Microsoft

Azure Updates
Quarter 4

Azure updates: Quarterly retrospective

October to December 2019

Microsoft

Contents

Foreword 5

Azure Infrastructure 5

Azure Arc: Extended Azure management and security to any infrastructure 5

Azure Data Services Preview: Run Azure data services anywhere 6

Azure Da_v4 and Das_v4 virtual machines 6

Serial Console for Azure Government Cloud public preview 7

Azure Generation 2 virtual machines generally available 7

New features for Azure virtual machine scale sets 7

Azure Bastion GA 8

Azure ExpressRoute 8

Azure Internet Analyzer 8

Azure Peering Service 9

IPv6 for Azure VNET generally available 9

Better performance with bursting enhancement and smaller size offerings on Azure Disks 10

Enabling server-side encryption with customer-managed keys for Azure Disks 10

Optimize data protection with incremental snapshots and direct upload on Azure Disks 10

Azure Cost Management generally available for Cloud Solutions Partners 10

New governance capabilities for Azure 11

Azure HPC Cache generally available 11

Azure HBv2 virtual machines coming soon 12

Azure Ea v4 and Eas v4 series virtual machines 12

Azure NVv4 virtual machine public preview 13

Azure NDv2 virtual machines public preview 13

Azure Monitor: Network Insights (Preview) and faster processing in Traffic Analytics 13

Azure Monitor: New Application Insights agent, Application Change Analysis 14

Azure Monitor for containers: Preview of Hybrid Monitoring, general availability of Prometheus Support 14

Azure Monitor Log Analytics lower costs with capacity-based pricing 15

Windows Server on Azure: Announcing Windows Admin Center version 1910 GA 15

Availability of BC/DR foundational pattern for Azure Stack Hub to Azure Stack Hub 16

Event Hubs on Azure Stack Hub (Public Preview) 16

Azure Stack Edge: New form factors and features 16

Azure data services (Arc) on Azure Stack Hub 17

Azure Arc-enabled API Management – Preview 17

Public Preview of Azure Stream Analytics support on Azure Stack Hub 17
General availability of Kubernetes on Azure Stack Hub 18
Preview of Windows Virtual Desktop on Azure Stack Hub 18
Extending Azure Security Center's coverage with platform for community and partners 18
Azure Security Center cloud security posture management enhancements 19
Support for custom policies in preview 19
Additional regulatory compliance standards in preview 20
"Quick fix" for bulk resources generally available 20
Enhanced threat protection for your cloud resources in Azure Security Center 21
Azure Security Center preview of advanced data security for SQL Server on Azure virtual machines .. 21
Vulnerability assessment (powered by Qualys) in Azure Security Center preview 21
Threat protection for Azure Kubernetes Service 22
Azure Security Center vulnerability assessments available for Azure Container Registry 22
Implement security faster with Azure Security Center 22
Workflow automation with Azure Logic Apps 23
Enabling advanced integrations with continuous export of Security Center in public preview 23
Improved reporting for Security Center alerts and recommendations 24
Onboard on-premises servers to Security Center from Windows Admin Center 24
Azure Firewall Manager public preview 24
Azure NetApp Files achieves SAP HANA certification 24
Azure Storage offers customers significant discounts with Reserved Capacity program 25

Azure Apps 25

Revamped Azure API Management developer portal – generally available 25
Azure App Service managed certificates 25
Web apps migration experience in Azure Migrate 26
Azure Event Grid brings the event-driven productivity to IoT solutions 26
Azure Functions eliminates cold-start and serverless automation for enterprise workloads 26
Streamlined developer experience for Azure Kubernetes Service 26
Kubernetes clusters with Azure Availability Zone, Cluster autoscaler and multiple node pools 27
Improved Azure Kubernetes Service security with authenticated IP 27
Azure Kubernetes Service – easier diagnostics and logging 27
On-demand pricing and Azure Monitor Log Analytics integration for Azure Red Hat OpenShift 28
Open Container Initiative artifacts support in Azure Container Registry 28
Azure Security Center vulnerability assessments available for Azure Container Registry 28
Public and project-scoped feeds for Azure Artifacts 28
New features and updates for Azure Pipelines 29

Microsoft shares stories and guidance to support DevOps transformations 29
Azure Spring Cloud preview 29
New Azure SDKs signify move toward unified set of standards 30
New version of Azure CLI provides features to build containers, images and more 30
Azure Cloud Shell adds regional storage support and Office 365 30
Visual Studio 2019 version 16.4 Preview 3 30
Visual Studio for Mac version 8.4 Preview 2 31
Visual Studio Online preview 31
Preview 2 of long-term support for .NET Core 3.1 31
ML.NET 1.4 now available 32
Microsoft Assessments offers help with Azure 32
Microsoft Learn is the centralized hub for certifications 32

Azure Data & AI 32

Accelerating the machine learning lifecycle 32
Autonomous systems limited preview and partnership 33
Azure Blockchain portfolio announcements 33
Azure Cloud Databases investments in limitless performance and scale 34
Azure Cloud Databases launch more flexible purchasing options to maximize TCO 35
Azure Cognitive Search updates help enterprises enhance the developer experience 35
Azure Cognitive Services innovation 36
Azure Data Share now generally available 36
Azure SQL Database Edge preview 37
Azure Synapse Analytics 37
Bot Framework and Azure Bot Service updates deliver increased developer productivity 37
Microsoft and Warner Bros. store classic Superman movie on glass with Project Silica 38
SQL Server 2019 delivers intelligence over all your data 38

Azure IoT & Quantum 39

Ansys Twin Builder and Azure IoT platform integration 39
Azure FarmBeats in preview 39
Introducing Azure Quantum 40

Security 40

Azure Sentinel new features and updates 40

Identity 41

Azure Active Directory MyApps portal updates with new look and features 41
Azure Active Directory Connect cloud provisioning 41

Azure Active Directory secure hybrid access with partners 41
Entitlements management for Azure Active Directory 42
New features provide easier sign-in and better security for firstline workers 42
Passwordless authentication for more Azure Active Directory customers 43
Proof of concept for a decentralized identity system 43

Information in this document, including URL and other Internet website references, is subject to change without notice. Unless otherwise noted, the companies, organizations, products, domain names, email addresses, logos, people, places, and events depicted in examples herein are fictitious. No association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred. Complying with all applicable copyright laws is the responsibility of the user. Without limiting the rights under copyright, no part of this document may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), or for any purpose, without the express written permission of Microsoft Corporation.

Microsoft may have patents, patent applications, trademarks, copyrights, or other intellectual property rights covering subject matter in this document. Except as expressly provided in any written license agreement from Microsoft, the furnishing of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property.

© 2019 Microsoft Corporation. All rights reserved.

All other trademarks are property of their respective owners.

Foreword

Across all our news, we're focused on the evolving needs of our customers. It's a time when every company is becoming a tech company, and that's a big consideration in all of the tools and services we create to help companies do business in smarter, more productive and more efficient ways.

You'll see AI infused into product and service updates across the company, as well as our firm commitment to security and privacy. You'll also see how our approach of investing in built-in capabilities, cloud-powered intelligence and integration is helping customers address some of their biggest security and compliance concerns.

Azure Infrastructure

Azure Arc: Extended Azure management and security to any infrastructure

Businesses today face increasingly complex environments, including thousands of apps, diverse hardware and infrastructure, and multiple clouds. As a result, customers need to enable innovation and developer agility; govern and operate disparate environments at scale; and ensure integrated security across the entire organization.

Azure Arc enables Azure services anywhere and extends Azure management to any infrastructure for unified management, governance and control across clouds, datacenters and edge. They look and feel just like Azure resources, and they provide unified auditing, compliance, and role-based access control across multiple environments and at scale.

As a result, customers can modernize any infrastructure with cloud management and security protection. With cloud practices that work anywhere, Microsoft is delivering these resources, from cloud to datacenter to edge, and enabling cloud security anywhere.

Millions of Azure resources are managed, governed, and secured daily by thousands of customers. With Azure

Arc, customers can now take advantage of Azure's robust cloud management experience for their own servers (Linux and Windows Server) and Kubernetes clusters by extending Azure management across environments. Customers can seamlessly inventory, organize, and govern their own resources at-scale through a consistent and unified experience through the Azure Portal.

Azure Arc for management of Windows and Linux servers on any infrastructure is available in preview on November 4. Azure Arc for management of Kubernetes clusters is available in preview.

Go to the Microsoft Azure Blog and the Innovation Stories Blog to learn more

Azure Data Services Preview: Run Azure data services anywhere

With its preview today, Azure Arc is enabling Azure data services anywhere, so that customers can run software such as Azure SQL Database and Azure Database for PostgreSQL Hyperscale on any infrastructure. Effectively transforming the way data is managed by taking a traditionally complex process into a deployment that takes only seconds, Azure Data Services provides customers with more insights in real time, unlocking AI across the datacenter, edge and up to the cloud. Azure Arc also extends data services manageability from Azure, so customers can use Azure to manage their on-premises infrastructure, including servers and Kubernetes clusters. This provides consistent security, with automation at-scale and unified management of all data and AI assets.

Azure Data Services begins its preview November 4, starting with the ability to run Azure SQL Database and Azure Database for PostgreSQL Hyperscale on any Kubernetes and any hardware of choice, to be followed by additional Azure data services based on customer needs. With their Azure AI models deployed from cloud to edge in-database (Azure SQL Database Edge, or containerized SQL), customers don't have to custom code apps.

Customers can choose from a variety of data and analytics engines to deploy, scale, and manage workloads in the same way as in Azure, with built-in automation on operational tasks, integrated monitoring, and access to latest innovations such as evergreen SQL engine, PostgreSQL Hyperscale, and intelligent performance. They can connect to Azure for cloud resiliency on business continuity, Advanced Threat Protection, and unified views over their entire hybrid data estate. Apply Azure Policy and role-based access control for consistent governance, with flexibility for customer-defined policies such as security, upgrade time-window, and so on at the enterprise level.

Go to the Microsoft Azure Blog to learn more

Azure Da_v4 and Das_v4 virtual machines

Azure Da v4 and Das v4 virtual machines feature high performance at competitive price points suitable for enterprise-grade applications, relational databases, and application servers. These new Azure VMs feature the latest AMD EPYC™ 7452 processor and provide up to 96 vCPUs, 384 GBs of RAM, and 2,400 GBs of SSD-based temporary storage. The Das-series VMs support Azure Premium SSDs and Ultra Disks.

Customers will be able to deploy these new Azure VMs the same way they deploy any other Azure VM today via Azure Portal, CLI, or PowerShell or using ARM Templates.

Microsoft previously announced the preview of these updates in August 2019, with general availability of the Da v4 and Das v4 Azure VM-series for general purpose workloads on November 4.

Serial Console for Azure Government Cloud public preview

Azure Government Cloud customers are getting access to a popular troubleshooting tool for virtual machines: Serial Console. Serial Console provides access to a text-based console for Windows virtual machines and virtual machine scale set instances, regardless of the network or operating system state.

At Ignite 2019, Microsoft is announcing a public preview of Serial Console for Azure Government Cloud.

Go to Windows-specific and Linux-specific overviews of Serial Console to learn more

Azure Generation 2 virtual machines generally available

As we continually update Azure's underlying infrastructure, Microsoft is bringing new key features to Generation 2 virtual machines in Azure that are becoming generally available on November 4. These features include increased memory and Intel Software Guard Extensions. This new generation will also provide support for large VMs (up to 12 TBs) and allow our customers to provision OS Disk sizes that exceed 2 TBs.

Support for Generation 2 VMs makes it easier for customers to migrate their existing Gen 2 VM-based workloads to Azure. Finally, with this offering we are bringing support for UEFI boot architecture in Azure. As with any existing Azure VM, customers can choose during the provisioning and deployment process whether, and how, to deploy Generation 1 or Generation 2 VMs, depending on their needs using the Portal, CLI, or PowerShell.

New features for Azure virtual machine scale sets

New features for Azure virtual machine scale sets will help customers more easily manage virtual machines together while improving their runtime and performance capabilities.

Customers will now be able to create an empty virtual machine scale set and add various virtual machines belonging to different series later. That will allow them to achieve high availability by deploying a set of virtual machines to a single availability zone and/or across different fault domains in an available zone.

Additionally, customers can now provision VMs with custom images using a shared image gallery that provides an easy, quick, and scalable way to share images across different VMs. A new scale-in policy lets customers determine the order in which VMs should be scaled in, or deprovisioned. New termination notifications give customers up to 15 minutes to perform any cleanup or end tasks before VMs are deprovisioned, and new

instance protection from scale-in helps customers protect designated VMs from being deprovisioned during a scale-in action.

The new features, available in public preview, will help customers get their applications up and running quickly while giving them control over how applications scale down.

Azure Bastion GA

Customers who connect to workloads and virtual machines on private networks face increased security risks. Exposing network assets to the public internet through Remote Desktop Protocol and Secure Shell increases the security perimeter, making it harder to manage and protect them.

Microsoft on November 4 is announcing the general availability of Azure Bastion, a fully managed PaaS service that provides more secure and seamless RDP and SSH access to virtual machines directly through the Azure Portal. Azure Bastion is provisioned directly in a customer's Virtual Network and supports all VMs in their VNet using SSL, without any exposure through public IP addresses.

Previously available in preview, Azure Bastion is now generally available in six Azure regions: Australia East, East US, Japan East, South Central US, West Europe and West US.

Customers can initiate a remote Azure Bastion session directly from Azure Portal (using single click). Azure Bastion then brokers a more secure RDP/SSH session to the target virtual machines in the virtual network. Azure Bastion always connects to the target VM in the virtual network over its private IP.

Azure ExpressRoute

Satellite connectivity helps bring coverage to challenging areas and remote locations, for industries like energy, transportation, farming, and remote manufacturing. Microsoft Azure ExpressRoute, with one of the largest networking ecosystems in the public cloud, now includes satellite connectivity partners that bring new options and coverage.

Azure ExpressRoute is collaborating with leading satellite providers to expand the reach of the intelligent cloud across the globe. ExpressRoute for satellites expands connectivity via Geostationary, Medium Earth Orbit, and in the future Low Earth Orbit satellites to our partners' ground stations to our global network using a dedicated private link.

A related announcement was made on the Azure Blog on Sept. 9, 2019.

Azure Internet Analyzer

Customers onboarding to the cloud today don't have the insight they need into the performance their end users will experience when they migrate to Azure or a new Azure service. Internet Analyzer provides clear analytics and insights into their expected end-user performance, making the decision to migrate that much simpler.

At Microsoft Ignite on November 4, Microsoft is announcing a preview of Internet Analyzer, delivering datadriven performance reporting across multiple endpoints for app migration and delivery, and internet content and app delivery. Customers can use Internet Analyzer to make informed app delivery decisions by A/B testing load balancing options between Azure and other cloud providers.

Customers embed the Internet Analyzer client into their web application and define the type of A/B test they want to conduct via the API/ CLI/ Portal. The client measures latency between the application's end users and the defined test endpoints. This data provides users with both insight into their end user's experience across the internet and guidance on which Azure services can accelerate that performance.

Azure Peering Service

Azure Peering Service is a partnership with service providers to provide highly reliable and optimized internet connectivity to Microsoft services. It also provides internet latency telemetry and route monitoring, and alerting against hijacks, leaks, and any other Border Gateway Protocol misconfigurations.

On November 4 at Microsoft Ignite, the company will announce the preview of Azure Peering Service.

Azure Peering Service is an answer for customers looking for an internet-first network strategy when accessing SaaS services such as Office 365 or other SaaS services running on Azure. By partnering with service providers, customers get the best possible internet traffic routing for optimal and future-proof connectivity to Microsoft.

IPv6 for Azure VNET generally available

Internet Protocol version 6 is an internet standard for communicating between computers. One of its most notable features is the exceptionally large number of IP addresses available using this protocol. The 128-bit addresses are four times the length of IPv4 addresses (32-bit) but provide 3.4×10^38 addresses—enough for each person on the globe to have billions of addresses to themselves.

Most Regional Internet Registries exhausted their IPv4 address space as of 2015, so new IPv4 address space is no longer available. As a result, the cost of IPv4 address space continues to climb, and governments and industries— most notably mobile (cellular) and IoT markets—are moving to IPv6 for its vastly increased address space (over IPV4) and other features.

Microsoft is announcing that IPv6 for Azure VNet will become generally available across Azure regions worldwide shortly after the Ignite conference. Preview was announced in July 2019.

IPv6 support within the Azure Virtual Network and to the internet enables customers to expand into the growing mobile and IoT markets with Azure-based applications and to address IPv4 depletion in their own corporate networks.

Better performance with bursting enhancement and smaller size offerings on Azure Disks

Smaller sizes and burstable disks provide a lower cost of entry for customers migrating to the cloud by enabling workloads with less predictable traffic patterns to fine-tune disk performance. Azure Disks now support new 4, 8, and 16 GB sizes on Premium SSD and Standard SSD. Applicable Premium SSD disks can now burst up to 30x of the provisioned performance target, providing better tolerance for spiky workloads.

On November 4, Microsoft is announcing this new capability in preview.

Enabling server-side encryption with customer-managed keys for Azure Disks

Azure Managed Disks now provides customers with full control on their compliance needs by enabling serverside encryption with customer-managed keys (SSE with CMK). SSE with CMK enables customers to leverage Azure Key Vault as the highly available and scalable repository for their Azure Disk encryption keys.

On November 4, Microsoft is announcing SSE with CMK is available in preview for Premium SSD, Standard SSD, and Standard HDD disk types. Customers will be able to track key usage using AKV monitoring to ensure access from trusted parties.

Optimize data protection with incremental snapshots and direct upload on Azure Disks

Backup and disaster recovery solutions can optimize costs by capturing delta writes and moving them to low-cost object storage for long-term retention. Azure Managed Disks now offers incremental snapshots, which allow for cost-effective point-in-time backups of Azure Disks.

On November 4, Microsoft is announcing this enhancement in preview. In addition, Azure Disks now offers direct upload to copy a VHD from on-premises or backup location directly as a Managed Disk, which further simplifies restores from backups.

Azure Cost Management generally available for Cloud Solutions Partners

Azure Cost Management helps organizations plan by analyzing costs effectively and optimizing cloud spending to get more value out of cloud investments. ACM has not been available to partners until now.

On November 4, Microsoft is announcing the general availability of ACM for Cloud Solution Provider partners whose customers are onboarded on a Microsoft Customer Agreement. CSP partners will be able to analyze costs through dashboards that enable rich filtering, and to leverage Azure Advisor within the ACM service to optimize their workloads.

New governance capabilities for Azure

Microsoft has worked hard to deliver advanced governance capabilities already in Azure, and we seek to continuously improve those capabilities based on customer feedback. Microsoft on November 4 is introducing several new capabilities that help make governance easier on Azure, including:

- Key Vault policy – public preview

Azure Policy is moving into Azure KeyVault in public preview. This allows the implementation of governance controls on keys and secrets inside the vault.

- Custom RBAC support for MGs

Now you can apply custom RBAC at the management group level.

- Subscription tags

We are enabling the ability to apply tags to subscriptions so you can track them better moving forward.

- Azure Cost Management for partners on MCA

With the introduction of the Microsoft Customer Agreement type of account, Azure Cost Management is now going live for partners on MCA. This will allow partners to better monitor through tools like cost analysis, set accountability through budgets, and optimize resources to realize more value out of Azure for them and for their customers.

With these updates, customers will be able to see what Microsoft covers as part of regulatory compliance needs to create policies inside AKS and KeyVault in areas like pods, ingress, keys, and secrets, and apply custom RBAC on management groups as well as tags on subscriptions.

Azure HPC Cache generally available

Enterprise organizations with large high-performance computing workloads need better access to large data sets stored in on-premises network-attached storage and in Azure.

On November 4, Microsoft is announcing the general availability of the Azure HPC Cache service, a new offering that empowers organizations to more easily run large, complex high-performance computing workloads in Azure. Azure HPC Cache reduces latency for

applications where data may be tethered to existing datacenter infrastructure because of dataset sizes and operational scale.

Azure HPC Cache automatically caches active data in Azure that is located both on-premises and in Azure, effectively hiding latency to on-premises network-attached storage, Azure-based NAS environments using Azure NetApp Files, or Azure Blob Storage. The cache delivers high-performance seamless network file system (NFSv3) access to files in the Portable Operating System Interface- compliant directory structures.

The public preview of Azure HPC Cache was initially announced in September.

Azure HBv2 virtual machines coming soon

Azure HBv2 virtual machines are designed to deliver leadership-class performance, message passing interface scalability, and cost efficiency for a variety of real-world high-performance compute workloads.

Across a single virtual machine scale set, customers can run a single MPI job on HBv2 virtual machines at up to 36,000 cores. For our largest customers, HBv2 virtual machines support up to 80,000 cores for single jobs.

Azure Ea v4 and Eas v4 series virtual machines

Microsoft is committed to giving customers industry-leading performance for all their workloads.

After being the first global cloud provider to announce the deployment of AMD EPYC™ based Azure virtual machines in 2017, we've been working together to continue bringing the latest innovation to enterprises.

That includes the previously announced preview of memory optimized Ea_v3 and Eas_v3 Azure virtual machines, which provide up to 64 vCPUs, 432 GBs of RAM and 1,600 GBs of SSD-based temporary storage. They also support Premium SSD disk storage.

On November 4, Microsoft is announcing general availability of the Ea v4 and Eas v4 Azure VM-series for memory-intensive workloads. These new Azure VMs feature AMD's latest EPYC™ 7452 processor and provide up to 96 vCPUs, 672 GBs of RAM and 2,400 GBs of SSD-based temporary storage. The Ea v4 and Eas v4 VMs offer great performance for large in-memory business-critical workloads at competitive price points. The Eas-series VMs support Azure Premium SSDs and Ultra Disks.

With these releases, Microsoft continues to bring the latest innovation to our customers while offering a choice of Intel- and AMD-based VMs to meet a broad and diversified range of workloads.

Customers will be able to deploy these new Azure VMs the same way they deploy any other Azure VM today via Azure Portal, CLI, PowerShell, or ARM Templates.

Azure NVv4 virtual machine public preview

Azure offers a wide variety of virtual machine sizes tailored to meet diverse customer needs. Our NV size family has been optimized for GPU-powered visualization workloads, such as CAD, gaming, and simulation.

The Azure NVv4 virtual machine offers unprecedented GPU resourcing flexibility, giving customers more choice than ever. Customers can select from VMs with a whole GPU all the way down to 1/8th of a GPU.

With our hardware-based GPU virtualization solution built on top of AMD MxGPU and industry-standard SR-IOV technology, customers can securely run workloads on virtual GPUs with dedicated GPU frame buffer.

NVv4 will be available for preview November 4. This was previously announced in early August.

Azure NDv2 virtual machines public preview

NDv2-series virtual machine is the latest, fastest, and most powerful addition to the GPU family specifically designed for the cutting-edge demands of distributed HPC, AI, and machine learning workloads.

Microsoft is announcing general availability of NDv2 on November 4.

The VMs feature 8 NVIDIA Tesla V100 NVLINK interconnected GPUs with 32 GB of memory each, 40 nonhyperthreaded Intel Xeon Platinum 8168 processor cores, and 672 GB of system memory. The NDv2-series VMs also feature 100 Gb/sec EDR InfiniBand with support for standard Mellanox OFED drivers and all MPI types and versions.

With a total of 256 GB of GPU memory and 100 Gb/sec InfiniBand interconnect, NDv2-series VMs are ready for the most demanding ML models and distributed AI training workloads utilizing Cuda, TensorFlow, Pytorch, Caffe, and other frameworks. NVv4 will be available for preview November 4.

Azure Monitor: Network Insights (Preview) and faster processing in Traffic Analytics

Azure Monitor empowers customers to identify and diagnose issues, view metrics, and enable or disable logs for resources in an Azure virtual network.

At Microsoft Ignite, Microsoft is announcing two enhancements that will provide greater visibility into network activity in the cloud:

- Network Insights

Introducing a single console that provides health information and other data across customer networking resources in the cloud.

- Traffic Analytics

An existing solution that provides visibility and auditing support for network activity in the cloud, Traffic Analytics now provides faster insights by processing data at 10-minute intervals.

Azure Monitor: New Application Insights agent, Application Change Analysis

Azure Monitor makes it easy for DevOps teams to monitor and diagnose networking issues without logging into their virtual machines or having to touch any code.

At Microsoft Ignite, Microsoft is introducing new capabilities that enable no-code monitoring of .NET applications running on Azure virtual machines.

The new Application Insights agent includes enhancements to debugging and profiling capabilities. The agent monitors IIS and .NET processes and collects telemetry.

Azure Monitor for containers: Preview of Hybrid Monitoring, general availability of Prometheus Support

Monitoring containers is critical, especially when running a production cluster, at scale, with multiple applications.

Azure Monitor for containers is designed to monitor the performance of container workloads deployed to either Azure Container instances or managed Kubernetes clusters hosted on Azure Kubernetes Service.

At Microsoft Ignite, Microsoft is announcing two new Azure Monitor for containers features:

- Hybrid Monitoring

Customers who run a hybrid Kubernetes deployment with on-premises and Azure infrastructure can now just use Azure Monitor for monitoring both environments.

- Prometheus Support

The capability to scrape Prometheus metrics and logs directly into Azure Monitor is now generally available.

In addition, Microsoft is unveiling multiple smaller enhancements, including cluster health roll up and live deployment metrics.

As a result of these updates, customers can now use the rich telemetry from Prometheus, get additional insights from Azure Monitor, and view and analyze all the data together in one place with Azure Monitor for containers.

Azure Monitor Log Analytics lower costs with capacity-based pricing

For businesses that create and process hundreds of gigabytes of data per day, costs from operation data or use cases can add up. To help lower those costs, while also providing more predictability and flexibility, Microsoft is introducing the Capacity Reservations pricing model for Azure Monitor Log Analytics customers.

The new program gives bulk data users another option for managing their data spending. With Capacity Reservations, customers can secure fees for data ingestion and get a discount of up to 25% compared to pay as you go, with pricing tiers beginning at 100 GB per day. This new offering does not impact customers who prefer to pay as they go.

This new pricing option was announced as part of Azure Sentinel and is available beginning November 1.

Go to the Log Analytics section in the Azure Monitor pricing page and the Azure page to learn more

Windows Server on Azure: Announcing Windows Admin Center version 1910 GA

Microsoft continues to innovate to give customers the best Windows Server experience across Azure and onpremises. At Ignite, we will announce the general availability of Windows Admin Center version 1910—available for download November 4. Highlights of what's new include:

- Integration with Azure Security Center for end-to-end hybrid server environment security monitoring
- Easier extension of on-premises server environments to Azure with Azure Extended Networking and Azure NIC
- New preview of Performance Monitoring features to track and troubleshoot server and VM performance
- HCI configuration wizard to streamline setup of Azure Stack Hub HCI or Windows Server 2019 systems

Go to the Windows Server Blog to learn more

Availability of BC/DR foundational pattern for Azure Stack Hub to Azure Stack Hub

Microsoft Azure Stack Hub is an extension that lets customers deliver Azure services from their own datacenter or consume them directly from a service provider. Consuming IaaS and PaaS services from Azure Stack Hub requires a modern approach to planning business continuity and disaster recovery compared to traditional on-premises solutions.

To help customers better protect their IaaS virtual machine-based applications, Microsoft is announcing the availability of BC/DR foundational pattern for Azure Stack Hub in the first half of calendar year 2020. Azure Stack Hub customers with multiple systems in different geographic locations can follow this pattern to enable failover and failback of IaaS VMs for planned maintenance, disaster avoidance, or in the event of a disaster that takes one of the systems offline.

Go to our recent whitepaper to learn more

Event Hubs on Azure Stack Hub (Public Preview)

Event Hubs is a fully managed, real-time data ingestion service that's simple, trusted, and scalable. Customers use it to stream millions of events per second from any source, build dynamic data pipelines, and immediately respond to business challenges, even during emergencies. It integrates seamlessly with other Azure services, enabling customers to build on-premises and hybrid applications.

On November 4, Microsoft is announcing the preview of Event Hubs on Azure Stack Hub. Customers can now install the Event Hubs service on their Azure Stack Hub platform and experience a consistent feature set and operational model to that of the Event Hubs service in Azure.

Azure Stack Edge: New form factors and features

Azure Stack Edge is an AI-enabled edge-computing device with network data transfer capabilities. This hardwareas-a-service cloud-managed device comes with a built-in FPGA that enables accelerated AI-inferencing and has all the capabilities of a storage gateway.

Microsoft is introducing previews of several new features and form factors that bring edge computing benefits to both net new applications such as IoT and AI as well as brownfield virtual machine-based applications:

- Commercial Series and Rugged Series for Azure Stack Edge, featuring two form factor options with FPGA and GPU for ML inferencing at the edge. Each will be ruggedized and portable for harsh environments such as defense, energy, and industrial use cases.

- Virtual machine support for edge compute. Customers can choose to run applications on VMs or containers on Azure Stack Edge. This is especially useful for migrating existing applications to Azure Stack Edge.
- Kubernetes on Azure Stack Edge - Supports Kubernetes clustering for containerized applications on Azure Stack Edge clusters consisting of multiple devices. Azure Kubernetes Service helps with deploying and lifecycle management of the Kubernetes cluster. Provides scaling and high availability.
- High Availability - Automatic fail-over—in case of a loss of a server in a cluster, the VM can automatically move to another server.

Customers can order Azure Stack Edge devices through the Azure portal, paying for monthly usage and returning the device to Microsoft when finished.

Go to the Microsoft Azure Blog to learn more

Azure data services (Arc) on Azure Stack Hub

Azure Stack Hub is an ideal environment for Azure data services (Arc), its integrated support for hardware, software infrastructure, and services optimize deployment.

Developers can use a wide range of Azure-consistent resource types to develop their applications, including databases, containers, virtual machines, storage, Key Vault, and many others.

On November 4, Microsoft is announcing a preview of Azure data services (Arc) modern cloud database management capabilities on Azure Stack Hub. Azure Stack Hub customers can deploy Azure data services (Arc) on Azure Stack Hub and offer self-service provisioning and management of sql ser managed instances.

Azure Arc-enabled API Management – Preview

Microsoft is releasing Azure Arc-enabled API Management, which helps organizations manage APIs across any environment, including hybrid and multi-cloud.

It consists of a containerized API gateway that can be deployed in any environment, while still allowing users to manage all their APIs within the Azure API Management plane. This capability, now available in public preview, is configured through the Azure API Management plane but keeps data localized to the deployment environment to ensure security and compliance for APIs.

Public Preview of Azure Stream Analytics support on Azure Stack Hub

With Stream Analytics support on Azure Stack Hub, customers can leverage Azure technologies from the cloud to deliver hybrid data analytics solutions at the edge. This

new integration enables customers to build hybrid architectures that can analyze data close to where it is generated, with low latency and maximum insights.

On November 4, Microsoft is announcing the preview of Azure Stream Analytics support on Azure Stack Hub.

Azure Stack Hub customers in a connected scenario can analyze streams of data at the edge, either coming from IoT Edge or Event Hubs on Azure Stack Hub, and output the result to a Storage Account, Event Hubs, or SQL database located on Azure Stack Hub without the data having to leave their datacenter.

General availability of Kubernetes on Azure Stack Hub

Simplifying the provisioning, deployment, and lifecycle management is important for application developers and

IT architects. Customers now can deploy and manage the lifecycle of their Kubernetes clusters on Azure Stack Hub with a single tool, and no longer must set up intricate orchestration for the cluster deploy, upgrade, and scale processes.

On November 4, Microsoft is announcing the general availability of Kubernetes on Azure Stack Hub. The clusters managed by the Kubernetes on Azure Stack Hub contain a certified Kubernetes Cloud Provider, which leverages Azure Resource Manager to natively create and configure compute, network, and storage resources for the cluster on-demand. It does so through an Azure-maintained VM image, so that developers and IT architects have a simplified solution for maintaining the multiple cluster nodes.

Preview of Windows Virtual Desktop on Azure Stack Hub

Businesses today need both data sovereignty and data gravity. Building on the hybrid capabilities of Windows Virtual Desktop, on November 4, Microsoft will announce a preview of WVD on Azure Stack Hub. In this fully connected scenario, the management plane remains in Azure, while the Host Pools running workloads remain on Azure Stack Hub.

Extending Azure Security Center's coverage with platform for community and partners

The Microsoft Intelligent Security Association brings together technology partners in the security space to collaborate and jointly defend against increasingly sophisticated, fast-moving threats. As we continue to add new partners to this coalition, we aim to provide an integrated experience for our customers.

We use a wide variety of physical, infrastructure, and operational controls to maintain the security of Azure. At Microsoft Ignite, we are announcing that we are extending Azure Security Center so that our customers can not only receive recommendations from

Microsoft but also from our new partners. They can also export Security Center recommendations to partner products.

Customers using our partner solutions on top of Security Center can now use a simple onboarding flow to view all their security posture recommendations in one place, run the same reports, and leverage all Security Center capabilities on both built-in recommendations and partner recommendations.

Microsoft is also announcing that Security Center is opening its gates for the security community to contribute to and improve its policies and configurations. Customers may now use the Azure Security Center community menu, the central hub of information for additional scripts, content, and community resources, to access:

- Azure Security Center GitHub, containing custom policies, remediation scripts, custom Logic Apps playbooks, and more, for usage and contribution
- A central location for Azure Security Center blog posts
- Central enrollment for Azure Security Center previews

Go to the Azure Security Blog and MISA page to learn more

Azure Security Center cloud security posture management enhancements

Misconfigurations are a top risk for cloud workloads. Azure Security Center provides you with a bird's- eye security posture view across your Azure environment, enabling you to continuously monitor and improve your security posture using the secure score. Security Center helps you manage and enforce your security policies to identify and fix such misconfigurations across your different resources and maintain compliance. At Microsoft Ignite, we continue to expand our resource coverage and the depth insights available in security posture management with the following announcements:

- Secure score simplified
- Support for custom policies in preview
- Additional regulatory compliance standards in preview
- Quick Fix for bulk resources generally available

Support for custom policies in preview

Many customers have sought to extend their current policy in Azure Security Center's coverage of security assessments with their own security assessments based on policies that they create in Azure Policy. Microsoft is announcing that Azure Security Center now supports custom policies in preview release. These new policies will be part of the Azure

Security Center recommendations experience, secure score, and the regulatory compliance standards dashboard.

With support for custom policies, customers may now create a custom initiative in Azure Policy and then add it as a policy in Azure Security Center in a simple click-through onboarding experience and visualize them as recommendations.

Additional regulatory compliance standards in preview

The Regulatory Compliance dashboard provides insights into customers' compliance posture based on Security Center assessments. The dashboard shows how a customer's environment complies with controls and requirements designated by specific regulatory standards and industry benchmarks, and provides prescriptive recommendations for how to address these requirements. The regulatory compliance dashboard has thus far supported four built-in standards: Azure CIS 1.1.0, PCI-DSS, ISO 27001, and SOC-TSP.

Microsoft is announcing the preview release of additional supported standards: NIST SP 800-53 R4, SWIFT CSP CSCF v2020, Canada Federal PBMM, and UK Official together with UK NHS. We are also releasing an updated version of Azure CIS 1.1.0, covering more controls from the standard and enhancing extensibility.

In addition, customers can now select which standards to onboard to their dashboard and track, depending on their specific requirements. The onboarding of a standard is powered by Azure Policy and is done by assignment of the selected regulatory compliance initiative to the scope designated by the customer. As more regulatory initiatives are released, an ever-growing list of standards and benchmarks will become available for management in the Azure Security Center regulatory compliance dashboard.

"Quick fix" for bulk resources generally available

Secure score reviews a customer's security recommendations and prioritizes them, so customers know which recommendations to perform first. With multiple tasks included as part of secure score, effectively remediating issues across a large fleet can be challenging and slow.

To simplify remediation of security misconfigurations and to quickly improve customer secure scores, Microsoft has introduced a new capability that allows customers to remediate a recommendation on multiple resources quickly. "Quick Fix," which had been in preview, is now generally available as part of the Security Center recommendations blade.

Go to the Azure Security Center page to learn more

Enhanced threat protection for your cloud resources in Azure Security Center

Azure Security Center's threat protection enables you to detect and prevent threats across a wide variety of services from Infrastructure-as-a-Service (IaaS) layer to Platform-as-a-Service (PaaS) resources in Azure such as IoT and App Service and finally with on-premises virtual machines.

Azure Security Center's in-depth threat detection findings can be streamlined to Microsoft's cloud SIEM offering—Azure Sentinel—for investigation, threat hunting, correlation with signals from other security solutions, and overall SOC level management.

Going forward, Azure Security Center continues to extend its threat protection capabilities to counter sophisticated threats on cloud platforms.

Azure Security Center preview of advanced data security for SQL Server on Azure virtual machines

Strong data security is a foundational attribute of Microsoft cloud services. At Ignite, Microsoft is announcing two important security enhancements for SQL databases running on IaaS virtual machines in preview: Azure Security Center's support for threat protection and vulnerability assessment.

Vulnerability assessment is an easy-to-configure service that can discover, track, and help remediate potential database vulnerabilities. It provides visibility into a business's security posture as part of secure score and includes the steps to resolve security issues and enhance database fortifications.

Advanced Threat Protection detects anomalous activities indicating unusual and potentially harmful attempts to access or exploit a customer's SQL Server. It continuously monitors databases for suspicious activities and provides action-oriented security alerts on anomalous database access patterns. These alerts provide the suspicious activity details and recommended actions to investigate and mitigate the threat.

For a complete set of instructions, review the documentation for Advanced data security for SQL Server on VM.

Vulnerability assessment (powered by Qualys) in Azure Security Center preview

Applications that are installed in virtual machines can be prone to vulnerabilities that could lead to a breach of the virtual machine. We are announcing that the Security Center Standard tier includes built-in vulnerability assessment for virtual machines for no additional fee. The vulnerability assessment, powered by Qualys in the public preview, will allow you to continuously scan all the installed applications in a virtual machine to find

vulnerable applications and present findings in the Security Center's portal's experience. Security Center takes care of all deployment operations so that no extra work is required from the user. Going forward we are planning to provide vulnerability assessment options to support our customers' unique business needs.

Threat protection for Azure Kubernetes Service

Kubernetes is quickly becoming the new standard for deploying and managing software in the cloud. But few people have extensive experience with Kubernetes security.

To help customers better harness security insights and best practices, Microsoft is announcing at Microsoft Ignite that Azure Security Center is expanding support for threat protection for Azure Kubernetes Service, now in public preview.

The new capabilities in this release include:

- Discovery & Visibility - Continuous discovery of managed AKS instances within Security Center's registered subscriptions
- Recommendations - Actionable items to help customers in complying to security best practices in AKS
- Threat Detection - Host and cluster-based analytics

Azure Security Center vulnerability assessments available for Azure Container Registry

Traditional vulnerability management tools often make assumptions about host durability and app update mechanisms that are misaligned with a containerized model—for example, they often assume that a server runs a consistent set of apps over time, when in reality different application containers might run on various servers at any given time.

To address those shortcomings, Azure Security Center is expanding its support for vulnerability assessment to Azure Container Registry. The tool will scan Azure container registries within a customer's subscription and provide recommendations to address specific vulnerabilities.

Implement security faster with Azure Security Center

To enable large organizations to leverage Security Center's findings in enterprise scale, Azure Security Center also provides clear APIs, automation and management capabilities that can help customers connect Security Center to workflows, processes, and tools used across the organization.

At Microsoft Ignite, Microsoft is announcing five platform enhancements for Azure Security Center:

- Workflow automation with Azure Logic Apps (GA)
- Enabling advanced integrations with continuous export of Security Center in preview
- Improved reporting for Security Center alerts and recommendations in public preview
- Onboard on-premises servers to Azure Security Center from Windows Admin Center – GA
- Azure Security Center Community – Centralized GitHub, open for contribution, with additional scripts and content

Workflow automation with Azure Logic Apps

Organizations with centrally managed security and IT operations implement internal workflow processes to drive required action within the organization when discrepancies are discovered in their environments. In many cases, these workflows are repeatable, so automation can greatly reduce overhead and provide a more timely response than on-demand actions.

Microsoft is introducing a new capability in Azure Security Center that allows customers to create playbooks leveraging Azure Logic Apps and to create policies that will automatically trigger them based on specific ASC findings, such as recommendations or alerts. This Logic App can be configured to do any custom action supported by the vast community of Logic App connectors, or use one of the templates provided by Security Center, such as sending an email or opening a ServiceNow™ ticket.

Enabling advanced integrations with continuous export of Security Center in public preview

To enable enterprise-level scenarios on top of Security Center, Microsoft is announcing that customers may now consume Security Center alerts and recommendations outside the Azure Portal or API. These can be directly exported to an Event Hub, a Log Analytics workspaces, and more. Examples of workflows customers can create around these new capabilities include:

With Export to Log Analytics workspace, customers can create custom dashboards with Power BI.

With Export to Event Hub, customers may export Security Center alerts and recommendations to third-party SIEMs or to Azure Data Explorer in real time, or trigger Azure functions.

Improved reporting for Security Center alerts and recommendations

Many customers would like a single report summarizing, granularly, all resources and alerts and recommendations, to facilitate sharing of this information with stakeholders in the organization.

Microsoft is announcing that Security Center now offers a new command capability item in the recommendations and alerts blade, allowing users to download an Excel/CSV report with detailed data about their Security Center alerts and recommendations, including direct links to view the alert/recommendation in the Azure Portal as part of a preview release.

Onboard on-premises servers to Security Center from Windows Admin Center

Windows Admin Center is a management portal for Windows Servers that are not deployed in Azure, enabling several Azure management capabilities, such as backup and system updates. Until now, Windows Admin Center on-premises servers visible in the WAC portal had no ability to be protected by Azure Security Center from the WAC experience.

Microsoft is announcing a newly launched capability to onboard these non-Azure servers and enable their protection by Azure Security Center directly from the Windows Admin Center experience. Users may now onboard a WAC server to Azure Security Center and view its security alerts and recommendations directly in the Windows Admin Center experience.

Azure Firewall Manager public preview

Azure Firewall is a cloud-native firewall-as-a-service offering that enables customers to centrally govern and log all their traffic flows using a DevOps approach. The service supports both application and network-level filtering rules and is integrated with the Microsoft Threat Intelligence feed for filtering known malicious IP addresses and domains.

Azure Firewall Manager is a new service that provides enterprise customers with a single pane of glass to centrally configure multiple Azure Firewall instances in a hub-and-spoke architecture. Central IT teams can also automate Azure Firewall deployment and enforce firewall policies at the same time to ensure traffic governance and protection across the enterprise.

Azure NetApp Files achieves SAP HANA certification

Azure NetApp Files (ANF) has achieved SAP HANA certification, enabling migration and deployment of the largest of SAP environments.

ANF is a powerful file-storage service capable of running the most demanding file workloads in Azure, without the need for code modification. SAP HANA is a relational database management system used primarily for storing and receiving data requested by applications.

SAP and HANA cloud deployments often face performance issues and latency limitations due to sub-optimal storage performance in Azure. But with the high performance and sub-milliseconds latency enabled with ANF, migration of the largest SAP deployments can now be accelerated.

Azure Storage offers customers significant discounts with Reserved Capacity program

Azure Storage customers now can get significant discounts versus pay-as-you-go pricing by buying Azure Storage Reserved Capacity. The new program will offer one-year or three-year tenure options and 100TB or 1PB capacity sizes. Storage capacity can be purchased for a subscription and can be used across Block Blobs and ADLS Gen2. It's available for all Standard Storage access tiers and redundancy options.

Azure Apps

Revamped Azure API Management developer portal – generally available

The newly refreshed Azure API Management developer portal makes it easier to compose user interfaces with a visual editor and to access APIs for automating development, management and deployment. The portal, which is now generally available, allows users to easily manage and catalog all APIs within their organizations, making it easier to find and reuse existing services. Additionally, it is open sourced and can be easily extended by development teams to meet bespoke requirements.

Azure App Service managed certificates

Azure App Service now offers managed certificates that make it easy for customers to secure their sites with Transport Layer Security (TLS). TLS is a cryptographic protocol that provides end-to-end communications security for networks. The managed certificates, which are now available in preview, provide additional TLS security for customers at no additional cost.

Web apps migration experience in Azure Migrate

Azure Migrate now provides a dedicated experience for migrating .NET and PHP web applications running on Windows to Azure App Service. It provides tooling in the form of a local agent that performs app discovery and general assessment of your app's configuration settings, runs readiness checks and then walks you through the migration process.

Go to the Azure Migrate page to learn more

Azure Event Grid brings the event-driven productivity to IoT solutions

Event Grid on IoT Edge is now available in preview, allowing customers to adopt event-driven architectures on solutions created for disconnected environments or hybrid setups, bringing a powerful cloud application pattern to the edge. Using containers, the solution enables the pub-sub semantics available in Azure to work between modules within the same edge device and also between edge devices for disconnected environments, as well as sending events from the edge to the cloud for hybrid solutions.

Azure Functions eliminates cold-start and serverless automation for enterprise workloads

The Azure Functions Premium plan — now generally available — allows you to build high-demanding solutions in production benefiting from a productive programming model and dynamic, automatic scale. This plan eliminates cold-starts using pre-warmed instances, enables network isolation through VNET connectivity, and runs on more powerful instances with customized deployments.

With PowerShell support in Azure Functions, now generally available, you can take advantage of an event-driven approach for building automation scenarios and automate operational tasks, such as scheduling management tasks or automatically responding to events or alerts raised in different resources. Using PowerShell in Azure Functions simplifies modules management, with automatic inclusion of modules and updates for critical and security updates.

Streamlined developer experience for Azure Kubernetes Service

With the new Connect capability in Dev Spaces, developers can run and debug services locally while remaining connected to other cloud services in the context of an application running on Azure Kubernetes Service. This feature is now available in preview.

With the integration of GitHub Actions, now available in preview, Dev Spaces allows developers to automatically create review applications before any changes are merged into the repository's main branch. Integration testing on a review app allows team

members to confidently approve pull requests after ensuring that the new changes will behave as expected without negatively impacting other parts of the application.

Kubernetes clusters with Azure Availability Zone, Cluster autoscaler and multiple node pools

Azure Kubernetes Service (AKS) manages hosted Kubernetes environments, making it easy to quickly deploy and manage containerized applications without container orchestration expertise. Today we are announcing the general availability of Azure Availability Zones, multiple node pools and cluster autoscaler features in AKS, making it even easier to deliver reliable and scalable Kubernetes clusters.

Azure Availability Zones help AKS customers protect applications and data against hardware failures and during planned maintenance events.

The multiple node pools feature helps customers better manage compute resources. It allows customers to use different virtual machine sizes in each pool to run various workloads in a single AKS cluster.

Cluster autoscaling allows customers to precisely tune the cluster scaling behavior of their environments to meet workload demand.

For customers who need to operate at global scale, AKS is now available in four additional regions — the North United Arab Emirates, North Switzerland, West Switzerland and West-Central Germany.

Improved Azure Kubernetes Service security with authenticated IP

Authenticated IP for Azure Kubernetes Service (AKS), now generally available, provides an extra layer of security by allowing customers to restrict access to their Kubernetes API server to trusted network locations.

In Kubernetes, the API server — the central way of interacting with and managing a cluster — receives requests to perform actions in the cluster, such as creating resources or scaling the number of nodes. With the AuthenticatedIP feature, the API server would only be accessible from a limited set of IP address ranges; any requestmade to the server from an IP address that is not among those would be blocked.

Go to the Azure Documentation page to learn more

Azure Kubernetes Service – easier diagnostics and logging

One of the top challenges of running Kubernetes today is understanding the cause of issues with your Kubernetes cluster and coming up with a valid fix.

Azure Kubernetes Service (AKS) diagnostics, now available in preview, provides a guided and interactive experience to help customers diagnose and solve potential issues with

AKS clusters. AKS diagnostics analyzes backend telemetry from AKS clusters and then benchmarks that information with specific AKS domain knowledge and best practices. It's all packaged in a user-friendly interface that allows customers to easily isolate the issue and determine next steps. We are also releasing a CLI-based tool, AKS Periscope, that you can use to easily collect node and pod logs, and export them into Azure Blob Storage.

On-demand pricing and Azure Monitor Log Analytics integration for Azure Red Hat OpenShift

With new hourly pricing for Azure Red Hat OpenShift, customers can now spin up and down clusters without committing to reserved instances for a full year in advance.

Additionally, in preview, Azure Red Hat OpenShift clusters are now integrated with Azure Monitor Log Analytics so that customers can view their application and cluster logs in one integrated platform.

Open Container Initiative artifacts support in Azure Container Registry

In addition to storing Docker container images and Helm charts, Azure Container Registry, generally available, can now store Open Container Initiative (OCI) artifacts and images built to the OCI Image Format Specification. Customers will now be able to use a single registry for all their container-related artifacts.

Azure Security Center vulnerability assessments available for Azure Container Registry

Traditional vulnerability management tools often make assumptions about host durability and app update mechanisms that are misaligned with a containerized model — for example, they often assume that a server runs a consistent set of apps over time, when in reality different application containers might run on various servers at any given time.

To address those shortcomings, Azure Security Center is expanding its support for vulnerability assessment to Azure Container Registry, in preview. The tool will scan Azure container registries within a customer's subscription and provide recommendations to address specific vulnerabilities.

Public and project-scoped feeds for Azure Artifacts

Azure Artifacts, designed for storing and sharing reusable code packages for .NET, Java, Python and JavaScript, now allows teams to create public feeds accessible by anyone on the internet without authentication. Additionally, teams can also create Artifact feeds that are restricted to individual projects, whereas previously they were always open to the entire organization a project belonged to.

New features and updates for Azure Pipelines

Azure Pipelines is a continuous integration and continuous delivery platform built into Azure. We are announcing new features and updates including:

- New deployment strategies and caching

Customers can leverage new deployment strategies for their Continuous Delivery pipelines, including canary for Kubernetes, and rolling for VMs as well as Kubernetes. Additionally, we are announcing the General Availability of caching inside Azure Pipelines, so customers can speed up the execution of their pipelines by caching intermediate build artifacts. For more details, visit the Azure Blog to learn more

- Enforce artifact policies for Azure Pipelines

Azure Pipelines now allows the creation and enforcement of artifact policies, in preview. By defining policies inside an environment, customers can trace an artifact from source control to production, by leveraging metadata that is automatically attributed to build artifacts. This enables teams to have more control over the software supply chain, from development to the applications running in the production environment, giving more tools to audit and secure applications. For more details, visit the Azure Blog to learn more

Microsoft shares stories and guidance to support DevOps transformations

Customers often struggle to adopt DevOps practices and therefore are looking for guidance and insights from companies that have successfully undergone a transformation.

To that end, we are sharing the stories of Microsoft teams that have experienced DevOps transformations, along with our lessons learned and guidance to drive organizational change with support for people, processes and tools. The stories are aimed at providing practical information about DevOps adoption to developers, IT professionals and organization leaders.

Go to the DevOps journey at Microsoft page to learn more

Azure Spring Cloud preview

We are announcing the preview of Azure Spring Cloud, a fully managed Spring Cloud service jointly built and operated with Pivotal.

Spring Cloud provides tools for developers to quickly build some of the most common patterns in distributed systems. To build Spring-based applications, Java developers typically use Spring Boot to get started with minimal upfront configuration and Spring Cloud to bring resilience, reliability and coordination to their microservices.

But that still requires lots of infrastructure management. Azure Spring Cloud makes it quick, safe and easy to deploy and operate Spring Boot applications in the cloud.

Go to the Azure Spring Cloud page to learn more

New Azure SDKs signify move toward unified set of standards

A new set of software development kits (SDKs) for Azure Storage and Azure Key Vault are built on a common core for easy use of Azure services, with a focus on consistency, familiarity and language idiomaticity. This is Microsoft's first step toward applying a new set of standards across Azure SDKs.

The SDKs are available in four languages: C#, JavaScript, Java and Python, and are designed to make the Azure libraries easier to learn and integrate into your solutions.

New version of Azure CLI provides features to build containers, images and more

The latest version of Azure CLI includes new features and capabilities that allow you to build and manage your own containers, images, cloud platforms and other extensions within the tool. Other improvements include support for third-party platforms, new CLI commands and support for multiple CLI local contexts.

Azure Cloud Shell adds regional storage support and Office 365

Based on customer feedback, the latest release of Azure Cloud Shell removes storage account region restrictions, allowing you to use a storage account that is in a different region than the Cloud Shell compute. The new capability unblocks customers that have restrictions on where their data can be stored.

The new release also adds integrations with other Microsoft products — namely, previews of Windows Admin Center (WAC) and the Office 365 administration portal, enabling customers to manage their resources seamlessly from a browser.

Visual Studio 2019 version 16.4 Preview 3

The latest preview of Visual Studio 2019 version 16.4 is now available and includes improvements to app development using containers, CMake project guidance and code analysis using C++, and vertical layout for document tabs, as well as general performance improvements and bug fixes.

Visual Studio Preview gives you early access to the latest features and improvements not yet available in the main release channel. By trying Preview, you can take advantage of new builds and updates that ship on a frequent cadence.

Go to the Visual Studio Blog to learn more

Visual Studio for Mac version 8.4 Preview 2

The latest preview of Visual Studio 2019 for Mac version 8.4 is now available. It includes performance, accessibility and stability improvements to application development using .NET Core, as well as general bug fixes.

Visual Studio for Mac Preview provides early access to the latest features and improvements not yet available in the main release channel. Users can take advantage of new builds and updates that ship on a frequent cadence.

Go to the Visual Studio Blog to learn more

Visual Studio Online preview

Visual Studio Online brings together Visual Studio, cloud-hosted developer environments and a web-based editor that's accessible from anywhere to help developers be more productive than ever.

As development becomes more collaborative and open source workflows, like pull requests, become more pervasive, developers need to be able to switch between codebases and projects quickly without losing productivity. Visual Studio Online enables a developer to spin up a powerful, isolated, pre-configured development environment for a repo and be productive in minutes from anywhere.

Visual Studio Online's cloud-hosted environments, as well as extension support for Visual Studio Code and the web UI, are now available in preview. Support for Visual Studio 2019 is in private preview, which you can also sign up for through the Visual Studio Online web portal.

Developers can create Visual Studio Online environments directly from Visual Studio Code or from https://online.visualstudio.com, using common templates or cloning from a GitHub repo. These environments are provisioned in Azure and securely connected to development environments. You can also attach your own physical or virtual machines to your Visual Studio Online account.

Go to the Visual Studio Blog to learn more

Preview 2 of long-term support for .NET Core 3.1

The second preview for .NET Core 3.1 long-term support is now available, including bug fixes and a host of improvements.

The upgrades include Windows Forms and WPF support, full-stack C# web development with ASP.NET Core Blazor, better memory footprint and performance for containers in the cloud and on small devices, new C# 8.0 language features and more.

Go to the .NET Blog to learn more

ML.NET 1.4 now available

ML.NET is an open-source and cross-platform framework that makes machine learning accessible for .NET developers.

The latest release adds image classification training with the ML.NET application program interface (API), as well as a relational database loader API for reading data used for training models with ML.NET. A new preview of the Visual Studio Model Builder extension supports image classification training from a graphical user interface.

In addition, we are releasing a preview of Jupyter support for writing C# and F# code for ML.NET scenarios.

Go to the .NET Blog to learn more

Microsoft Assessments offers help with Azure

Microsoft Assessments is a new product aimed at helping customers evaluate their business strategies and workloads to better use Azure.

Three assessments are now available — a cloud journey tracker, a governance benchmark assessment and an Azure architecture review assessment. The platform provides tools to help businesses of various sizes on their cloud journeys, offering customized recommendations based on their current processes, workloads and employees.

Microsoft Learn is the centralized hub for certifications

Information about Microsoft Certifications is moving to Microsoft Learn, making it easier for users to choose the best approach for them.

When prepping for a certification exam, users can choose hands-on interactive training on Microsoft Learn or training with an instructor. Microsoft Learn displays modules and learning paths relevant to each certification, making it easy to find everything users need in one place.

Azure Data & AI

Accelerating the machine learning lifecycle

Preview of new Azure Machine Learning capabilities that help streamline the building, training, and deployment of machine learning models. The new capabilities include ML designer, automated ML enhancements, and built-in notebooks that help customers of all skill levels build and deploy models using Python and now also R. New MLOPs capabilities help customers accelerate the end-to-end machine learning lifecycle. New

security, governance, and responsible AI capabilities such as role-based access control, quota, cost management, fairness and interpretability help enterprises build machine learning models with confidence.

Availability of ONNX Runtime 1.0 allows machine-learning engineers to use their tools of choice. Machine learning models trained using various frameworks, such as scikit-learn, PyTorch, TensorFlow, Keras and others, are often challenging to deploy, maintain, and operationalize for latency-sensitive customer scenarios. ONNX Runtime 1.0 provides a flexible and high-performance solution to streamline this work, allowing ML engineers and data scientists to use the tools they want to enable diverse production scenarios.

Go to the Microsoft Azure Blog to learn more

Autonomous systems limited preview and partnership

We are expanding the limited preview of our autonomous systems platform and inviting more developers and engineers to test the platform, as well as enterprise customers and partners interested in creating intelligent systems that operate in the real world with trusted autonomy.

Through machine teaching, the platform allows engineers with little or no expertise in data science to specify desired outcomes or behaviors, concepts to be taught and safety criteria that must be met. The platform uses simulations to generate synthetic data to train state-of-the-art reinforcement learning models using machine teaching inputs, while also orchestrating the management and deployment of these AI models to bring about autonomous operations of real-world systems.

We are also announcing a new partnership with MathWorks, whose simulators MATLAB and Simulink are used by engineers worldwide. The partnership will bring MathWorks' simulators to the cloud, for ease of use and unprecedented scalability needed in environments such as autonomous systems. Together, MathWorks and Microsoft will enable a seamless experience and allow customers to use MathWorks' familiar simulation tools to build AI with our autonomous systems platform without having to deal with interoperability or licensing issues.

Other partnership announcements and collaboration include simulation software makers AnyLogic, CGTech, solution providers Fresh Consulting, Neal Analytics, and enterprise drone software maker 3D Robotics.

Go to the AI Blog to learn more

Azure Blockchain portfolio announcements

Democratizing complex technologies and empowering anyone with an idea to build software have been central to our blockchain investment road map. Our announcements at Ignite are designed to accelerate blockchain adoption in the enterprise. These include a

new managed service to simplify tokenization, investments in off ledger data management, and expansion of ledger choice and developer productivity.

Tokenization is the mechanism that allows enterprises to take advantage of blockchain. Microsoft is enabling blockchain developers to create, manage, and define tokens within Ethereum blockchains, such as those found in Azure Blockchain Service.

Azure Blockchain Tokens, now in preview, provides a way to tokenize physical and/or digital assets, manage these tokens, and share them across multiple blockchain platforms. With Azure Blockchain Tokens, blockchain developers can access tools to compose bespoke tokens based on Token Taxonomy Initiative (TTI) standards or use templates to create the four most common tokens. The service exposes a set of open APIs to enable interaction with the tokens.

We are also announcing enhancements to Azure Blockchain Service. These include the preview of Azure Blockchain Data Manager, which enables the capture, transformation and delivery of data to off-chain data stores like Azure SQL DB or Azure Cosmos DB. Azure Blockchain Service is also investing in ledger choice with the preview of managed Corda Enterprise support to Azure, joining existing support for Ethereum. A new Hyperledger template in the Azure Marketplace gallery accelerates Hyperledger deployments.

Finally, we are announcing updates to the Azure Blockchain Development Kit for Ethereum, now in preview, to improve productivity for public and private Ethereum developers. These include OpenZeppelin integration for smart contract integration and native Infura integration, all available via integrations with Visual Studio Code.

Visit the Azure Blockchain Service web page to learn more

Azure Cloud Databases investments in limitless performance and scale

In today's data-driven world, driving digital transformation increasingly depends on our ability to manage massive amounts of data and harness its potential. Developers building intelligent and immersive applications should not have to be constrained by resource limitations that ultimately impact their customers' experience.

We are pleased to expand the limitless data estate with the announcement of the general availability of Azure Database for PostgreSQL Hyperscale. Hyperscale (powered by Citus Data technology) brings high-performance scaling to PostgreSQL database workloads by horizontally scaling a single database across hundreds of nodes to deliver blazingly fast performance and scale. This allows more data to fit in-memory, parallelize queries across hundreds of nodes, and index data faster. Hyperscale is an extension to PostgreSQL, so applications do not have to be rearchitected, and developers can use their existing skills.

Azure SQL Database also gets more powerful with the addition of new hardware options with greater memory and compute. Maximum memory increases by over 400%.

Additionally, citizen developers can accelerate their application development with the integration of Azure SQL Database with Power Apps and Azure Stream Analytics. Now low-code apps can be created with more speed.

Go to the Microsoft Azure Blog to learn more

Azure Cloud Databases launch more flexible purchasing options to maximize TCO

We are announcing more flexible purchasing options across our relational and nonrelational databases to provide the best value for cloud workloads, irrespective of choice of database.

Azure SQL Database serverless is now generally available. Offered as a new compute tier, Azure SQL DB serverless simplifies performance management for databases with intermittent and unpredictable usage. Compute is automatically paused during periods when the database is inactive, with only storage being billed, saving compute costs. The database automatically resumes when activity returns.

Autopilot mode for Azure Cosmos DB is now in preview. With autopilot mode, customers get automatic scaling of provisioned throughput based on workload patterns, without compromising our industry-leading SLA. Customers no longer have to preplan their provisioned throughput and overestimate capacity required, as scaling will be automatic.

Finally, Azure Database for PostgreSQL, MySQL, and MariaDB are launching a Reserved Capacity pricing option.

Go to the Microsoft Azure Blog to learn more

Azure Cognitive Search updates help enterprises enhance the developer experience

Azure Cognitive Search offers built-in AI capabilities that enrich all types of content to easily identify and explore relevant content at scale. Formerly called Azure Search, Azure Cognitive Search is making it easier for enterprises to ingest, enrich, and search their structured and unstructured information.

New updates include data connectors (Azure Data Lake Store, MongoDB, Cassandra APIs), additional built-in skills (built-in translation skill, power skills) and expanded region availability (GA of Government Cloud).

Go to the Microsoft Azure Blog to learn more

Azure Cognitive Services innovation

General availability of Personalizer, industry's first AI service based on reinforcement-learning that allows businesses to create rich customer interactions by prioritizing relevant content and experiences.

Preview of new Speech capabilities. These include Custom Neural Voice, which enables customers to create personalized voices, using deep neural networks and their own training audio. Custom Speech will allow customers to use their Office 365 data to create custom speech models optimized for organization-specific terms. Additional new capabilities such as Custom Commands, Custom Speech and Custom Voice containers, Speech Translation with automatic language identification, and streamlined integration with Bot Framework are making it easier to quickly embed advanced speech capabilities into your apps.

Preview of new Text Analytics capabilities. These include the ability to detect and extract personally identifiable information in documents, enhancements to its sentiment analysis capability with significant improvements in text categorization and scoring, and expanded entity type support for more than 100 named entity types in five languages and more than 20 named entity types in 16 other languages.

Preview of feedback loop capability in Form Recognizer, which enables customers to create custom tags in the form extraction process.

Expanded language coverage and new capabilities for Language Understanding. Support for Hindi and Arabic and the new capabilities to help support complex dialogs that contain multiple entities and intents.

Preview of VNET support for all Cognitive Services to help ensure maximum security for sensitive data.

Go to the Microsoft Azure Blog to learn more

Azure Data Share now generally available

Azure Data Share, a safe and simple service for sharing big data with other organizations, is now generally available. It allows you to determine what you share, who receives the data and terms of use through a single, user-friendly interface that requires no infrastructure to manage or code to write.

Azure Data Share supports sharing from SQL Data Warehouse and SQL DB, in addition to Blob and ADLS (for snapshot-based sharing). It also supports in-place sharing for Azure Data Explorer (in preview). It gives full visibility into data-sharing transactions and leverages underlying Azure security measures such as access controls, authentication and encryption to protect your data.

Go to the Azure Data Share blog team to learn more

Azure SQL Database Edge preview

Azure SQL Database Edge is now available in preview, which customers can download in the Azure portal in regions where Azure IoT Edge is available.

The simplicity of incorporating data streaming, time series analytics, and storage with AI capabilities in a smallfootprint container greatly reduces the complexity in edge architecture and implementation. Users can develop their application once and deploy it anywhere across the edge, their datacenter, and Azure.

Go to the Microsoft Azure Blog to learn more

Azure Synapse Analytics

Azure Synapse Analytics, a limitless analytics service, brings together traditional data warehousing and big data analytics. It gives enterprises the freedom to query data on their terms, using either serverless on-demand or provisioned resources—at scale. Azure Synapse brings these two worlds together with a unified experience to ingest, prepare, manage, and serve data for immediate BI and machine learning applications.

Simply put, Azure Synapse is Azure SQL Data Warehouse evolved. We have taken the same industry leading data warehouse to a whole new level of performance and capabilities. Businesses can continue running their existing data warehouse workloads in production today with Azure Synapse and will automatically benefit from the new capabilities when they become generally available

With Azure Synapse, data professionals of all types can collaborate, manage, and analyze their most important data with ease—all within the same service. From integrating Apache Spark with the powerful and trusted SQL engine, to code-free data integration and management, Azure Synapse is built for every data professional.

Go to the Microsoft Azure Blog and the Innovation Stories Blog to learn more

Bot Framework and Azure Bot Service updates deliver increased developer productivity

- Bot Framework SDK 4.6 – This release of the open source Bot Framework brings new capabilities to help developers easily build and deliver bots across more channels. Capabilities include SDK for Microsoft Teams, new language support with Java SDK, and skills integration for Power Virtual Agents.

- Bot Framework Composer – Newlow-code tool to simplify the process of building a bot, enabling developers to create a bot using a graphical user interface. It also simplifies the ability to add Azure Cognitive Services, such as Language Understanding, Speech, and QnAMaker.

- Bot Service Direct Line Speech GA – A channel within Azure Bot Service to simplify the creation of end-toend solutions for voice-first conversational experience.
- Bot Service VNET support in preview

Go to the Microsoft Azure Blog to learn more

Microsoft and Warner Bros. store classic Superman movie on glass with Project Silica

Microsoft and Warner Bros. have created a proof of concept representing the next generation of storage with Project Silica, which stores data on glass. Warner Bros. has stored the entire classic Superman movie on a 75 x 75 x 2 mm thick piece of glass (roughly the size of a coaster).

This Microsoft Research achievement makes huge gains on previous glass storage concepts and is part of a larger investment by Azure to develop the next generation of storage for customers.

Storage capabilities have hit a peak, and companies must bear the costs of constantly keeping storage media scrubbed and refreshed. For the media and entertainment industry, film is still the current long-term storage solution—not digital. Glass storage provides a viable, virtually indestructible, and truly long-term storage solution, and Microsoft is eager to be pursuing this new technology as a cloud provider.

Go to the Innovation Stories Blog to learn more

SQL Server 2019 delivers intelligence over all your data

SQL Server 2019 enables enterprises to gain intelligence over all their data, both structured and unstructured, by combining the power of the new Big Data Clusters capability with enhanced data virtualization.

These powerful additions to the product enable enterprises to not only store and query big data at scale, but also combine it with customer data wherever it may reside (SQL Server, Oracle, Mongo, PostgreSQL, etc.). SQL Server also includes built-in AI capabilities to enable a comprehensive analytics and AI solution for all a company's data needs. The key new capabilities in SQL Server 2019 include:

- Big Data Clusters – Big Data Clusters gives enterprises the ability to combine structured and unstructured data in SQL Server with the power Apache Spark and HDFS built into the SQL Server engine to gain transformative insights from your data.
- Data Virtualization – Query across data stored in Oracle, Teradata, other SQL servers, Azure SQL Database, Azure SQL Data Warehouse, Azure Cosmos DB, Cloudera, Azure Data Lake, or the Hadoop Distributed File System without moving or replicating the data.

- Intelligent Query Processing – Intelligent database features such as Intelligent query processing improve query performance with no application change. Customers will see performance benefits without any application change just by upgrading to SQL Server 2019. Further improve performance for mission-critical workloads with in-memory database capabilities like persistent memory support and memory-optimized tempdb.

- Secure Enclaves – Always Encrypted with secure enclaves protects sensitive customer data while allowing richer operations on secured database columns. A secure enclave extends client applications' trust boundary to the server side. While it is contained by the SQL Server environment, the secure enclave is not accessible to SQL Server, the operating system, or the database or system administrators. These properties allow the secure enclave to safely perform operations on sensitive data in plaintext.

- Accelerated database recovery – Enable fast and consistent database recovery irrespective of the number of active transactions in the system or their sizes.

Go to the SQL Server Blog to learn more

Azure IoT & Quantum

Ansys Twin Builder and Azure IoT platform integration

Ansys Twin Builder runtimes will be integrated with Azure IoT services to provide a solution for simulation-based digital twins in the cloud and at the edge.

By using the Ansys physics-based simulation engine with the Azure IoT platform, customers can confidently build a full digital twin of their assets, augmenting the IoT real-time data with simulation. This will allow them to take advantage of physics- and simulation-based predictions to reduce unplanned downtime and optimize asset performance. This approach also helps organizations to do real-time prescriptive analytics and improve future product development.

Azure FarmBeats in preview

The world's population is expected to reach nearly 10 billion by 2050. To keep up with the growing demand, farmers and other food producers must find ways to sustainably grow and deliver ever larger quantities of nutritious food. Digital technology could help, but its adoption is limited because many farms lack the power, internet connectivity, or the technical savvy to implement it.

To accelerate data-driven farming, Microsoft is pouring years of industry-leading research into an Azure-based offering called FarmBeats. The goal of FarmBeats is to augment farmers' knowledge and intuition about their own farm with data and data-driven insights.

FarmBeats ingests, normalizes, and contextualizes data from different sources, such as sensors, satellites, drones, and weather stations. It uses artificial intelligence and machine learning to combine the different data sources into actionable information. FarmBeats also enables developers to build new AI and machine learning algorithms for additional insights.

FarmBeats will be available in preview through Azure marketplace as of Nov. 4, and it can be installed in Azure subscriptions by ISVs or partners.

Introducing Azure Quantum

Azure Quantum is a full-stack, open cloud ecosystem that will bring the benefits of quantum computing to developers and organizations around the world. Azure Quantum assembles one of the most diverse selections of quantum solutions, software, and hardware across the industry. Through a single, familiar experience in Azure, customers will be able to easily discover the impact quantum computing will have on their business.

Azure Quantum will launch in private preview in the coming months.

Go to the Microsoft Quantum Blog to learn more

Security

Azure Sentinel new features and updates

Azure Sentinel, a cloud-native security solution, has new features that will help security analysts save time and be more effective.

The work of threat hunters got much easier with the addition of built-in hunting queries for Linux and network events and the ability to launch Azure Notebooks directly from Azure Sentinel. New built-in analytics and investigation tools expand detection and offer deep insights into suspicious URLs. Additional built-in connectors from security partners will make it easier to collect data across different sources including Azure, on-premises, and other clouds. These new connectors support integration of endpoint, network, and identity data from third party security vendors.

New Graph Security API integrations enable customers to sync alerts from Azure Sentinel, as well as other Microsoft solutions and additional third-party ticketing and security management solutions.

The improvements are now available in preview.

Identity

Azure Active Directory MyApps portal updates with new look and features

A revamped look and more capabilities for the Azure Active Directory MyApps portal give users a simplified experience with all apps in one place.

The new features, now in preview, include a mobile-first launching experience for all enterprise apps, workspaces for administrator-curated apps, and a unified app launching experience with Microsoft 365 surfaces across the Office.com portal, Office 365 search, and Office navigation.

Azure Active Directory Connect cloud provisioning

Azure Active Directory Connect cloud provisioning allows customers to easily consolidate disconnected on-premises Active Directory forests and eliminate the need for on-premises sync servers, all while enabling greater availability of connectivity (such as multiple deployments to disconnected forests for redundancy) and lowering costs.

The solution provides a lightweight, on-premises agent that will enable provisioning from multiple, disconnected on-premises Azure Directory forests and move all the sync complexity and data transformation logic to the cloud. The capability was designed to address one of the top needs for large enterprise customers managing complex organizations or merger and acquisition scenarios.

Azure Active Directory Connect cloud will become available for preview soon.

Azure Active Directory secure hybrid access with partners

Azure Active Directory has integrated with networking partners to help organizations simplify secure access to applications that use header-based, Kerberos, and other legacy authentication protocols.

The new partners—Citrix, Akamai, and Zscaler—follow Azure AD's recent integration with F5 Networks. The integrations enable customers to centralize access management with

Azure AD and leverage its benefits, including Conditional Access policies and passwordless authentication for legacy-auth based applications.

Go to the Secure Hybrid Access page to learn more

Entitlements management for Azure Active Directory

Thirty four percent of security breaches involve inside access, according to a 2019 Verizon report on data breaches.

Microsoft is helping organizations manage access to information with entitlements management for Azure Active Directory, now generally available. Entitlements management simplifies employee and partner access requests, approvals, auditing, and workflows.

Additionally, it allows organizations to create access packages that make it easier for employees and partners to request access to the information they need—and ensures that only the right people have access to the appropriate resources.

New features provide easier sign-in and better security for firstline workers

New identity features in Microsoft 365 will help empower firstline workers to access company resources and work securely, whether on a personal or shared device.

There are more than 2 billion firstline workers worldwide, but most have been underserved by technology in the workplace. The new sign-in and user management capabilities, built specifically for scenarios firstline workers are likely to encounter, were also designed to address security and compliance requirements. The features, in private preview and available later this year, include:

SMS sign-in that allows workers to sign in with their phone number and an SMS code for authentication, eliminating the need for passwords

Global sign-out, rolling out later this year for Android devices, that enables workers to sign out of all their apps with just one click and help ensure that nobody else can use the same devices under their account

Delegated user management that will enable scale and reduce stress on IT support by allowing firstline managers to manage users and credentials—for example, helping employees reset their passwords without having to call an IT help desk for assistance

The capabilities will also be available on Teams, which will also see the rollout of off-shift access for firstline workers, which will allow companies to grant Teams app access to firstline workers and still comply with designated work hours.

Passwordless authentication for more Azure Active Directory customers

Customers with any Azure Active Directory plan can now use Microsoft Authenticator to securely access their apps without a password. Previously, only customers with a paid plan could use the app for passwordless authentication. Customers with more than 150 seats can also now contact Microsoft to set up the capability via FastTrack.

As of Nov. 1, 2019, there will be no charges for using multifactor authentication or passwordless authentication. The passwordless authentication methods feature in Azure Active Directory launched in public preview last year; general availability is expected in 2020.

Proof of concept for a decentralized identity system

Microsoft has developed a proof of concept for a decentralized identity system with the National Health Service in the UK. The health system is sponsoring the project—a new approach to identity management—to help graduating doctors spend more time with patients, and less time onboarding and managing credentials.