

# Microsoft Data and AI News

MARCH 2020

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## General Announcements

- Update #2 on Microsoft cloud services continuity
  - <https://www.microsoft.com/en-us/microsoft-365/blog/2020/03/29/update-2-microsoft-cloud-services-continuity/>
- New Azure DevTest discounts are now available
  - Access the Windows Virtual Desktop service within your Azure DevTest subscription to deliver a multi-session Windows 10 virtual desktop experience
  - <https://azure.microsoft.com/en-us/updates/azure-devtest-discounts-are-now-available/>
  - <https://azure.microsoft.com/en-us/services/virtual-desktop>
- Delivering information and eliminating bottlenecks with CDC's COVID-19 assessment bot
  - The Healthcare Bot service is a scalable Azure-based public cloud service that allows organizations to quickly build and deploy an AI-powered bot for websites or applications that can offer patients or the general public personalized access to health-related information through a natural conversation experience. It can be easily customized to suit an organization's own scenarios and protocols.
  - To assist customers in the rapid deployment of their COVID-19 bots, Microsoft is making available a set of COVID-19 response templates that customers can use and modify
  - COVID-19 risk assessment based on CDC guidelines
  - COVID-19 clinical triage based on CDC protocols
  - COVID-19 up-to-date answers to frequently asked questions
  - COVID-19 worldwide metrics

- <https://blogs.microsoft.com/blog/2020/03/20/delivering-information-and-eliminating-bottlenecks-with-cdcs-covid-19-assessment-bot/>

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## Data Platform

- Cumulative Update #3 for SQL Server 2019 RTM
  - <https://techcommunity.microsoft.com/t5/sql-server/cumulative-update-3-for-sql-server-2019-rtm/ba-p/1225793>
- Cumulative Update #20 for SQL Server 2017 RTM
  - <https://techcommunity.microsoft.com/t5/sql-server/cumulative-update-20-for-sql-server-2017-rtm/ba-p/1297382>
- Azure SQL Database—Subnet delegation enforcement for managed instances
  - Beginning May 1, 2020, you'll be able to deploy managed instances only to subnets delegated to the Microsoft.Sql\managedInstance resource provider.
  - <https://azure.microsoft.com/en-us/updates/subnet-delegation-enforcement-for-managed-instance/>
- Azure SQL Database default configurations are changing
  - Azure SQL Database now has the latest Gen 5 hardware in place to ensure optimal service performance. As a result, the default database configurations and the default elastic pool configurations are being changed for all new Azure SQL databases.
  - Beginning March 9, 2020, these will be the default configurations for new databases and elastic pools: 1) General purpose tier databases - provisioned with 2 vCores on Gen 5 hardware 2) Business critical tier databases - provisioned with 2 vCores on Gen 5 hardware
  - <https://azure.microsoft.com/en-us/updates/azure-sql-database-default-configuration-changing/>
- Private Link for Azure SQL Database, Cosmos DB, ADL Gen2, Synapse Analytics, and more is now generally available
  - Connect privately from an Azure Virtual Network to Azure SQL Database using Private Link, now in general availability.
  - <https://azure.microsoft.com/en-us/updates/privatelinkforpaasga/>
- Azure SQL Database Connectivity and Network Security improvements
  - SQL Database Query Editor supports Private Link. If you have Private Link connection, The Query Editor works without needing to add the Client Ip address into the SQL Database firewall.
  - We have made multiple improvements that allow you to control connectivity settings for Azure SQL Database and Azure Synapse. The connectivity settings are accessible from the Firewalls and virtual networks blade at the logical server.
  - <https://techcommunity.microsoft.com/t5/azure-sql-database/azure-sql-database-connectivity-and-network-security/ba-p/1218713>
  - <https://docs.microsoft.com/en-us/azure/sql-database/sql-database-connect-query-portal#query-editor-considerations>
  - <https://docs.microsoft.com/en-us/azure/sql-database/sql-database-connectivity-settings>
- Azure Backup solution for SAP HANA databases is now available

- We are very excited to announce that Microsoft Azure Backup's solution for SAP HANA databases is now generally available in all Azure Public and Gov Regions (with the exception of Germany Northeast and Germany central, France South & US Gov IOWA)
- <https://azure.microsoft.com/en-us/updates/azure-backup-solution-for-sap-hana-databases-is-now-available/>
- Azure Database for MySQL, PostgreSQL, MariaDB—Three years reserved capacity is now available
  - <https://azure.microsoft.com/en-us/updates/3-years-reserved-capacity-now-available/>
  - <https://azure.microsoft.com/en-us/updates/3-years-reserved-capacity-now-available-mysql/>
  - <https://azure.microsoft.com/en-us/updates/azure-database-for-mariadb-reserved-capacity-pricing-is-now-available/>
- SQL Server 2019 images with current Linux distribution support available in Azure marketplace
  - The team is glad to announce that the Azure marketplace PAYG (Pay As You Go) images for SQL Server 2019 on RHEL 8.0, Ubuntu 18.04 and SLES 12 SP5 have been made generally available.
  - <https://techcommunity.microsoft.com/t5/sql-server/sql-server-2019-images-with-current-linux-distribution-support/ba-p/1251539>

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## Data Integration

- Data Factory adds Managed Identity and Service Principal to Data Flows Synapse staging
  - Azure Data Factory adds Managed Identity & Service Principal to Data Flows Synapse staging for fast, secure data loading.
  - <https://azure.microsoft.com/en-us/updates/data-factory-adds-managed-identity-and-service-principal-to-data-flows-synapse-staging/>

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## Data Visualization

- Export Power BI reports to PDF, PPTX, or PNG files using REST AP
  - Power BI now has an additional set of capabilities that allow you to export a Power BI report by using a REST call to the following file formats—PDF, PPTX (PowerPoint), and PNG.
  - <https://azure.microsoft.com/en-us/updates/export-power-bi-report-to-pdf-pptx-png-files-using-rest-api/>
- Time Intelligence: Calendar Table
  - Experts strongly recommend the use of a dedicated calendar table in a data model. And if the calendar table is dynamic, then it has added advantages.
  - We can use the following DAX functions for creating a calendar table: CALENDARAUTO & CALENDAR
  - Most of the time intelligence functions in DAX require a separate calendar table.
  - <https://community.powerbi.com/t5/Community-Blog/Time-Intelligence-Calendar-Table/ba-p/1000565>
- Announcing General Availability of Query Diagnostics
  - We're happy to announce the general availability of Query Diagnostics for Power Query in Power BI.

- Query Diagnostics is a powerful new feature that will allow you to determine what Power Query is doing during authoring and in some refresh workflows in Power BI Desktop.
- <https://powerbi.microsoft.com/en-us/blog/announcing-general-availability-of-query-diagnostics/>

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## AI and IoT

- New features for Form Recognizer now available
  - The service now supports training with and without labels, which makes it easier for customers to reliably extract valuable information from their forms.
  - <https://azure.microsoft.com/blog/new-features-for-form-recognizer-now-available/>
- Azure Machine Learning available in US Gov
  - Azure Machine Learning is now available in US Gov Virginia and US Gov Arizona.
  - <https://azure.microsoft.com/en-us/updates/azure-machine-learning-available-in-us-gov/>
- Azure Cognitive Services—Neural Text to Speech has new voice styles
  - Neural Text to Speech now has new voice styles—newscast, customer service, and digital assistant. Tailor the voice of your apps and services to fit your unique scenario using these new styles, and further customize your voice to express different emotions to fit the context, like cheerfulness or empathy.
  - <https://azure.microsoft.com/en-us/updates/azure-cognitive-services-adds-new-style-voices-to-neural-text-to-speech/>
- Integrate Azure Stream Analytics with Azure Machine Learning (in preview)
  - Implement machine learning models as a user-defined function (UDF) in your Azure Stream Analytics jobs to do real-time scoring and predictions on your streaming input data.
  - <https://azure.microsoft.com/en-us/updates/preview-stream-analytics-enables-high-performance-realtime-scoring-using-custom-ml-models/>
- Azure IoT SDK for Python—Significant connection resiliency improvements now available
  - A new version of Azure IoT Python SDK v2 is now available that focuses on improved connection resiliency of the underlying MQTT protocol layer.
  - <https://azure.microsoft.com/en-us/updates/azure-iot-python-sdk-improvements/>
- Azure IoT Edge 1.0.9 release is now available
  - Ability to provision an IoT Edge's device identity with a x.509 cert via the Device Provisioning Service (DPS)
  - Easily collect logs needed to investigate issues on an IoT Edge device with the new command 'iotedge support-bundle'
  - <https://azure.microsoft.com/en-us/updates/iot-edge1-0-9/>
- Microsoft partners with the industry to unlock new 5G scenarios with Azure Edge Zones
  - 5G opens new frontiers with enhanced mobile broadband up to 10x faster, reliable low-latency communication, and very high device density up to 1 million devices per square kilometer.
  - Azure Edge Zones and Azure Private Edge Zones deliver consistent Azure services, app platform, and management to the edge with 5G
  - We're announcing the preview of Azure Edge Zones with carriers, connecting Azure services directly to 5G networks in the carrier's datacenter. This will enable developers to

build optimized and scalable applications using Azure and directly connected to 5G networks, taking advantage of consistent Azure APIs and tooling available in the public cloud.

- We were the first public cloud to announce 5G integration with AT&T in Dallas in 2019, and now we're announcing a close collaboration with AT&T on a new Edge Zone targeted to become available in Los Angeles in late spring.
- <https://azure.microsoft.com/blog/microsoft-partners-with-the-industry-to-unlock-new-5g-scenarios-with-azure-edge-zones/>

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## Infrastructure and Management

- Azure Ultra Disks—Shared disk capability is now in preview
  - Shared disks now includes Ultra Disks (in preview).
  - Attach an Azure managed disk to multiple virtual machines (VMs) simultaneously using the new shared disks feature of Azure Managed Disks.
  - Shared disks also support SCSI persistent reservation protocol.
  - <https://azure.microsoft.com/en-us/updates/azure-ultra-disks-shared-disk-capability-is-now-in-preview/>
- Direct Upload of Azure Managed Disks is generally available
  - Direct upload of Azure Managed Disks provides a simplified workflow for uploading an on-premises VHD directly into an empty managed disk or copy a managed disk to another Azure region for regional migration or expansion.
  - <https://azure.microsoft.com/en-us/updates/direct-upload-of-azure-managed-disks-is-generally-available/>
- Azure Spot Virtual Machines are now generally available
  - Buy unused compute capacity at deep discounts and run interruptible workloads at scale with Azure Spot Virtual Machines.
  - <https://azure.microsoft.com/en-us/updates/azure-spot-virtual-machines-are-now-generally-available/>
- IPv6 for Azure Virtual Network is now generally available
  - IPv6 for Azure Virtual Network is now generally available worldwide. IPv6 support within the Azure Virtual Network and to the internet enables you to expand into the growing mobile and IoT markets with Azure-based applications and to address IPv4 depletion in your own corporate networks.
  - <https://azure.microsoft.com/en-us/updates/ipv6-for-azure-virtual-network-is-now-generally-available-2/>
- Azure Dedicated Hosts now provide support for Azure reservations
  - Azure Dedicated Hosts now offer Azure reservations and support for Lsv2, Msv2, Dasv4, and Easv4 Azure Virtual Machines in addition to providing new hardware options. Run a broader range of general purpose, memory-intensive or storage-intensive workloads on physical servers dedicated to your organization.
  - <https://azure.microsoft.com/en-us/updates/azure-dedicated-hosts-now-provide-support-for-azure-reservations/>
- Azure Storage—Append Blob immutability support now generally available
  - Store business-critical data objects in a non-erasable and non-modifiable state for a user-specified retention interval using immutable storage for Azure Blob storage.

- <https://azure.microsoft.com/en-us/updates/immutableappendblob/>

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## Training and Technical Guides

- This session analyzes a set of scenarios that may happen during the loading step using the Query Editor in Power BI
  - <https://aka.ms/PBIWebinar01142020>
- Paginated Reports in a Day training is now available free online
  - <https://powerbi.microsoft.com/en-us/blog/paginated-reports-in-a-day-training-is-now-available-free-online/>
- Go serverless: Big data processing with Azure Event Hubs for Apache Kafka | Azure Friday
  - [https://www.youtube.com/watch?v=UE1WgB96\\_fc](https://www.youtube.com/watch?v=UE1WgB96_fc)
- Tips and tricks for migrating your on-prem database to Azure DB MySQL without downtime
  - [https://www.youtube.com/watch?v=s\\_vF6wNKWcs](https://www.youtube.com/watch?v=s_vF6wNKWcs)
- How to get the most performance out of Azure database for MySQL
  - <https://www.youtube.com/watch?v=6Rb1HHhAtjQ>
- How to use Azure Monitor workbooks | Azure Portal Series
  - <https://www.youtube.com/watch?v=Z5xRyy3HB8U>

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## Development and Tools

- Released: Microsoft.Data.SqlClient 2.0 Preview 2
  - The SqlClient team is moving forward with continuous updates and improvements to the Microsoft.Data.SqlClient data provider for SQL Server. Our plan is to provide GA releases twice a year with two preview releases in between.
  - SqlClient will now validate server certificates by default if encryption is enforced from the server side but the client has not specified Encrypt=true.
  - <https://techcommunity.microsoft.com/t5/sql-server/released-microsoft-data-sqlclient-2-0-preview-2/ba-p/1250891>
- The March 2020 release of Azure Data Studio is now available
  - <https://cloudblogs.microsoft.com/sqlserver/2020/03/23/the-march-2020-release-of-azure-data-studio-is-now-available/>
- SQL Server Management Studio 18.5 is now generally available
  - Added “Notebook” as a destination for Generate Scripts wizard
  - Many new features and improvements
  - <https://cloudblogs.microsoft.com/sqlserver/2020/04/07/sql-server-management-studio-18-5-is-now-generally-available/>
- Azure SDKs General Availability - March 2020
  - Additional libraries for working with Azure services are now generally available
  - <https://azure.microsoft.com/en-us/updates/azure-sdks-general-availability-march-2020/>
- As of April 2020, TLS 1.2 is set to be the default for the PowerShell Gallery.
  - <https://devblogs.microsoft.com/powershell/powershell-gallery-tls-support/>
- On-premises data gateway March 2020 update is now available

- <https://powerbi.microsoft.com/en-us/blog/on-premises-data-gateway-march-2020-update-is-now-available/>
- Filesystem SDKs for Azure Data Lake Storage Gen2 now generally available
  - Azure Data Lake Storage Gen2 Python, .NET, Java, and JS filesystem SDKs are now generally available in all Azure regions.
  - <https://azure.microsoft.com/en-us/updates/filesystem-sdks-for-azure-data-lake-storage-gen2-now-generally-available/>

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## Troubleshooting and Issue Alerts

- Lesson Learned #124: Improving the Linked Server connectivity performance using Azure SQL Database
  - SQL Server Management Studio was using packet size=8096, however, Linked Server was using packet size = 4170
  - Discovered this via: select \* from sys.dm\_exec\_connections
  - **Solution:** Added packet size to the linked server connection string 'Server=tcp:yourservername.database.windows.net,1433;Persist Security Info=False;MultipleActiveResultSets=False;Connection Timeout=30;PACKETSIZE=8096 and the performance is now very similar in both scenarios.
  - <https://techcommunity.microsoft.com/t5/azure-database-support-blog/lesson-learned-124-improving-the-linked-server-connectivity/ba-p/1225542>
- **Important:** If the Update Cache folder or some patches are removed from this folder, you can no longer uninstall an update to your SQL Server instance and then revert to an earlier update build.
  - In that situation, Add/Remove Programs entries point to non-existing binaries, and therefore the uninstall process does not work. Therefore, Microsoft strongly encourages you to keep the folder and its contents intact.
  - <https://support.microsoft.com/en-us/kb/3196535>

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## Lifecycle Updates

- <http://www.microsoft.com/lifecycle>
- Lifecycle FAQ: <https://support.microsoft.com/en-us/help/17140/lifecycle-faq-general-policy-questions>
- Products Reaching End of Support for 2020 <https://support.microsoft.com/en-us/help/4470235/products-reaching-end-of-support-for-2020>
- Support for Windows 7, Windows Server 2008 R2 and Windows Server 2008 ended on **January 14, 2020**
- Support for SQL Server 2008 and SQL Server 2008 R2 ended on July 9, 2019.
- SQL Server 2014 moved from Mainstream Support to Extended Support on July 9, 2019.
- Support for SQL Server 2016 SP1 ended on July 9, 2019. Please upgrade to the latest service pack.
- Support for SQL Server 2014 SP1 ended on October 10, 2017. Please upgrade to the latest service pack.
- Support for SQL Server 2012 SP3 ended on October 9, 2018. Please upgrade to the latest service pack.
- SNAC lifecycle explained



- SNAC 11: SQL 2005 to SQL 2014. Note that SNAC 11 does not support features released with SQL Server 2014 and SQL Server 2016 that were not available as part of SQL Server 2012, such as Transparent Network IP Resolution, Always Encrypted, Azure AD Authentication, Bulk Copy and Table Value Parameters.
- SNAC 13 (ODBC): SQL 2008 to SQL 2016. Available for Windows and Linux.
- <https://blogs.msdn.microsoft.com/sqlreleaseservices/snac-lifecycle-explained/>
- **Download the Latest ODBC Driver for SQL Server:** <https://docs.microsoft.com/en-us/sql/connect/odbc/download-odbc-driver-for-sql-server>
- Support for .NET Framework 4, 4.5 and 4.5.1 ended on January 12, 2016
  - Please complete the in-place update to .NET Framework 4.5.2
  - 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.
  - [https://support.microsoft.com/en-us/gp/framework\\_faq](https://support.microsoft.com/en-us/gp/framework_faq)

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## SQL Builds

- Where to find information about the latest SQL GDRs (security updates)
  - The Security Update Guide is the authoritative source of information on Microsoft security updates.
  - <https://portal.msrc.microsoft.com/en-us/security-guidance>
  - You can filter by date and product category.
- Where to find information about the latest SQL Service Packs and Cumulative Updates
  - <http://support.microsoft.com/kb/957826>
- Where to find downloads for SQL service packs, setup updates ("Smart Setup"), security updates, and update rollups
  - Microsoft Update Catalog <http://catalog.update.microsoft.com/>
  - Note: You may have to switch IE to Compatibility View to use the Update Catalog
- SQL version tables and build charts
  - How to determine the version and edition of SQL Server and its components <https://support.microsoft.com/en-in/kb/321185>
  - Unofficial build chart (NOTE the following site is NOT a Microsoft affiliated website) <http://sqlserverbuilds.blogspot.com/>

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## Community Resources

- Microsoft Tech Community. Collaborate, share and learn from experts <https://techcommunity.microsoft.com/>
- Provide Feedback to the Product Group: <https://feedback.azure.com/forums/908035-sql-server>
- Channel 9 - SQL Jump Start Videos. Channel 9 is a Microsoft community site which features video channels, discussions, screencasts and video interviews. <https://channel9.msdn.com/Search?term=sql&sortBy=recent&lang=en=true>



- Microsoft Self-Paced Labs: Acquire the cloud skills you need, at your own pace. Enjoy hands-on learning on your schedule with our free, self-paced labs, and keep your cloud knowledge fresh.  
<https://www.microsoft.com/handsonlabs/selfpacedlabs>
- Microsoft Learn. Up your game with a learning path tailored to today's developer and technology masterminds and designed to prepare you for industry-recognized Microsoft certifications.  
<https://docs.microsoft.com/en-us/learn/>

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## Newsletter Archives

- SQL Server Updates and Lessons Learned <https://docs.microsoft.com/en-us/archive/blogs/sqlupdates/>

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## Recommended RSS Feeds

- Most Recent KB's for SQL 2017
  - <https://support.microsoft.com/app/content/api/content/feeds/sap/en-us/cb54dbc0-87de-5eaa-8ca9-f35997ca84eb/rss>
- Most Recent KB's for SQL 2016
  - <https://support.microsoft.com/app/content/api/content/feeds/sap/en-us/d201c5bd-9aab-36d1-0e57-5dadf52a6dad/rss>
- Most Recent KB's for Windows Server 2016
  - <https://support.microsoft.com/app/content/api/content/feeds/sap/en-us/c3a1be8a-50db-47b7-d5eb-259debc3abcc/rss>
- RSS Feed Product Index
  - <https://support.microsoft.com/en-us/help/4089498/support-content-updates>
- To add an RSS feed in Microsoft Outlook:
  - Right click the "RSS Subscriptions" folder-> Choose "Add a New RSS Feed"
  - -or- Choose File->Account Settings->RSS Feeds tab->New...

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