that integrate with on-premises workloads using Outposts.

There is an AWS Outposts Service Ready program for independent software vendor (ISV) solutions that have already validated their technology to run on Outposts.

# Configurations and pricing

AWS Outposts configurations are priced based on Amazon EC2, Amazon EBS, and Amazon Simple Storage Service (Amazon S3) on Outposts capacity. You can purchase Outposts capacity for a three-year term and choose between three payment options: all upfront, partial upfront, and no upfront. The price includes delivery, installation, servicing, and removal at the end of the term. Customers can upgrade Amazon EC2, Amazon EBS, and Amazon S3 on Outposts capacity.

Services that run locally on Outposts will be charged on usage only. Operating system charges are based on usage to cover licensing fees. There are no minimum fees. AWS Region data ingress and egress charges apply for data moving between Outposts and the parent region. There are no additional charges for data transfer between Outposts and the local network.

# Protecting data inside AWS Outposts

**There are a number of data protection features incorporated into AWS Outposts:**



## **Security**

AWS Outposts racks come with built-in tamper detection and an enclosed rack with a lockable door. The data stored on Outposts is encrypted and there is an encrypted network connection to the AWS Region. Plus, there's other security controls and auditing mechanisms that incorporate tools such as AWS CloudTrail and Amazon CloudWatch. Also, customer data is wrapped to a physical Nitro Secure key that customers can destroy, offering an added layer of data protection.



## **Intel AES New Instructions (AES-NI):**

Intel AES-NI encryption instruction set improves upon the original Advanced Encryption Standard (AES) algorithm to provide faster data protection and greater security. All current generation Amazon EC2 instances support this processor feature.



## **Durability:**

On AWS Outposts, Amazon S3 and Amazon EBS are designed for 99.99 percent durability. Durability protects against data corruption and ensures data integrity and consistency.



## **Compliance:**

AWS infrastructure is certified for compliance with the standards listed on the following page, so you can easily incorporate a backup solution that matches an existing compliance regimen.



# AWS Outposts compliance certifications

## **Payment Card Industry Data Security Standard (PCI DSS),**

which outlines compliance regulations for financial services and e-commerce service providers.

## **Health Insurance Portability and Accountability Act (HIPAA),**

which regulates how health care organizations such as health care and health insurance providers must electronically collect, create, or transmit protected health information (PHI).

## **Service Organization Controls (SOC),**

which govern service organization reporting. These controls help service organizations, which provide services to other entities, build trust and confidence in the service performed. They also prescribe controls related to the services through a report by an independent CPA.

## **International Organization for Standardization (ISO) 27001,**

which establishes industry requirements for information security management systems. ISO 27001 primarily focuses on preserving the confidentiality, integrity, and availability of information as part of the risk management process. As such, it offers confidence to upstream and downstream customers.

## **Federal Risk and Authorization Management Program (FedRAMP),**

which provides a cyber security risk management program for the purchase and use of cloud products and services by organizations that work with U.S. federal government agencies.

# Deciding what to migrate to Outposts and how to migrate

There are various applications and workloads that make good candidates for migration to AWS Outposts. This list can help you prioritize your workloads as you choose what to migrate:

## Edge data processing

where compute and storage needs to be close to on-premises devices

## Business applications

such as CRM or ERP systems, or backup and restore applications that use Amazon EBS and Amazon S3 on Outposts

## Relational database applications

that use SQL are easy to set up, operate, and scale on Outposts. Two database engines are supported:

## Monolithic applications

can be split out into interconnected microservices architectures, using Amazon Elastic Container Service (Amazon ECS) and Amazon Elastic Kubernetes Service (Amazon EKS) on Outposts. Those monoliths might include bulk data processing, such as census, industry, and consumer statistics; enterprise resource planning; and point of sale transaction processing applications.

## High-volume workloads

can use Outposts, leveraging Application Load Balancer (ALB) to distribute incoming traffic across multiple targets on your Outposts.

# Deciding what to migrate to Outposts and how to migrate

MySQL has been popular for years. Support for SQL means that there are numerous potential database administrators who can help run new database instances on Outposts or in an AWS Region. Relational databases are a great fit for use cases where schemas are well-defined at the start, making the move to cloud a relatively simple one.

If you have data requirements that need to maintain time series and geospatial data, PostgreSQL can be a better option. This database supports SQL, making it easy to support and manage data, but also handle data use cases with ease. For companies that require Internet of Things deployments where geospatial and location data are common, PostgreSQL makes a good choice.

Some applications may require refactoring to use AWS services and APIs. Refactoring applications for the cloud represents a primary advantage of using Outposts, as does refactoring to run applications within container services including Amazon ECS and Amazon EKS, which can run natively on Outposts.

This process enables a monolithic application to be broken down into microservices that can then be containerized. Once the applications are refactored to run on Outposts, it is a seamless process to run these applications in one of the many AWS public regions. AWS offers cloud, database, and server migration services, as well as a host of other tools that can assist with shifting workloads.

# Creating a migration plan

## **Build on a solid foundation to enable seamless integration of AWS and VMware services and an optimal user experience**

After you assess that you have workloads that need to remain on premises for latency, data residency, or data processing requirements, the next step is to build a hybrid cloud architecture as part of your migration plan to support those applications as consistently as possible. This includes defining the latency required for each application, role-based secure access policies, and the network configuration for Outposts to communicate with the on-premises local network, including throughput and application performance.

With this information, you can choose the right applications to be refactored for migration to Outposts. This knowledge helps determine the right mix of AWS services natively available on Outposts and AWS services endpoints running in a region that are accessible from Outposts.

You can also use the AWS Migration Acceleration Program (MAP). MAP helps your enterprise execute a migration journey and realize the business benefits of migrating workloads to AWS. MAP provides consulting support, training, and services that reduce the risk of cloud migration. It includes a migration methodology for executing legacy migrations in a methodical way, as well as a robust set of tools to automate and accelerate common migration scenarios.

# Migration help

**Amazon offers tools and services to simplify migration. Here are a few:**

**AWS Migration Acceleration Program (MAP)**

Provides consulting support, training, and services credits to help offset initial migration costs.

**Migration Evaluator**

Helps you build a data-driven business case for the first step of your AWS migration.

**AWS Migration Hub**

Offers a single location to track progress of application migrations across AWS and partner solutions.

**AWS Outposts SI Partners**

Validated partners with demonstrated ability to help businesses migrate applications and legacy infrastructure to AWS.

# How AWS Outposts helps modernize your enterprise

Through migration and modernization, enterprises can focus on business innovation rather than system and device maintenance. Outposts plays an important role in any modernization strategy and provides the bridge between on-premises and cloud environments. AWS Outposts helps your business overcome the challenges of migration and modernization.

## **Enables rapid scalability**

Businesses can scale up Outposts configurations as needed up to hundreds of racks. The process is as simple as ordering the correct SKU.

## **Reduces operational costs**

Organizations no longer need to maintain, upgrade, and patch hardware in their on-premises location. That responsibility is taken over by AWS and businesses can use their resources elsewhere.

## **Simplifies IT**

Outposts does away with the complexity of procurement and provisioning. By bringing a fully managed service to on-premises infrastructure, businesses can improve IT efficiency and better respond to business needs. Plus, if you're already running your applications on Intel® Xeon® servers on-premises and benefitting from Intel software optimizations and tuning for enterprise applications, you'll enjoy the same robust performance on Outposts as well as the AWS Cloud.

# How AWS Outposts helps modernize your enterprise

## **Amplifies developer productivity**

In Outposts, developers have instant access to the same broad set of services, APIs, and tools they are used to in cloud environments.

## **Accelerates business innovation**

By bringing cloud-type services to an on-premises environment, businesses can speed up innovation and agility.

## **Accommodates need for low latency and local processing**

Many on-premises applications remain latency sensitive. Outposts can adapt to equipment and processes that are sensitive to compute lags. Outposts helps with data-intensive workloads such as augmented and virtual reality, and design and visualization output. It also manages complex workloads that work across a variety of host and storage systems.

## **Buys time with legacy on-premises apps that will gradually migrate to cloud**

It takes capital and time to fully refactor and modernize legacy applications. Using Outposts allows gradual migration and modernization.

# Get started with AWS Outposts

AWS Outposts redefines hybrid cloud solutions by bringing AWS infrastructure and services on premises for a truly consistent environment across on premises and cloud. AWS Outposts offers the advantages of cloud for on-premises workloads with low latency, local data processing, or data residency requirements. Most hybrid solutions demand different tools, infrastructure, and operational models. When IT teams and developers no longer need to manage disparate environments, it creates a consistent developer experience and knowledge base, while decreasing operational risk. With a common set of management tools, services, and APIs, every business can tap into the agility and innovation available in the cloud, even when on premises.

Bringing AWS infrastructure and services closer to where you need them has never been easier. AWS Outposts provides businesses with the same infrastructure and operating model on premises that they rely upon in the AWS Cloud, and your business can be up and running in three simple steps: Configure, connect, and launch.

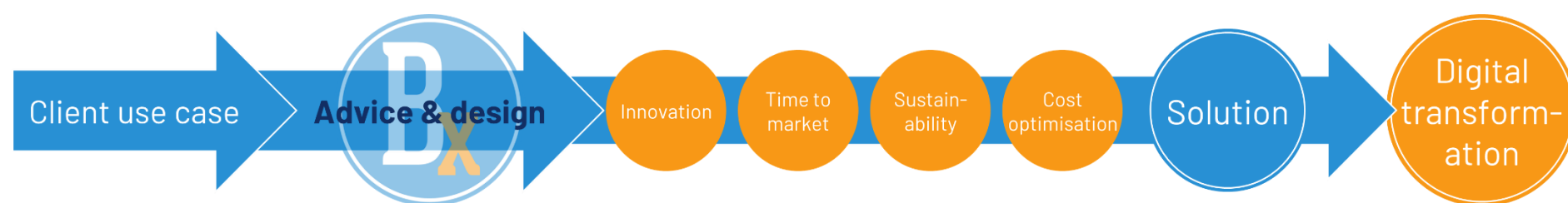


# About Bexprt

## Bexprt ◦ Your cloud business partner

Bexprt enables clients to achieve their business goals and digital transformation ambitions, over the cloud. We specialize in **Advanced Analytics, Resilience, Generative-AI and Telco Cloud**. Whatever your cloud needs, we can help: public, private, hybrid, advice, implementation, enhancement and support.

Founded in 2018, with a UK HQ, Bexprt has an extensive background in the telecom sector; initially delivering virtualized telecom services and business consulting, then adding cyber security and ICT professional services, before investing in cloud capabilities in 2022, and opening a wholly owned subsidiary and office in **Riyadh**.



Bexprt's approach is to focus on the use cases of their clients, and understand their issues and ambitions. In this way, Bexprt can develop and deliver highly optimized and efficient solutions.

With staff from eight nationalities, Bexprt staff speak more than ten languages, and have undertaken projects in 17 countries across EMEA and North America..

Bexprt's revenue has quadrupled in 4 years. Over 90% revenue from international contracts (UK exports), and Bexprt is just one of just four companies recognized by the UK Government with an Award for Digital Exports in 2023.

# Benefits of working with Bexprt



## AWS Certified and Qualified Resources

Bexprt is an AWS Advanced Tier Services Partner, AWS Solution Provider (aka Reseller, for both Commercial & Public Sectors, in 7 countries – UK, Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE), and Amazon RDS Delivery Partner.

Technology moves fast: Bexprt invests in ongoing learning, training and competence development. Sharing “lessons learnt” from projects is part of our DNA. The Bexprt Cloud Team hold AWS Certified Solutions Architect Professional, AWS Certified DevOps Professional and AWS Authorized Instructor Certificates.



## Bexprt's AWS Super Powers

Resilience ◦ Cost Optimization ◦ App Modernization ◦ Data /AI & Advanced Analytics ◦ Landing Zone

Bexprt shares the journey and risk with their clients, from strategy to launch. They tackle each opportunity as principal investors, striving for collective success. Utilize Bexprt's skills and technical capabilities to optimize your cloud project, whatever stage you're at in your cloud journey.



## Customer obsessed!

The Bexprt Team focuses on the use cases of their clients, and takes the time to understand their issues and ambitions. In this way, Bexprt can listen carefully to your needs, then develop innovative, cost-effective, scalable, optimized, efficient, and secure digital transformation solutions to best fit your needs.



# Learn more

- [AWS Outposts Family](#)
- [Bexprt's AWS capabilities](#) & [Bexprt AWS Partner page](#)
- [Bexprt Professional Services on AWS Marketplace](#)
- [hello@bexprt.com](mailto:hello@bexprt.com)



- Public Sector
- Solution Provider
- Amazon RDS Delivery

- Resilience Services Competency
- Public Sector Solution Provider



Available in  
AWS Marketplace