

Microsoft Data and AI News

August 2021

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General Announcements

- [Windows 11 available on October 5](#)
 - Windows 11 will start to become available on October 5, 2021. On this day, the free upgrade to Windows 11 will begin rolling out to eligible Windows 10 PCs and PCs that come pre-loaded with Windows 11 will start to become available for purchase.
- [Mixed reality and neurosurgery: removing brain tumors with 3D precision](#)
 - An academic research team ... is exploring how digitally assisted procedures could one day give neurosurgeons an enhanced and augmented 3D view of a patient's brain by using the mixed-reality capabilities of Microsoft HoloLens 2.
 - Work on the project is still at the research and development stage and more regulatory approvals will be needed before the new technology can be used as a primary tool in operations with real patients.
- [Cloud 'data bursts' from space move astronauts closer to Mars — and improve life on Earth](#)
 - When the space station runs out of computing room during an experiment, it will automatically burst down into the huge network of Azure computers to get help, connecting space and Earth to solve the problem in the cloud.
- [Widespread credential phishing campaign abuses open redirector links](#)
 - Microsoft has been actively tracking a widespread credential phishing campaign using open redirector links.
 - Attackers could abuse open redirects to link to a URL in a trusted domain and embed the eventual final malicious URL as a parameter.
 - Microsoft Defender for Office 365 detects these emails and prevents them from being delivered to user inboxes using multiple layers of dynamic protection technologies

- [Azure Government Top Secret now generally available for US national security missions](#)
 - We've worked in close collaboration with the US Government to build a cloud portfolio that serves the national security mission and empowers leaders across the Intelligence Community (IC), Department of Defense (DoD), and Federal Civilian agencies to innovate securely wherever the mission requires and at all data classifications, with a continuum of technology from on-premises to cloud to the tactical edge.
- [How to proactively defend against Mozi IoT botnet](#)
 - Mozi is a peer-to-peer (P2P) botnet that uses a BitTorrent-like network to infect IoT devices such as network gateways and digital video records (DVRs).
 - Businesses and individuals that are using impacted network gateways (Netgear, Huawei, and ZTE) should take the following steps immediately to ensure they are resistant to the attacks described in this blog: (1) Ensure all passwords used on the device are created using strong password best practices. (2) Ensure devices are patched and up-to-date.
- [Azure to accelerate Genome-wide Analysis study](#)
 - A GWA (Genome-wide association) study is an observational study of a genome-wide set of genetic variants in different individuals to see if any variant is associated with a trait.
 - In this article, we will examine how Azure can accelerate the workflow of a recent GWA study by National Taiwan University Medical Center
 - Azure VMs with local NVMe disks are suggested to execute quality control as well as huge data manipulation, including fetching dataset, genotype files conversion, and files transmission. NVMe disks' superfast IO can minimize CPU's waiting time for data, as well as to maximize the network transmission throughput.
 - Azure provides you with high memory and HPC-class CPUs and GPUs virtual machines to help you get results efficiently. Azure CycleCloud help you scale up and down HPC clusters so to pay only what you use to reduce cost.
 - Azure's 32 Gbps network throughput allow you to transfer TBs of data in minutes.

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Data Platform

- Azure SQL
 - [Azure Defender for SQL now in general availability on the Azure SQL Virtual Machine blade](#)
 - If you are registered to an SQL IaaS Agent extension, access the entire Azure Defender suite from the same place you manage other SQL Virtual Machine features such as automated backup, licensing, and security configurations like Azure Key Vault integration.
 - [Move SQL Server licenses without Software Assurance to Azure](#)
 - Azure Dedicated Host provides substantial financial benefits for those who already have on-premises SQL Server enterprise edition licenses, whether the license was purchased with or without Software Assurance.
 - [Cumulative Update #12 for SQL Server 2019 RTM](#)
 - [Configuring backup storage redundancy in Azure SQL Hyperscale](#)
 - The option for configuring backup storage redundancy is now enabled (in preview) for Azure SQL Hyperscale. It allows customers to choose replication strategy for their backup storages and define if geo-redundancy (RA-GRS), zone-redundancy (ZRS), or local-redundancy (LRS) will be used.
 - [Database copy for Azure SQL Hyperscale now generally available](#)

- When the copy is done in the same region as the source, the copy will be created from the snapshots of blobs, this copy is a fast operation regardless of the database size.
 - When the target database is in a different region than the source or if the database backup storage redundancy (Local, Zonal, Geo) from the target differs from the source database, the copy operation will be a size of data operation.
- Azure Cosmos DB
 - [Azure Cosmos DB: Continuous backup with point in time restore now in general availability](#)
 - The Azure Cosmos DB continuous backup with point in time restore helps you recover from accidental deletion of your account or container, in addition to accidental data modification or deletion.
 - Continuous backup mode for the Core (SQL) API and Azure Cosmos DB API for MongoDB allows you to perform a granular restore via the Azure portal, Azure CLI, Azure Resource Manager, and PowerShell to any point in time in the past 30 days.
- Azure Database for PostgreSQL
 - [Azure Database for PostgreSQL – Hyperscale \(Citus\): Managed PgBouncer now generally available](#)
 - PgBouncer, a popular connection pooler for Postgres, is now part of the Azure Database for PostgreSQL - Hyperscale (Citus) managed service.
 - [Azure Database for PostgreSQL | Scheduled maintenance for Hyperscale \(Citus\) now generally available](#)
 - Azure Database for PostgreSQL – Hyperscale (Citus) now allows you to specify a maintenance schedule for each server group, with a system-managed schedule as the default.
 - Custom schedules allow you to specify a preferred day of the week and a 30-minute window within that day for when maintenance for that server group will start.
 - [Azure Database for PostgreSQL - Hyperscale \(Citus\): Same region read replicas now generally available](#)
 - Azure Database for PostgreSQL – Hyperscale (Citus) now supports asynchronous replication of data from one server group (the 'primary' or 'source') to other server groups (the 'replicas') in the same region.
 - This feature allows read-heavy workloads to scale out and balance across replica server groups according to your preferences.
 - [Azure Database for PostgreSQL - Hyperscale \(Citus\): Support for Citus 10 now generally available](#)
 - Citus 10 includes columnar storage for Postgres, joins and foreign keys between local Postgres and Citus tables, improved SQL and Data Definition Language support, simplified operations, and more.
 - You can get Citus 10 by creating a Hyperscale (Citus) server group with PostgreSQL 13.
 - [Azure Database for PostgreSQL – Hyperscale \(Citus\): Server group restart now generally available](#)
 - When you use the server group restart feature, all nodes in your Hyperscale (Citus) server group are restarted.
 - [Azure Database for PostgreSQL - Hyperscale \(Citus\): PostgreSQL 12 & 13 now generally available](#)
 - Major enhancements in PostgreSQL 13 include de-duplication of B-tree index entries, increased performance for queries using aggregates or partitioned tables, better query planning when using extended statistics, parallelized vacuuming of indexes, incremental sorting, and more.
 - [Azure Database for PostgreSQL - Hyperscale \(Citus\): Basic tier now generally available](#)

- Hyperscale (Citius) Basic is a new tier that gives you the ability to run Hyperscale (Citius) on a single node.
 - The Basic tier would allow you to put your data in distributed tables from the beginning and be able to move them to worker nodes once you graduate to the Standard tier.
- [Public preview of Azure Database for PostgreSQL – Flexible Server now offers reserved instance pricing](#)
 - Prepay and commit to one-year or three-years worth of steady hourly service consumption on Flexible Server for Azure Database for PostgreSQL, a managed service running the open source Postgres database.
- [Private DNS zone integration for Azure Database for PostgreSQL – Flexible Server in public preview](#)
 - Establish connectivity using a flexible server name (fully qualified domain name) within locally and globally peered virtual networks.
- Azure Database for MySQL
 - [Azure Database for MySQL - Flexible Server: Standby Zone selection in public preview](#)
 - With this feature, you can place your standby server in the zone of your choice. Placing your standby server in a specific zone can help prepare for disaster recovery situations and zone down scenarios.
 - You can also reduce latencies by placing the standby application and the standby database servers in the same zone.
 - [Azure Database for MySQL – Flexible Server: Same-zone high availability in public preview](#)
 - Enables the creation of a high availability server in the same zone as the primary server.
 - [Private DNS integration zone integration for Azure Database for MySQL - Flexible Server in public preview](#)
 - Establish connectivity using a flexible server name (fully qualified domain name) within locally and globally peered virtual networks.
 - [Public preview of Azure Database for MySQL – Flexible Server now offers reserved instance pricing](#)
 - Prepay and commit to Azure Database for MySQL – Flexible Server for one-year or three-years worth of steady hourly service consumption at a lower per-hour price point.

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Data Integration

- [Azure Synapse Analytics Compute Optimized data flows will be retired on 31 August 2024](#)
 - Because Azure Synapse data flows now provides better performance with General Purpose data flows, we'll retire Compute Optimized data flows on 31 August 2024. Please transition to using General Purpose data flows by that date.
 - We encourage you to make the switch early to gain the performance benefits of General Purpose data flows.
 - [Related ADF announcement](#)

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Analytics and Reporting

- [Power BI August 2021 Feature Summary](#)

- [Scanner API is now in GA](#)
 - The Scanner APIs for extracting tenant-level metadata using Power BI Admin REST APIs are now in general availability (GA).
 - To better support the security constraints of some organizations, we have added service principal support for the scanner Admin APIs.
 - We have also designed support for an incremental scan, giving customers the flexibility to scan only those workspaces that have changed since the last time they were scanned.
 - No special license is required for using the enhanced scanner APIs. It works for all of your tenant metadata, including non-Premium workspaces.
- [Announcing Power BI Angular Component](#)
 - This component lets you easily embed your Power BI reports, dashboards and more into your Angular web application.
- [Announcing general availability of backup and restore for Power BI datasets](#)
 - With an ADLS Gen2 storage account associated with a workspace, workspace admins can perform backup and restore operations.
 - To better support Premium capacities located in Azure regions other than the Power BI home region, you can now use storage accounts in the regions of your Premium capacities.
- [Announcing the public preview of Power BI REST API support for DAX Queries](#)
 - The new DAX REST API avoids dependencies on Analysis Services client libraries, requires no connection to XMLA endpoints, and works in Power BI Premium as well as in Power BI shared capacity.
 - Limitations: (1) Only 1 DAX query can be executed per REST API request. (2) Each DAX query can have only 1 result set. (3) Result sets are capped at 100k rows. (4) Supported data types: string, numeric, boolean, blank, datetime and variant. Binary is not supported. (5) Azure AS and SSAS do not support this DAX REST API.

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AI and IoT

- [Azure Machine Learning public preview announcements - August 2021](#)
 - Cross Location Compute (CLC), allows the users to create clusters in locations that are different from the location of the workspace
 - Hierarchical Time Series eliminates the need for you to manually create individual models to produce forecasts for your hierarchy data, aims to generate hierarchy-aware and consistent forecasts at all levels of your hierarchy.
 - Compute instance auto-shutdown/auto-start provides users a streamlined way to control and optimize operating costs in an automated fashion, enhancing general governance of the AML workspace.
- [Machine Learning Studio \(classic\) will retire on 31 August 2024](#)
 - We'll retire the older Machine Learning Studio (classic) service on 31 August 2024. Please transition to using Azure Machine Learning by that date.
- [Video - Securing machine learning environments on Azure Machine Learning | Machine Learning Essentials](#)
 - Learn how to use Microsoft Azure to access enterprise-grade security and governance for your Machine Learning (ML) environments.
- [Video - Hybrid and multi-cloud machine learning | Machine Learning Essentials](#)

- Learn how to provision hybrid and multi-cloud machine learning environments.
- [Video - Open and interoperable machine learning with Azure Machine Learning | Machine Learning Essentials](#)
 - Learn how Microsoft Azure Machine Learning works with open-source technologies and integrates with other Azure services.
- [Performance considerations for large scale deep learning training on Azure NDv4 \(A100\) series](#)
 - Traditionally, DL models were very parallel floating-point intensive and so performed well on GPU's, the newer more memory efficient algorithms made it possible to run much larger DL models but at the expense of significantly more inter-node communication operations, specifically, allreduce and alltoall collective operations.
 - Modern DL training jobs require large Clusters of multi-GPUs with high floating-point performance connected with high bandwidth, low latency networks. The Azure NDv4 VM series is designed specifically for these types of workloads.
 - It's recommended that you start with one of the Azure Marketplace images that support NDv4. The advantage of using one of these Marketplace images is the GPU driver, InfiniBand drivers, CUDA, NCCL and MPI libraries (including rdma_sharp_plugin) are pre-installed and should be fully functional after booting up the image.

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Infrastructure and Management

- [General availability: Azure Backup now supports Archive Tier for backups of SQL Server in Azure VMs](#)
 - Azure Backup now provides the capability to move long term retention(LTR) recovery points to low-cost archive tier for SQL Server for Azure VM
 - You can also perform restores from archive tier using a simplified integrated approach.
 - With this change, Backup Storage, the place where all your backup data in vaults go to, has 2 tiers – namely Vault-Standard and Vault-Archive.
 - The feature is now generally available for SQL Server in Azure virtual machines in selected regions...for the remaining regions, the feature will remain in limited public preview.
- [Public preview: Apply settings inside machines using Azure Policy's guest configuration](#)
 - Guest configuration is integrated with Azure Security Center, Azure Automanage, and will continue to expand.
 - Using guest configuration, you can apply configurations provided by Microsoft or create your own configuration packages using PowerShell DSC version 3. You can also begin testing DSC configurations from Azure Automation in the new guest configuration platform.
- [Azure Blob storage - Last access time tracking now generally available](#)
 - Last access time tracking integrates with lifecycle management to allow the automatic tiering and deletion of data based on when individual blobs are last accessed. This allows greater cost control as well as an automatic workflow including deletion of data after it is no longer used.
 - Azure Data Lake Storage Gen2 will be supported later this year.
- [How to re-size Azure virtual networks that are peered—now in preview](#)
 - With this feature, existing peerings on the virtual network do not need to be deleted prior to adding or deleting an address prefix on the virtual network.

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Training and Technical Guides

- [Microsoft at Data Platform Virtual Summit 2021](#)
 - DPS 2021 features a variety of learning formats including breakouts, deep-dives, short-drives, and demo-only sessions.

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Development and Tools

- [General availability: GitHub Codespaces](#)
 - GitHub Codespaces, a cloud-based development environment, is now available to all GitHub Teams and GitHub Enterprise Cloud customers.
 - Codespaces provides full development environments with up to 32 cores, that can be accessed from a web browser, Visual Studio Code, or using SSH.
- [PowerShellGet 3.0 Preview 11 Release](#)
 - PowerShellGet 3.0 is a complete re-write of PowerShellGet
 - PowerShellGet 3.0 does not take a dependency on PackageManagement, NuGet or any other package provider, simplifying the codebase.
 - To check the version you currently have installed run the command: `Get-InstalledModule PowerShellGet, PackageManagement`
 - To install this preview release side-by-side with your existing PowerShellGet version, open any PowerShell console and run: `Install-Module PowerShellGet -Force -AllowPrerelease`
- [PowerShell for Visual Studio Code August 2021 Update](#)
 - An update to our PowerShell extension is now available on the Visual Studio Code Marketplace.
- [Announcing SecretManagement 1.1 GA](#)
 - SecretManagement is a module available on the PowerShell Gallery that enables you to use a common set of commands to store and retrieve secrets within PowerShell scripts, regardless of where you prefer to keep your secrets safe.
 - For example, you may want to use Az.KeyVault to talk directly to Azure Key Vault.
 - Once you've properly configured an extension vault, you can consistently use cmdlets like Get-Secret and Set-Secret to interface directly with your secret vaults.

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Lifecycle Updates

- [Search Product and Services Lifecycle Information](#)
 - Microsoft Lifecycle provides consistent and predictable guidelines for support throughout the life of a product, helping customers manage their IT investments and environments while strategically planning for the future.
- [Lifecycle FAQ](#)
- [Products Reaching End of Support for 2021](#)
 - SQL Server 2016 moved to extended support on July 13, 2021. Extended Support includes security updates at no cost, and paid non-security updates and support. Additionally, Microsoft will not accept requests for design changes or new features during the Extended Support phase.
 - The following products and releases, governed by the [Fixed Policy](#) reached end of support on July 13, 2021:
 - Microsoft SQL Server 2008, Extended Security Update Year 2
 - Microsoft SQL Server 2008 R2, Extended Security Update Year 2

- Microsoft SQL Server Compact 4.0
- [SQL Server Native Client \(SNAC\) is deprecated.](#)
 - OLEDB: [Microsoft OLE DB Driver for SQL Server](#) (msoledbsql - not the older, sqloledb). Note: OLEDB has been [undeprecated](#). To use the new msoledbsql driver in existing applications, you should plan to convert your connection strings from sqlncli or sqloledb, to the newer msoledbsql.
 - For example, convert **-from-** `Provider=SQLNCLI11; Server=SQL01;Database=DB01;Trusted_Connection=yes;` **-to-** `Provider=MSOLEDBSQL; Server=SQL01; Database=DB01;Trusted_Connection=yes;`
 - ODBC: [Download the latest ODBC Driver for SQL Server](#)
- [Support for .NET Framework 4, 4.5 and 4.5.1 ended on January 12, 2016](#)
 - The support change does not affect the support lifecycle policy for older versions prior to .NET Framework 4. Support for .NET Framework 4.5.2, as well as all other .NET versions such as 3.5 SP1, will continue to be supported for the duration of the operating system support lifecycle.
 - Beginning with version 4.5.2 and later, .NET Framework is defined as a component of the Windows operating system (OS). Components receive the same support as their parent products, therefore, .NET Framework 4.5.2 and later follows the lifecycle policy of the underlying Windows OS on which it is installed.

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SQL Server Builds

- Find information about the latest SQL GDRs (security updates). The [Security Update Guide](#) is the authoritative source of information on Microsoft security updates. You can filter by date and product category.
- Find the [latest SQL Server service packs and cumulative updates](#).
 - Note: SQL Server Service Packs are discontinued starting from SQL Server 2017
- Find downloads for SQL service packs, setup updates ("Smart Setup"), security updates, and update rollups in the [Microsoft Update Catalog](#)

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Community Resources

- [Microsoft Tech Community](#). Collaborate, share and learn from experts. View recent [blog articles](#).
- [Provide Feedback to the Product Group](#)
- [Channel 9 Shows](#)
 - [Data Exposed](#)
 - [Learn with Dr. G](#)
- [Microsoft Learn](#). Up your game with a learning path designed to prepare you for industry-recognized Microsoft certifications.

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