



# Azure Stack: An extension of Azure

Companies around the world are under pressure to transform to digital organizations. The ability to produce business-changing apps can help companies engage customers, empower employees, optimize operations, and transform products.

## Businesses need flexible app deployment

Most apps are moving to the public cloud, and Azure provides a rich platform for developers to build on modern architectures and refresh legacy apps. Organizations will continue to keep some apps on-premises, however, for reasons that include technological and regulatory obstacles.

## Extend Azure with Azure Stack to unlock app innovation

Now organizations can build and deploy innovative applications using a consistent framework, processes, and tools across cloud and on-premises environments. Azure Stack extends Azure in your datacenter and enables you to work with Azure-consistent services on-premises. Azure Stack brings the agility and innovation of cloud computing to on-premises environments, helping accelerate cloud adoption.

- Control deployment options for the apps you build. Because your developers use the same approach to build apps for Azure and Azure Stack, you can easily deploy your app to either location based on regulations, the need to protect sensitive data, customization, and latency. Keep app data where it belongs—in Microsoft datacenters, with a service provider, or in your own datacenter.
- Get to market and address customer needs faster using the rich Azure ecosystem. Speed new app development building on application components from the Azure Marketplace, including open source tools and technologies.

Purchase integrated systems from hardware partners and pay Microsoft only for the Azure services used. Take advantage of a continuous stream of new Azure technologies and services that can support development efforts. Enhance Azure Stack with pre-validated updates that apply to the entire integrated system.

## Hybrid use cases with Azure and Azure Stack

Azure and Azure Stack unlock new hybrid use cases for both customer facing and internal line of business applications:

- Edge and disconnected
- Cloud applications to meet varied regulations
- Cloud application model on-premises

Use Azure Stack in combination with Azure to simplify complex challenges.

## Edge and disconnected solutions

What if your systems cannot always be connected to the Internet? Address latency and connectivity requirements by processing data locally in Azure Stack and then aggregating in Azure for further analytics, with common application logic across both, connected or disconnected.

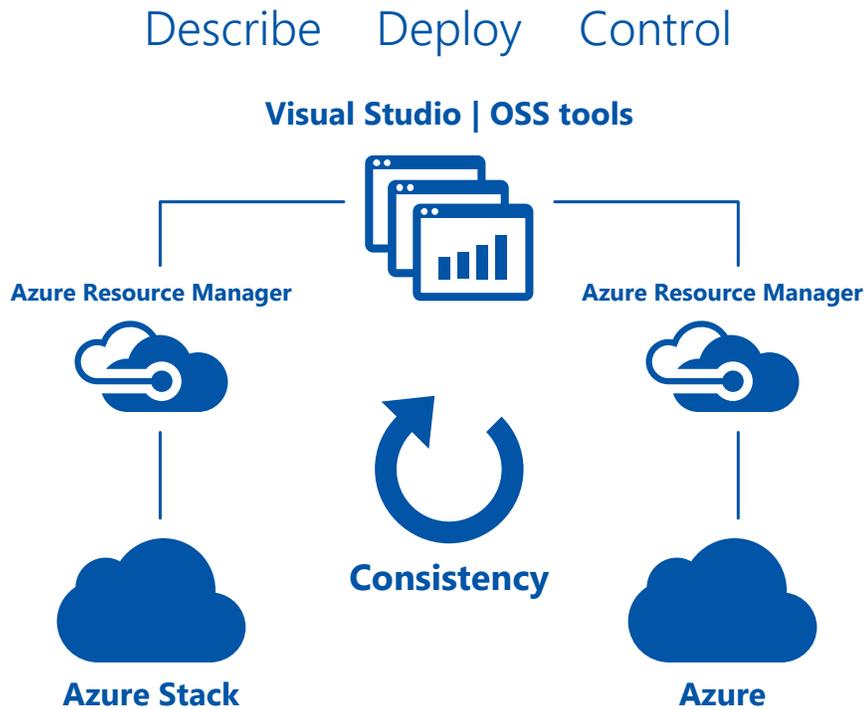
Use cases include:

- Ships
- Container shipments
- Factory shop floors
- Submarines
- Race track-side
- Retail point-of sale
- Oil rigs and platforms
- Windmill operations



## Benefit from consistent application development

**Maximize developer productivity.** Realize value faster when your developers can build and deploy applications the same way, whether the apps run on Azure or Azure Stack. The Azure Resource Manager enables the same application model, self-service portal, and APIs. With the Azure Stack Development Kit, you can also support a robust dev/test environment on a single server.



**Implement a common DevOps approach across your hybrid cloud environment.** Use common processes and tools across Azure and Azure Stack:

- Unified deployment experience with Visual Studio.
- Continuous integration/ continuous deployment (CI/CD) pipeline with open source tools (e.g., Jenkins) and Visual Studio Team Services (VSTS).
- Automation using Chef and Azure PowerShell DSC extensions.

**Benefit from the power of 'One Azure' ecosystem.** Speed up new cloud application development by using a range of open-source and community-driven software from the Azure Marketplace. Choose from multiple Linux distributions, Docker-integrated Containers (Linux and Windows Server), BlockChain, and Mesos.

- Use Cloud Foundry across Azure and Azure Stack to build and run cloud applications that are easily portable across hybrid cloud environments.
- Work with your choice of open source application platforms, languages, and frameworks including Java, Python, Node.js, and PHP.

## Cloud applications to meet varied regulations

Deploy a single app differently depending on the country or region.

Develop and deploy applications in Azure, with full flexibility to deploy on-premises with Azure Stack based on your need to meet a regulatory or policy requirement—no code changes needed.



## Cloud application model on-premises

Update and extend legacy applications. Azure Stack can help you make these apps cloud-ready. With App service in Azure Stack, you can create an Azure-consistent REST front-end and consume modern APIs with modern clients.

- Take advantage of consistent programming model, skills, and processes.
- Apply Azure web and mobile services, containers, serverless, and microservices architectures.



## Run Azure services on-premises

Adopt hybrid cloud computing on your terms. With Azure Stack, you can run IaaS and PaaS services with the same administrative experiences and tools your team uses with Azure.

- Consistent Azure application platform services enable hybrid deployment choice and portability for cloud applications. Run PaaS (Azure App Service), serverless computing (Azure Functions), distributed microservices architectures (Azure Service Fabric), and container management (Azure Container Service) in on-premises environments.
- Consistent Azure IaaS services go beyond traditional virtualization. Virtual Machine Scale Sets, for example, enable rapid deployments with true auto-scaling for modern workloads such as containerized applications.

You can also use Azure services to integrate Azure Stack into your datacenter.

- **Management:** Use Azure management and security services as your unified management solution, including for protection and disaster recovery of applications and workloads running on Azure Stack. (You can also use System Center Operations Manager Management Pack).
- **Identity.** Use your Azure Active Directory (AAD) subscription to administer Azure Stack identities, including secure multi-tenant access, which enables users across multiple AAD tenants to access Azure Stack resources.

## Move fast with an integrated delivery experience

With Azure Stack integrated systems, delivered by your preferred hardware partner, you can focus on optimizing business applications and services. Get up and running quickly with purpose-built Azure Stack integrated systems that you can choose from Dell EMC, HPE, Lenovo, with Cisco and Huawei systems coming soon. These systems come fully ready to run and offer consistent, end-to-end customer support no matter whom you call.

Pre-validated software updates delivered on a predictable schedule enable you to benefit from continuous innovation available from Azure. Add new services and additional Azure Marketplace applications.

Learn more about geographical availability and take the next steps at [azure.microsoft.com/en-us/overview/azure-stack](http://azure.microsoft.com/en-us/overview/azure-stack)

## Integrated delivery experience



**Azure Stack integrated systems**  
Buy production integrated systems with pre-integrated software and hardware from Dell EMC, HPE, or Lenovo, with Cisco and Huawei systems coming soon.



**Fast to deploy**  
Get moving fast with Azure Stack and grow your system over time as business needs change.



**Pay-as-you-use**  
Use Azure services and pay only for what you use. If you aren't always connected to Azure, Microsoft also offers a more traditional annual subscription model.



**Integrated support, broadly available**  
Experience consistent support, no matter whom you call. Available in 46 geos initially.

## Get started

- 1 Develop**  
Prototype applications in Azure.
- 2 Validate**  
Download Azure Stack Development Kit.
- 3 Deploy**  
Order Azure Stack integrated systems for production deployment.