



**Hewlett Packard
Enterprise**

Brochure

Key use cases unlock the power of Microsoft Azure Stack

HPE ProLiant for Microsoft Azure Stack





Welcome to the “new normal”

We live in an always-on world where everything computes—where all devices are connected and intelligence is embedded in everything from automobiles to street lights to furnaces. Tapping into the opportunities created by this “new normal” environment requires a foundational digital transformation—enabling enterprises to develop a new set of strengths to:

- Drive innovation
- Deploy new cloud-based services faster
- Extend competitive advantage

While completing digital transformation is necessary for continued success, it is also complex because it must meet numerous disparate requirements:

- Support agile application development and delivery platforms; by 2020, approximately 75% of all new application spend will be for cloud-native apps
- Support the current production environment, which accounts for 70–80% of all current IT spend
- Include workloads that run in private or public clouds; over the next five years, public cloud is expected to experience 19.4% growth, and private cloud is expected to grow by 16.8%
- Manage Big Data and analytics, with data volumes growing by petabytes per day

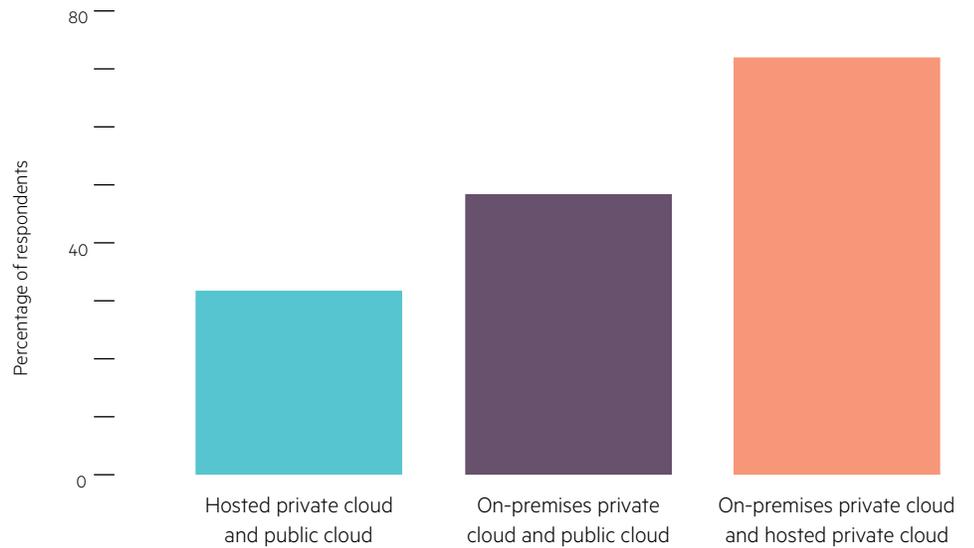
To support the trends that accompany digital transformation, many organizations are deploying multi-cloud solutions that include both private and public cloud elements. This way, organizations can run each workload in the environment that best matches its requirements for security, performance, compliance, and more.

According to the 451 Research Market Monitor: Cloud Computing,¹ the majority of enterprises now view cloud interoperability as an important consideration, as illustrated in Table 1.

¹ Data compiled during Q2 2016.



Table 1. Significant interest in cloud interoperability and deploying multi-cloud solutions



For a growing number of organizations, Microsoft® Azure® Stack is the solution of choice for deploying a secure, compliant multi-cloud environment that supports both on-premises private clouds and public clouds.

Enabling true multi-cloud interoperability

To address the concerns surrounding multi-cloud interoperability, Microsoft created Azure Stack—a new hybrid cloud platform that enables you to deliver Azure-consistent services within your on-premises data center. Azure Stack delivers the power and flexibility of public cloud services, enhanced by your ability to ensure the performance and security your business requires.

With this consistent and flexible hybrid cloud environment, your developers can use the same tools and processes to build apps for both private and public clouds. Then, you can deploy the apps to the optimal target platform that best meets your business, regulatory, and technical requirements.

Azure Stack also helps accelerate application development by offering pre-built solutions from the Azure Marketplace, including many open source tools and technologies.



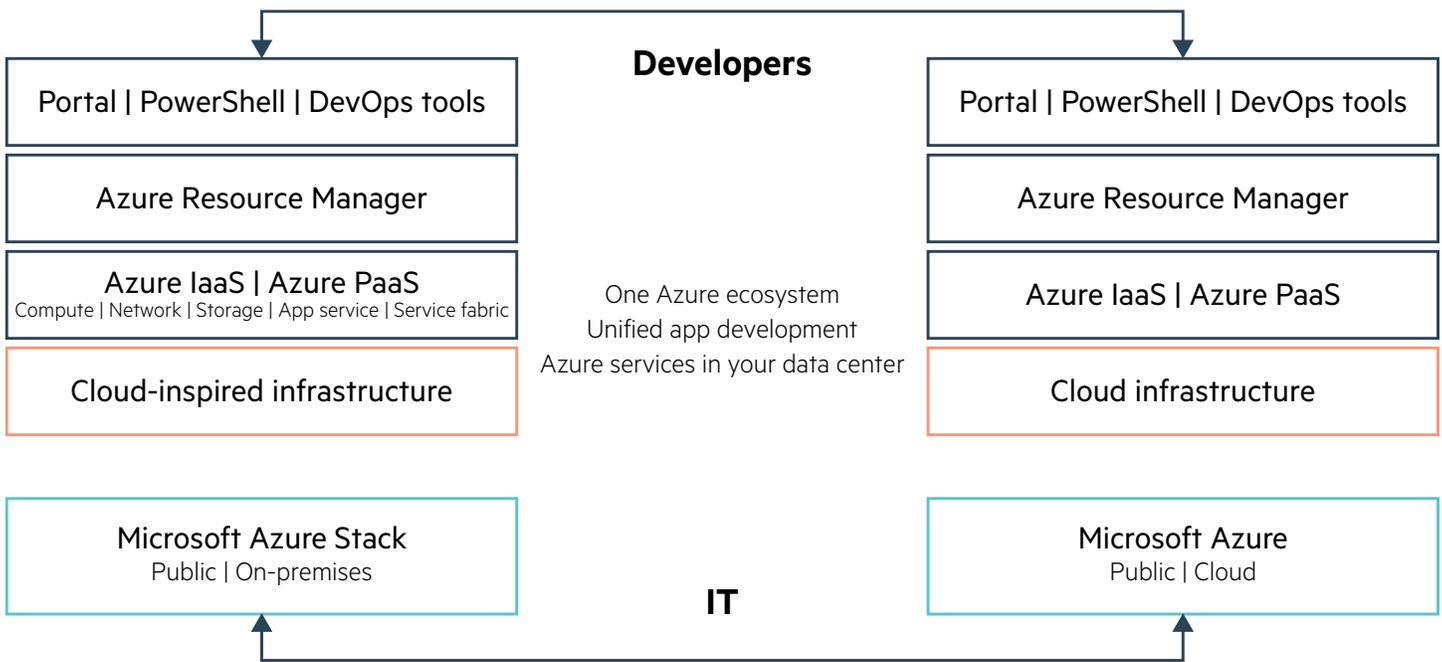


Figure 1. Azure Stack is Azure in the data center

Using Azure Stack in your hybrid cloud

While the use cases for Azure Stack will certainly evolve over time, four have resonated since the introduction of the solution.

1. Data sovereignty, security, and compliance

A primary allure of the cloud is its ability to standardize and simplify service delivery, regardless of physical and geographic boundaries. But with new government regulations on data sovereignty—which state that information converted and stored in digital form is subject to the laws of the country in which it is located—cloud computing’s delivery model might create new concerns for organizations operating in multiple countries. Because each country has its own data sovereignty regulations, navigating the requirements for delivering cloud services across locations can become costly in terms of time and resources.

Microsoft Azure Stack addresses the concerns of global deployments by enabling you to host different instances of the same application to Azure or Azure Stack, depending on your business and technical needs. You can develop and deploy applications in Azure, with complete flexibility to deploy on-premises using Azure Stack to meet your specific regulatory or policy requirements—without changing any code.

With Azure Stack, you can run the same service across multiple countries—as you would using a public cloud—but meet data sovereignty requirements by deploying the same application in data centers located in each country. This way, you can ensure personal data remains within the respective country’s borders, and therefore meet data sovereignty requirements.

For example, let’s consider a fictional multi-national bank, where each branch has its own private cloud environment running on Microsoft Azure Stack. Each branch runs the exact same services, but in a private on-premises environment that meets the security, data privacy, and data sovereignty rules of the country in which the branch resides.





2. Edge and disconnected applications

Many organizations run many of their applications in the public cloud. While this approach is cost-efficient, there are some instances where an area of the business is disconnected to some or all of the corporate infrastructure for certain periods of time.

To address connectivity and latency requirements—and ensure productivity levels remain high and consistent—Microsoft Azure Stack processes data locally. Azure Stack can then aggregate the data in Azure for further analytics, sharing common application logic across both Azure Stack and Azure. This way, you receive the benefits of edge computing and cloud computing to unlock never-before-possible business value.

From factory floors to airplanes to remote offices, Azure Stack enables businesses to harness the power of truly consistent hybrid cloud technology to enable aggregated analytics and enhanced decision making.

For example, let's consider a cruise ship, which uses a mini data center to manage its on-board operations. When the ship is in port, the mini data center is connected to the main data center; but when the ship is at sea, the mini data center runs disconnected from the main data center. The mini data center collects massive amounts of data while the ship is at sea, where it performs local analysis. When the ship returns to port, the data uploads to the main data center for further analysis.





3. Performance

Many applications—including Big Data, analytics, and low-latency apps—require an infrastructure that delivers the highest performance possible. Using the public cloud to run these apps might not meet performance expectations due to latency problems created by moving information from the on-premises data center to the public cloud and back again.

When you run high-performance workloads in an Azure Stack environment, you negate latency problems because the applications run in your data center, with no back-and-forth transfer to a public cloud. Azure Stack provides the performance you need, while also keeping everything under your control.

Let's consider running quarter-end reports, when data volume is higher than usual. In this situation, it makes good sense to run your analytics application on-premises through Azure Stack, rather than run it in the public cloud. You benefit from higher performance, lower latency, and faster decision-making capabilities.

4. Modern application development

Many modern, cloud-native applications are designed to run as microservices in numerous environments. Rather than use different development tools for each microservice running in each location, developers would prefer to use a single set of consistent tools, and then deploy the application wherever it is required.

To streamline and simplify cloud-native application development, you can use Azure web and mobile services, containers, server-less computing, and microservice architectures to update and extend legacy applications with Azure Stack, while also following a consistent DevOps process in both cloud and on-premises deployments. Since Azure Stack and Azure are API-compatible, applications can be deployed to Azure public cloud or Azure Stack running on-premises—with no changes to the application.

Remember that a hybrid cloud is a blend of on-premises (private) cloud and off-premises (public) cloud environments. Orchestration between the two enables mobility of workloads between locations, depending on needs, costs, and flexibility. Across mainframe and core business process applications, Azure and Azure Stack create a hybrid cloud environment that meets your changing needs.





Conclusion

In today's always-on world, everything computes. Devices are connected and intelligence is embedded in practically everything. Tapping into the opportunities created by this “new normal” environment requires a foundational digital transformation—which includes creating a multi-cloud environment that contains both private and public cloud elements. This way, you can run each workload in the environment that best matches its requirements for security, performance, compliance, and more.

Designed to address the concerns surrounding multi-cloud interoperability, Microsoft Azure Stack enables you to deliver Azure-consistent services within your on-premises data center. Azure Stack delivers the power and flexibility of public cloud services, enhanced by your ability to ensure the performance and security your business requires.

In summary, the primary use cases for Microsoft Azure Stack include:

- Data sovereignty, security, and compliance
- Edge and disconnected applications
- Performance
- Modern application development

When the time is right to choose a Microsoft Azure Stack solution, trust HPE to deliver the flexibility, dependability, and scalability you need for successful solution deployment.

A solution you can trust

Designed to deliver Azure-consistent services from your data center, **HPE ProLiant for Microsoft Azure Stack** delivers the largest memory capacity and highest performance—at full speed—giving you the ability to run more workloads, faster.



Powered by HPE ProLiant DL380 Servers, HPE ProLiant for Microsoft Azure Stack is a factory integrated, validated solution that you can customize to meet your unique workload requirements. Here are the top five reasons why you should choose HPE for your Microsoft Azure Stack solution:

- **The most configurable solution available.** HPE ProLiant for Microsoft Azure Stack offers greater choice with more configuration options than other solutions. With flexible configuration options, you can rest assured that HPE ProLiant for Microsoft Azure Stack will fit seamlessly into your existing environment. As a fully customizable solution, you get to choose:
 - The processor type that's right for the workload
 - Your choice of memory
 - Scalable storage capacity
 - Support for third-party networking switches, power supplies, and rack options
- **Highest memory capacity with highest performance at full speed.** HPE ProLiant for Microsoft Azure Stack is uniquely architected to achieve both high capacity at 768 GB RAM, and high performance at full 2400 MHz memory speed—increasing memory bandwidth by up to 28% compared to other, same-capacity solutions. This enables you to run more workloads—even faster.
- **Pay-per-use pricing with HPE GreenLake Flex Capacity.** Leverage cloud-style economics to reduce costs by using a consumption-based model. Only HPE gives you true, consumption-based IT for Azure Stack. **HPE GreenLake Flex Capacity** gives you the cloud you need with:
 - Rapid scalability
 - Variable costs aligned to metered usage
 - No upfront expense
 - Enterprise-grade support
 - One monthly bill
- **Deploy with confidence with more than 4000 trained experts.** Leverage the collective expertise of more than 4000 HPE experts trained on Azure and hybrid cloud to answer any questions you have and provide the support you need. Take advantage of the experts to:
 - Help you develop the best hybrid cloud strategy for your company
 - Deliver professional services to meet your use case, design, and implementation requirements
- **Try before you buy.** Try Azure Stack and accelerate time to value by getting up to speed at one of the **HPE-Microsoft Innovation Centers**, run jointly by HPE and Microsoft. At the centers, hybrid cloud and Azure experts are on hand to help you:
 - Access the latest Azure Stack software and HPE hardware
 - Implement a proof of concept
 - Test your use cases



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a00040517ENW, February 2018

