Brochure

Extend the value of Microsoft Azure

Advisory and Professional services from HPE Pointnext for Microsoft Azure hybrid cloud

HPE
POINTNEXT

Adopt, design, and use Microsoft Azure public cloud and Azure Stack

The professionals at HPE Pointnext can help you choose the right mix to meet your organization's objectives for hybrid cloud-based computing.

Move to the cloud with confidence

Organizations moving to the cloud frequently use Infrastructure-as-a-Service (IaaS) and Platform-as-a-Service (PaaS) solutions offered by cloud service providers. Microsoft® Azure—the second largest cloud provider by market share—offers leading IaaS and PaaS services that many organizations are looking to adopt, if they haven't already.

At the same time, you might not be ready to place certain workloads in the public cloud because of security, compliance, and latency requirements. HPE ProLiant for Microsoft Azure Stack is an on-premises solution that addresses these concerns while also providing a consistent Azure services experience across the hybrid cloud.

The good news is that you can experience the best of both worlds: IaaS flexibility and on-premises security. The hard part, however, is determining your right mix solution and your path forward. The Microsoft Azure hybrid cloud experts from HPE Pointnext can help provide clarity and guidance in your adoption of Azure public cloud services or Azure Stack. Together, we can define the right mix of applications, services, and technologies to meet your needs today and help you prepare for whatever comes next.

Host Azure consistent services in your own data center with HPE ProLiant for Microsoft Azure Stack

The HPE ProLiant for Microsoft Azure Stack integrated solution quickly transforms on-premises data center resources into flexible hybrid cloud services that provide a simplified development, management, and security experience that is consistent with Azure public cloud services. The hybrid cloud platform is co-engineered by HPE and Microsoft to enable the easy movement and deployment of apps to meet security, compliance, cost, and performance needs.

HPE has been investing in Azure Stack from the beginning, not only with our hardware platform but also in readying our HPE Pointnext consulting and support teams. Those teams are ready to integrate Azure Stack into your existing environment and have skills specifically around network integration, identity integration (Azure Active Directory and ADFS), IaaS, and PaaS.

If you want to understand where Azure Stack can help you the most, HPE Pointnext offers a workshop and proof-of-concept (POC) service that provides insight into the Azure Stack architecture along with specific use cases. The HPE Strategic Roadmap Service is also ideal for organizations looking to create a solid vision for Azure technology that maps to business objectives. This service follows an HPE patent-pending process that leads you from point A (where you are now) to point B (where you need to be technically, organizationally, and operationally). You may already have a solid understanding of Azure Stack and simply want additional assistance designing, building, and integrating your Microsoft private cloud within your existing environment. We can assist with that. Or we can help migrate workloads, secure your cloud, and manage your hybrid environment. Finally, HPE Education Services for Azure can help you ramp up quickly and make best use of your Azure investment.

Over 1800

The number of HPE Pointnext professionals currently trained on Microsoft Azure Stack.

During the next two years, hybrid cloud will be the primary deployment venue for most workloads

In a recent survey of 1155 enterprise accounts, 72% of respondents said that cloud will be their primary destination over the next two years.[1]

Take advantage of Azure public cloud services

Leverage HPE Pointnext expertise to simplify your adoption, design, and usage of Azure public cloud services. We work with you to manage change, mitigate risk, and accelerate your time-to-value. Some examples of the Azure solutions we support, include:

Scaled web applications
For stateless web front-end applications that are moved to Azure IaaS in the form of virtual machines (VMs), scale sets are a good initial choice for providing large-scale services. You can use scale sets to deploy and manage a collection of VMs as a set.

If you decide to deploy containerized applications, you can use scale sets for those apps, as well. As you continue to modernize your IT environment, you can adopt Platform-as-a-Service via Azure web apps, which provides auto-scaling to handle undetermined loads. This means you can configure scale-out and scale-down of VMs, based on rules or schedules.

Mirrored environments for Dev/Test
For development and test environments to be realistic, they should exactly match production environments. These "mirrored" environments are very expensive, since they require considerable capital outlay for additional hardware.

Another alternative is to use cloud-based environments such as Azure for Dev/Test, which can significantly reduce costs. Using an Azure-based dev and test environment does not require the applications developed there to be deployed to the cloud; the apps can be deployed to your on-premises production environments.

Azure provides multiple options for mirroring a production environment and using those mirrors for development and testing. Backing up infrastructure and restoring it to Azure via Azure Backup is one way. Azure Site Recovery (ASR) is another option.

In addition to mirroring a production environment, the ability to quickly spin up and spin down VMs in the cloud provides an easy way to test against new versions of software.

[1] 451 Research Right Mix Survey, August 2015

Things to consider
Many existing backup solutions offer cloud solutions such as Azure Storage as their target. Keep in mind that there are costs associated with storage, regardless of whether you use Azure Backup or other solutions targeting Azure Storage.

Additional considerations
As with Azure Backup, Azure Site Recovery incurs storage costs, as well as costs associated with outbound data transfer from Azure; inbound data transfer is free.

Business continuity and disaster recovery (BCDR)
Before implementing any backup and recovery solution, you should evaluate the applications and business processes based on the financial, human, customer, and legal impact their loss can incur. Doing so will help prioritize the processes to protect the information, as well as help identify the required recovery time objectives (RTOs) and recovery point objectives (RPOs).

Azure backup
Part of the Azure Operations Management Suite (OMS), Azure Backup is a Backup-as-a-Service offering that can run on-premises on an Azure Backup Service or within Azure. Azure Backup uses Azure Storage for backups.

Using Azure Storage removes some of the limitations of tape storage, such as physically transporting tape to and from a data center where it can be stored, while still providing the off-site storage needed for assurance against fire, flood, hurricane, or other disasters. Backup data is also replicated, with three copies of the data located in the target data center, with options to geo-replicate the data, as well.

Keep in mind that there are costs associated with storage, regardless of whether you use Azure Backup or other solutions targeting Azure Storage, and those costs as well as proper planning of Azure Storage need to be considered in the backup solution.

Site recovery
Azure Site Recovery (also part of OMS) handles replication, failover, and recovery of workloads and applications. Replicated workloads can be physical machines running either Microsoft Windows® or Linux®, or VMware® or Microsoft Hyper-V virtualization hosts.

Once replicated, ASR allows for test failovers to support disaster recovery drills without impacting the production environment. For multi-tiered applications, failover can be customized using scripts and automation workbooks. While you can use ASR to replicate the workloads to the cloud, site recovery to an alternate enterprise data center is also possible, using ASR as the cloud-based recovery engine. Also, while ASR is positioned as a disaster recovery service, it can also be used to move physical and virtual workloads to the cloud.

As with Azure Backup, storage costs are incurred as well as costs associated with outbound data transfer (from Azure; inbound data transfer is free).

A note about availability sets...
You can configure availability sets for each tier of an application to ensure that at least one virtual machine in each tier remains available.

Application distribution and resilience

The distribution of application components or entire application stacks specifically addresses component-level failure and rack/data center failure. Proper geographic distribution can also help with response time.

In the case of Azure, Azure Regions (basically paired data centers) can be used to physically distribute applications and data. Choosing regions close to your end users can help speed access and reduce latency. If distribution fails to meet your latency or speed requirements, you can introduce ExpressRoute to create a private connection to an Azure data center.

Within an Azure data center, you can use availability sets to logically group VMs. Once VMs are part of an availability set, Azure distributes the VMs across its underlying infrastructure—specifically, across multiple fault domains.

Once an application is distributed using availability sets, Azure Load Balancer can then distribute traffic across the workloads within the data center. If the application is distributed geographically across multiple regions and data centers, Azure Traffic Manager enables you to control the distribution of traffic geographically. Where desired or required, you can configure Site Priority to prioritize a workload to a specific geography.

Basic monitoring

Once you move workloads to Azure, you can monitor them using the monitoring and alert features built into the various Azure services. You can monitor common metrics such as CPU, disk I/O, and network. In addition, you can set thresholds based on specific metrics, as well as configure Azure to generate email alerts. If you need higher levels of monitoring, you might want to explore the broader capabilities offered by Azure OMS.

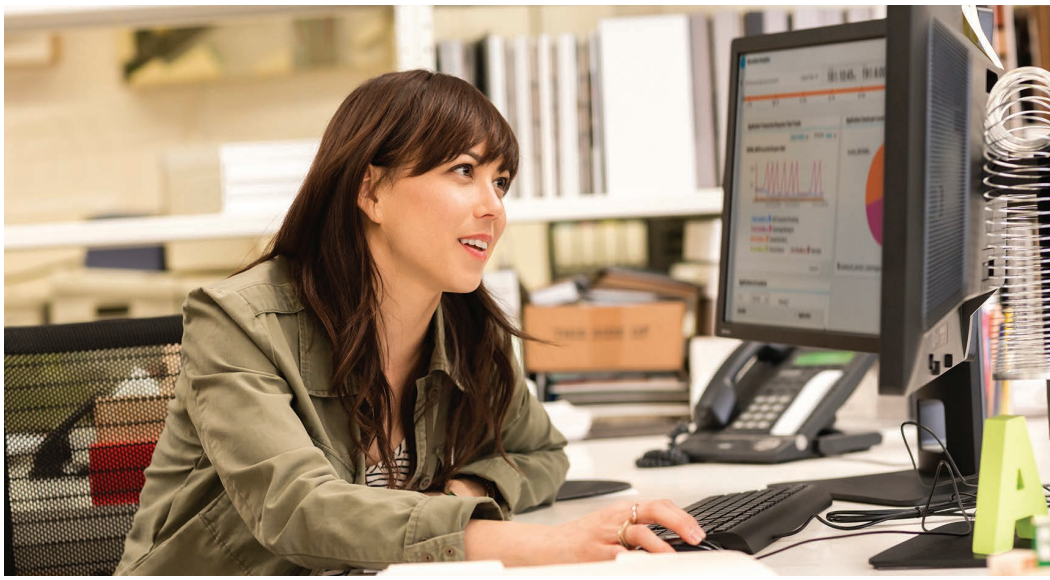
Advanced monitoring and management

Combining cloud-based services with on-premises solutions introduces management and automation challenges for existing and new apps. Adding to the challenge is controlling micro-services, containers, data, applications, and workloads that span cloud and on-premises environments. In addition, as you move to a hybrid environment and adopt multi-cloud solutions, your attack surfaces will continue to increase. Identifying what needs to be monitored and managed today, while also keeping an eye toward future workloads and applications, is an important step in creating a plan for a hybrid IT environment.

Log analytics
Managing an environment that spans on-premises systems and Azure cloud introduces management challenges, primarily due to the large number of management tools. To speed troubleshooting and remediation, Azure Insight & Analytics, part of OMS, provides a cloud-based operational intelligence platform that delivers an integrated view of resources running in Azure, AWS, and OpenStack®, as well as both Windows- and Linux-based sources.

Automation
As adoption of Azure and hybrid IT continues to grow, the demand to deliver new services quickly and reliably—while still managing change—continues to escalate. To meet these needs, Azure Automation, also part of OMS, automates processes and remediation across hybrid clouds, including support of AWS and Linux.

Security
Today's IT teams manage highly complex, hybrid cloud, cross-platform systems that are increasingly vulnerable to a growing number of sophisticated cyberattacks. The Azure Security and Compliance solution, also part of OMS, provides a comprehensive view into your organization's IT security posture—offering built-in search queries for notable issues that require your attention. The dashboard provides high-level insight into the security state of your computers, as well as highlights unexpected changes in configuration.



Why HPE Pointnext for your Microsoft Azure hybrid cloud

For more than 30 years, HPE Pointnext experts have been working with Microsoft technologies. As a result, we have the expertise and technology leadership to help transform your IT infrastructure to a hybrid IT model—incorporating both Azure public cloud services and HPE ProLiant for Microsoft Azure Stack. We have extensive experience analyzing applications and workloads to determine how best to serve up those applications—either in a traditional model, private cloud, public cloud, or hybrid cloud.

The breadth of our knowledge and expertise extends beyond the Azure portfolio as well. HPE Pointnext consulting professionals have considerable experience with Windows Server®, Hyper-V, System Center, SQL Server, MySQL Office 365, Exchange, SharePoint, Skype, and other Microsoft technologies. Choose HPE Pointnext not just to help guide your transformation to the Microsoft Azure hybrid cloud but to advise on how to best use this platform to achieve broader—Big Data, IoT, etc.—initiatives.

Learn more at
hpe.com/services/cloud

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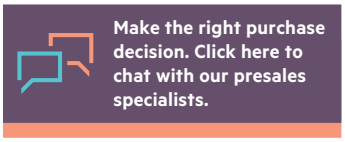

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