

Microsoft Data and AI News

July 2021

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General Announcements

- [Partnering with the NIH to advance biomedical research](#)
 - As an approved cloud platform for the NIH's Science and Technology Research Infrastructure for Discovery, Experimentation, and Sustainability (STRIDES) Initiative, Microsoft Azure will bring the power of the cloud to the biomedical research community.
- [Lecture series aims to help spur dialogue around race and technology](#)
 - Free and public series of 14 monthly lectures covering a variety of domains, such as labor, public health, genomics, digital media, gaming, and software and computer science.
 - Access video recordings [here](#)
- [Explore the new wave of cloud innovation at HIMSS21](#)
 - The Healthcare Information and Management Systems Society (HIMSS) is a global advisor, thought leader and member association committed to transforming the health ecosystem.
 - As a sponsor of HIMSS Digital 2021, within a best-in-class digital environment, [Microsoft is] tailoring digital first experiences with the convenience you need, as healthcare's brightest innovators across the globe—to explore new ideas, hear from thought leaders and urgently apply innovation that paves a digital path forward, as we all recover from the pandemic.
- [Accelerate your Azure migration and modernization journey with expanded programs and offers](#)
 - Azure Migration Program is evolving to become the Azure Migration and Modernization Program (AMMP) with support for app modernization scenarios [and] support for Azure Spring Cloud and Azure Cosmos DB.
- [Microsoft at Black Hat 2021: Sessions, bug bounty updates, product news, and more](#)
 - Virtual Microsoft-sponsored sessions
 - Microsoft Bug Bounty Program

- Visit the Microsoft virtual booth 2340 for Black Hat 2021, July 31 to August 5, 2021.
- [Our commitment to helping small-to-medium size businesses build skills for success](#)
 - [Microsoft's] Global skills initiative has helped more than 30 million individuals worldwide learn new digital skills and is now expanding these efforts to also help small-to-medium size organizations develop the right skills to achieve their goals. Thus, making it easier and more accessible for small-to-medium size businesses to build a strong foundation of digital skills so they can take full advantage of their technology for long-term success in a digitally enabled economy.
- [Advancing safe deployment with AIOps—introducing Gandalf](#)
 - As defined by Gartner, AIOps enhances IT operations through insights that combine big data, machine learning, and visualization to automate IT operations processes, including event correlation, anomaly detection, and causality determination.
 - Through state-of-the-art anomaly detection, special and temporal correlation, and result orchestration, the Gandalf safe deployment service enables DevOps engineers to make go/no-go decisions accurately, and with the velocity needed by hyper-scale cloud platforms like Azure.
- [What's New in Microsoft Teams | July 2021](#)
 - Nostalgic Backgrounds - Invite Clippy to your next Microsoft Teams meeting
 - Find a meeting recording based on what was said with Microsoft Search
 - Lock a meeting from additional joins
 - Make your slides more inclusive with slide translate in PowerPoint Live in Teams.
 - Meeting organizers are now able to set a single meeting occurrence or series to **auto-record** by enabling the "Record automatically" setting from Meeting Options.
 - Paging on Video Gallery
 - You can now tailor your Teams meetings background to your organization.
 - End user Real-time telemetry for meetings
 - Transfer Calls between desktop and mobile
 - Newly certified devices
 - Immersive reader support for Mobile
 - A curated set of guided meditations and mindfulness exercises from Headspace are now available in the Viva Insights app in Teams to help you start your day grounded, relax your mind before a big presentation, or disconnect from work in the evening.
 - Safe Links Protection for Microsoft Teams
 - And more!
- [Microsoft Flight Simulator Available Today on Xbox Series X|S and Xbox Game Pass](#)
 - Microsoft Flight Simulator is now available on Xbox Series X|S with Xbox Game Pass, Windows 10 with Xbox Game Pass for PC, and Steam.

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Data Platform

- Azure SQL
 - [Know your options for SQL Server 2012 and Windows Server 2012 End of Support](#)
 - SQL Server 2012 Extended Support will end on **July 12, 2022**.
 - Windows Server 2012 and 2012 R2 Extended Support will end on **October 10, 2023**.
 - Announcing new benefits giving customers more flexibility and choice for modernization, so they stay secure while modernizing their entire IT estate. These benefits include SQL

Server 2012 Extended Security Updates, Windows Server 2012 and 2012 R2 Extended Security Updates, and one additional year of extended support for Windows Server and SQL Server 2008 and 2008 R2 only on Azure.

- [Azure SQL enabled by Azure Arc generally available on July 30, 2021](#)
 - Azure Arc-enabled SQL Managed Instance, the PaaS offering from Azure SQL can run on any Kubernetes in customers own datacenters, at the edge, and in multi-cloud environments.
 - Azure Arc-enabled PostgreSQL Hyperscale remains in preview
- [Confidential computing using Always Encrypted with secure enclaves for Azure SQL Database in general availability](#)
 - Always Encrypted with secure enclaves extends Always Encrypted by allowing sensitive data to be decrypted within a server-side trusted execution environment, called a secure enclave - a protected region of memory within the database system process, which appears as a black box to the database system and other processes on the hosting machine.
 - Always Encrypted with secure enclaves, provides two main benefits: in-place encryption and rich confidential queries.
- [Cumulative Update #25 for SQL Server 2017 RTM](#)
- [Azure Defender for SQL is now available on the SQL Virtual Machine blade.](#)
 - Customers previously had to go through multiple steps to get to Azure Security Center to view and manage best practices of security for databases on SQL Server Virtual Machines. We made this experience easy for all customers who are registered to SQL IaaS Agent extension. Now you can access the entire Azure Defender suite from the same place you manage other SQL VM features.
- [What's new with SQL Server Big Data Clusters—CU11 Release](#)
 - SQL Server Big Data Clusters (BDC) is a capability brought to market as part of the SQL Server 2019 release. BDC extends SQL Server's analytical capabilities beyond in-database processing of transactional and analytical workloads by uniting the SQL engine with Apache Spark and Apache Hadoop to create a single, secure, and unified data platform. BDC is available exclusively to run on Linux containers, orchestrated by Kubernetes, and can be deployed in multiple-cloud providers or on-premises.
 - Encryption at Rest with external key providers, commonly known as "bring your own key" (BYOK).
 - Several SQL Server PolyBase Hadoop fixes and SQL Server PolyBase additional support to many data sources.
- [Update - Beta program for SQL Server on Windows container is suspended.](#)
 - With immediate effect, the docker hub repos "microsoft/mssql-server-windows-express" and "microsoft/mssql-server-windows-developer" and the tags within these repos will be deleted and images from these repos will not be available for download going forward.
 - SQL Server on Linux containers continue to be supported for production environment.
 - This announcement only affects SQL Server on **Windows container** [which] was [previously] in **Beta**
- Azure Cosmos DB
 - [Session and cache provider using Azure Cosmos DB in general availability](#)
 - Now you can use Azure Cosmos DB as a session state provider and distributed cache. The provider leverages the Azure Cosmos DB .NET SDK as a performant and distributed

session state provider for use within your web applications to store session state (non-personal identifiable) data. Additionally, the Azure Cosmos DB provider can be used for any application that requires a distributed cache to improve the performance and scalability of your app.

- [Insights and workbooks for Azure Cosmos DB now in general availability](#)
 - Insights is a ready-to-use pre-defined experience featuring the most sought-after analytics for monitoring your Azure Cosmos DB environment including throughput, request details, storage, availability, latency, and more.
- Azure Database for PostgreSQL
 - [The public preview of Azure Database for PostgreSQL – Flexible Server now supported in new regions](#)
 - PostgreSQL - Flexible Server provides 1) access to the stop/start feature 2) more control with scheduled maintenance 3) burstable SKU, and more!
- Azure Database for MySQL
 - [Flexible Server Auto-grow storage in public preview](#)
 - With auto-grow storage enabled, your storage automatically grows when storage consumed on the Flexible Server is nearing its provisioned limit.

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Data Integration

- [The new and refreshing data factory home page](#)
 - We have redesigned the Data Factory home page for a modern and more accessible (WCAG 2.1) experience. The new design is more fluid with better contrast and reflow capabilities.
 - Additionally, we have introduced a few sections on the homepage to help you improve productivity in your data integration journey.
- [REST source and sink now available for data flows](#)
 - Data flows in Azure Data Factory and Azure Synapse Analytics now support REST endpoints as both a source and sink with full support for both JSON and XML payloads.
- [Get metadata driven data ingestion pipelines on ADF within 10 minutes](#)
 - Build large-scale data copy pipelines with metadata-driven approach on copy data tool
 - When you want to copy huge amounts of objects (for example, thousands of tables) or load data from large variety of sources to Azure, the appropriate approach is to input the name list of the objects with required copy behaviors in a control table, and then use parameterized pipelines to read the same from the control table and apply them to the jobs accordingly.

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Analytics and Reporting

- [Updated Timeline and milestones for Premium Gen2 General Availability](#)
 - The next generation of Power BI Premium (Gen 2) will be Generally Available the week of Sept 27th.
- [Power BI July 2021 Feature Summary](#)
- [Accelerate big data analytics with Spark 3.0 connector for SQL Server—now generally available](#)
 - Announcing the general availability of the Apache Spark 3.0 compatible Apache Spark Connector for SQL Server and Azure SQL, accessible through Maven.

- [Announcing: Now organizations can require users to set MIP sensitivity labels in Power BI \(Preview\)](#)
 - The mandatory label policy setting requires users to apply MIP labels when they create new content, edit unlabeled content in the Power BI service, or upload unlabeled PBIX files via Publish from Desktop or Get data in the Power BI service.
 - Power BI's mandatory label policy can be enabled in the Microsoft 365 compliance center by M365/O365 admins.
- [Heads up: breaking change coming to Power BI PowerShell Cmdlets](#)
 - MicrosoftPowerBIMgmt versions older than 1.0946 will break during login: please update modules to a newer version
 - To find out what version of the module you have, run this command in Windows PowerShell: `Find-Module -Name MicrosoftPowerBIMgmt`
 - To update the module, execute the following command: `Update-Module -Name MicrosoftPowerBIMgmt`
 - In addition, we have upgraded the Connect-PowerBIServiceAccount cmdlet to use the **Microsoft Authentication Library (MSAL)**, rather than the Active Directory Authentication Library (ADAL). **MSAL** is now the recommended authentication library for use with the Microsoft Identity Platform. It is more secure and resilient, supports more authentication features, and has a number of other benefits. This update requires no action on your part.

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AI and IoT

- [Looking to the future for R in Azure SQL and SQL Server](#)
 - Microsoft R-Open (MRO) will be phased out in favor of the official CRAN distribution
 - The next release of SQL Server will use the CRAN distribution of R for SQL ML Services. Similarly, Azure SQL Managed Instance, SparkR, and sparklyr in SQL Server Big Data Clusters will also be upgraded to the CRAN distribution of R in a future update.
 - Version 4.0.2 will be the last release of the MRO runtime.
 - Microsoft R and Python packages will be released as open-source and supported on the CRAN distribution of R
 - ML Server retired, moving forward with **SQL Server ML Services** and SparkR/sparklyr in SQL Server Big Data Clusters. Version 9.4.7 will be the last release of the Microsoft Machine Learning Server and the product will be retired, effective July 1, 2022.
 - Moving forward, Azure SQL and SQL Server machine learning product investments will focus on SQL Machine Learning Services and the T-SQL language surface area. We encourage you to explore programming in R using Azure SQL Managed Instance or SQL Server 2019 with SQL Machine Learning Services.
 - For distributed processing of R we [...] recommend using SparkR and sparklyr in SQL Server Big Data Clusters.
- [Azure Machine Learning public preview announcements July 2021](#)
 - With Custom Containers in Managed Online Endpoints, you can deploy a custom docker container as a managed online endpoint, leverage all the scalability, monitoring, and alerting capabilities of online endpoints, but use a custom inferencing stack.
 - You can now use the Studio UI to create and manage training jobs. Using an easy-to-follow wizard, specify your compute, environment, code, data configurations and Azure ML will create the training jobs.

- [New toolkit aims to help teams create responsible human-AI experiences](#)
 - Microsoft has released the Human-AI eXperience (HAX) Toolkit, a set of practical tools to help teams strategically create and responsibly implement best practices when creating artificial intelligence technologies that interact with people.
 - The Guidelines for Human-AI Interaction provide best practices for how AI applications should interact with people.
 - The HAX Workbook helps teams prioritize guidelines and plan the time and resources needed to address high-priority items.
 - The HAX Design Patterns offer flexible solutions for addressing common problems that come up when designing human-AI systems. The HAX Design Library is a searchable database of the design patterns and implementation examples.
 - Teams can utilize the HAX Playbook to identify and plan for unforeseen errors, such as a transcription error or false positive.
- [Attack AI systems in Machine Learning Evasion Competition](#)
 - We are launching MLSEC.IO, an educational Machine Learning Security Evasion Competition (MLSEC) for the AI and security communities to exercise their muscle to attack critical AI systems in a realistic setting.
 - The competition rewards participants who efficiently evade AI-based malware detectors and AI-based phishing detectors.

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Infrastructure and Management

- [Microsoft unveils Windows 365 — ushering in a new category of computing](#)
 - Microsoft Corp. [...] announced **Windows 365**, a cloud service that introduces a new way to experience Windows 10 or Windows 11 (when it becomes available) to businesses of all sizes.
 - Secure by design and built with the principles of Zero Trust, Windows 365 secures and stores information in the cloud, not on the device, providing a secure, productive experience for workers from interns and contractors to software developers and industrial designers.
 - Windows 365 also creates a new hybrid personal computing category called **Cloud PC**, which uses both the power of the cloud and the capabilities of the device to provide a full, personalized Windows experience.
- [Limited preview: Migrate your Azure Data Lake Storage from Gen1 to Gen2 using the Azure Portal](#)
 - This capability is now available in limited preview in all regions where Azure Data Lake Storage Gen1 is offered.
- [Azure Blob storage - Container Soft Delete generally available](#)
 - Allows you to recover from accidental container deletion up to the retention period specified
- [Now available: Azure Purview product glossary](#)
- [Immutable storage with versioning for Blob Storage is now in public preview](#)
 - Immutable storage provides the capability to store data in a write once, read many (WORM) state.
 - Once data is written, the data becomes non-erasable and non-modifiable, and you can set a retention period so that files can't be deleted until after that period has elapsed.
 - Additionally, legal holds can be placed on data to make that data non-erasable and non-modifiable until the hold is removed.
- [Fighting an emerging cybercrime trend](#)

- Microsoft's Digital Crimes Unit (DCU) again secured a court order to take down malicious infrastructure used by cybercriminals.
- These malicious homoglyphs exploit similarities of alpha-numeric characters to create deceptive domains to unlawfully impersonate legitimate organizations.
- [Power your genomic data analysis on Azure with Azure CycleCloud](#)
 - Azure CycleCloud is an enterprise-friendly tool for orchestrating and managing HPC environments on Azure.
 - With Azure CycleCloud, users can provision infrastructure for HPC systems, deploy familiar HPC schedulers, and automatically scale the infrastructure to run jobs efficiently at any scale.
 - Workflow managers (like Cromwell, Galaxy, Nextflow, and Snakemake) are used for accelerating genome analysis by making them more efficient and scalable.
 - The sequence of conversion steps from BCL to FASTQ files can take between several hours to several days on commodity hardware.
 - One way to drastically reduce this timeline is to use Azure CycleCloud or Azure Batch to configure these steps as a set of jobs that can be run in parallel.

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Training and Technical Guides

- [video] [Learn how to deploy Azure Cognitive Services in Containers](#)
 - Learn how to get started using Azure AI services in containers for flexible deployment options.
- [video] [Azure Cosmos DB cache, serverless MongoDB and Managed Apache Cassandra | Azure Friday](#)
 - Azure Cosmos DB demonstration: integrated cache, serverless for MongoDB API, and Managed Instance for Apache Cassandra with dual write proxy.
- [video] [Azure Arc—enabled data services with Azure Stack HCI and Azure Kubernetes Service \(AKS\)](#)
 - Explore the comprehensive Azure hybrid solution and how Azure Arc—enabled data services run on top of Azure Stack HCI and AKS.
- [Announcing availability of virtual workshops and training to get started with Power BI](#)
- [Microsoft Azure - Machine Learning Essentials Playlist](#)

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Development and Tools

- [General Availability: Azure Stream Analytics Tools for Visual Studio Code](#)
- [ODBC Driver 17.8 for SQL Server Released](#)
- [Recent updates for Data-Tier Application Framework and SqlPackage](#)
 - DacFx is a library that provides APIs for database deployment and development scenarios and SqlPackage is a command line interface to DacFx for common uses.
 - Earlier this year SqlPackage released updates including additional support for Azure Synapse Analytics and improved performance.
 - With version 18.7 and above of SqlPackage, Azure Synapse Analytics gains improved portability through the Parquet flat file format.
- [New LEARN modules: Write your first code in F#, Write your first F# programs](#)
 - F# is an open-source, cross-platform programming language that makes it easy to write succinct, performant, robust, and practical code.

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.
- [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.

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](#)

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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Newsletter Archives

- [Azure Talking Points: Microsoft Data and AI News](#)
- [SQL Server Updates and Lessons Learned](#)

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