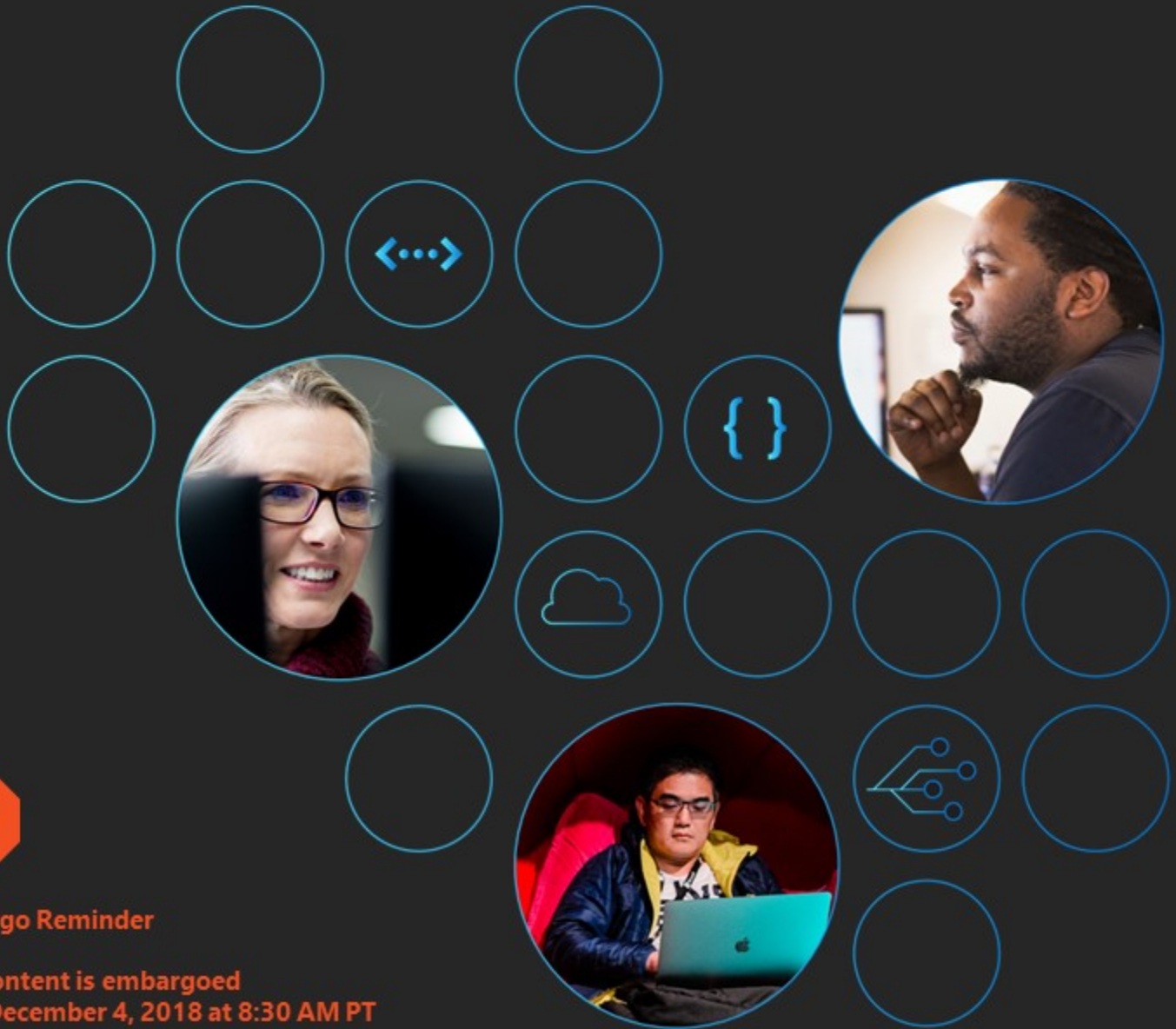


BOOK OF NEWS

Connect(); 2018

December 4, 2018



Embargo Reminder

**This content is embargoed
until December 4, 2018 at 8:30 AM PT**

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For any influencer inquiries on this Book of News, please contact WEConnectVTeam@we-worldwide.com

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Open Source

1.1 New Industry Standard - Universal Installer for Cloud Native Application Bundle for Distributed Systems

Distributed applications are no longer a futuristic concept. Today's cloud isn't operating on one runtime system: It's not just serverless, just Kubernetes, just VMs. It may not even be from just one provider. And each runtime has its own provisioning tools, Terraform, Ansible, ARM, containers. To succeed in this environment, developers need a package management solution for distributed applications.

On December 4, 2018, Microsoft and Docker are announcing Cloud Native Application Bundle (CNAB) – an open source, cloud-agnostic specification for packaging and running distributed applications. CNAB is designed to work with everything from Azure to the Docker platform to on-prem OpenStack and Kubernetes. Microsoft and Docker are both providing open-source tools to get customers started on CNAB.

The CNAB specification lets developers define resources that can be deployed to any combination of runtime environments. A CNAB can deploy to a workstation, a public cloud, an air-gapped network, or a constrained IoT environment.

The CNAB specification enables the following capabilities in one format that is not currently available in the ecosystem, including:

- Manage discrete resources as a single logical unit that comprises a distributed app
- Use and define operational verbs for lifecycle management of an app (install, upgrade, uninstall)
- Sign and digitally verify a bundle, even when the underlying technology doesn't natively support it
- Attest (or attach a signature to any moment in the lifecycle of that bundle) and digitally verify that the bundle has achieved that state to control how the bundle can be used
- Enable the export of the bundle and all dependencies to reliably reproduce in another environment, including offline environments (IoT edge, air-gapped environments)
- Store bundles in repositories for remote installation including search, fetch and install

To get developers started on CNAB, today, Microsoft is releasing:

- CNAB specification
- Duffle, an open source reference implementation of a CNAB client. It can install, upgrade, and uninstall CNAB bundles, create new bundles, cryptographically sign them, and verify their integrity
- A Visual Studio Code extension to simplify building and hosting CNAB bundles
- An example implementation of a bundle repository server
- An Electron installer that can turn bundle installation into a simple point-and-click experience

Docker, which has been working closely with Microsoft on CNAB, is also the first to implement CNAB for containerized applications and will be expanding it across the Docker platform to support new application development, deployment and lifecycle management. It will first be released as part of the new Docker App tool for packaging and managing cloud-native applications. Docker App lets you package CNAB bundles as Docker images, so you can manage CNAB application lifecycle using products in the container ecosystem such as Docker Hub or Docker Enterprise.

- For more information, check out [our blog](#).

1.2 Open Sourcing of Windows Presentation Foundation, Windows Forms and Windows UI XAML Library

Microsoft is open sourcing three popular Windows UX frameworks on GitHub: [Windows Presentation Foundation](#) (WPF), [Windows Forms](#), and [Windows UI XAML Library](#) (WinUI).

Developers can now participate with Microsoft's client UX technology in a much more interactive way. They'll be able to contribute a new feature back to the framework, debug and fix issues that impact their apps, build a private copy of the UI stack, as well as report bugs and other issues. Moving to GitHub provides a greater degree of transparency between the product team and the community, helps democratize Windows development, and encourages more developers to build for Windows.

Windows Forms and WinUI will be open sourced on December 4, 2018. WPF is starting with some smaller components at the time of the announcement, with more to come over the following months.

This news expands on our May 7, 2018 [announcement](#) from [BUILD](#) that .NET Core 3.0 Preview brings support for building client apps using WPF, Windows Forms, and XAML Islands.

You can read more about this announcement at the [Windows Developer Blog](#).

1.3 .NET Foundation Opens Membership Model

The .NET Foundation was established in 2014 to improve open source software development and collaboration around the vibrant, innovative and growing .NET ecosystem. To strengthen our commitment to open source, Microsoft is announcing the expansion of the Foundation's membership model.

As of December 4, 2018 the governance, participation and projects of the foundation will be open to anyone in the open source community. This means that, going forward, members of the community will directly guide foundation operations.

In addition to our current sponsors — Red Hat, JetBrains, Google, Unity, Microsoft and Samsung — we are also welcoming Pivotal, Progress Telerik, and Insight Enterprises today.

The board will be expanded to seven seats from three, including a member appointed by Microsoft. Board elections will begin in January 2019, and any person who has contributed in any way to any .NET Foundation open source project is eligible to vote. This new structure will help the .NET Foundation scale to meet the needs of the growing .NET open source ecosystem.

For more information, please visit the [.NET Foundation blog](#).

1.4 Donating Virtual Kubelet to CNCF

Virtual Kubelet is an open source application that makes it easier for developers to connect a Kubernetes node with other services like Azure Container Instances (ACI), AWS Fargate and Azure IoT Edge. For example, pairing an ACI Connector with Kubernetes — the world's most popular container orchestration platform — is the fastest way to scale a Kubernetes cluster in the cloud.

On December 4, 2018, to help more developers build on top of Virtual Kubelet, Microsoft is donating the VK project to the Cloud Native Computing Foundation (CNCF), which hosts and promotes open source cloud native software. Microsoft is a platinum member of CNCF.

You can read more about this announcement at the [Microsoft Azure blog](#).

1.5 VNET for Azure Database for MariaDB Preview and Azure Database for MariaDB General Availability

Azure Database for MariaDB works with open source frameworks and languages and features tight integration with Azure Web Apps. It can be used with popular content management apps such as WordPress and Drupal.

On December 4, 2018, Microsoft is announcing the general availability of Azure Database for MariaDB, as well as a preview of Virtual Network (VNET) for Azure Database for MariaDB.

General availability of Azure Database for MariaDB today gives open source developers a fully managed MariaDB on the Azure platform backed with enterprise-grade security and compliance, elastic scaling, and industry-leading 99.99 percent availability.

The inclusion of MariaDB in the Azure family extends our commitment to the open source community. Microsoft is also a proud platinum sponsor of the MariaDB foundation, working to promote continuity and open collaboration in the MariaDB community.

For more information, visit the [Microsoft Azure blog](#).

1.6 Open-Sourcing ONNX Runtime

Open Neural Network Exchange (ONNX) is the basis of an open ecosystem of interoperability and innovation in the AI ecosystem that Microsoft co-developed to make AI more accessible and valuable to all. An open format to represent machine learning models, ONNX enables AI developers to choose the right framework for their task and hardware vendors to streamline optimizations.

On December 4, 2018, Microsoft is announcing the open sourcing of ONNX Runtime, a high-performance inference engine for machine learning models in ONNX format, which is available now on GitHub. With the release of the open source ONNX Runtime, developers can customize and integrate the ONNX inference engine into their existing infrastructure directly from the source code. They can also compile and build it on a variety of operating systems.

You can read more about our previous release of production-ready [ONNX](#), as well as more about today's announcement, at [the Microsoft Azure blog](#).

Developer Tools and .NET

2.1 Visual Studio 2019 Preview

Millions of developers rely on Visual Studio to build and deploy code as well as collaborate with their teams. Today, Microsoft is announcing the initial preview of Visual Studio 2019, which offers developers numerous productivity improvements, enhanced collaboration and faster tooling. It enables the best experience for individual developers and teams to improve their existing projects, as well as build the next generation of modern cloud solutions.

On December 4, 2018, developers can download the [initial public preview of Visual Studio 2019](#). In this release, we're adding a new start window experience to get developers into their code faster and easier than ever. We're also responding to developers' need for increased coding space, adding a new search experience, and productivity improvements like AI-powered assistance with IntelliCode, more refactoring capabilities and smarter debugging. We're also making it easier than ever to collaborate across teams with the built-in access to Visual Studio Live Share.

To learn more, please visit the [Visual Studio 2019 blog](#).

2.2 Visual Studio Live Share: New Features and Integration with Visual Studio 2019

Developers rely on their teams when creating and building software, yet teams often struggle to work together across geographies, time zones and projects. On December 4, 2018, we are announcing new features in [Visual Studio Live Share](#) that make it easier than ever for developers to collaborate in real time, including sharing desktop apps, source control diffs and code commenting.

These new features will be added to the public preview of Visual Studio Live Share, which is available as an extension for Visual Studio Code. They will also be included with the initial preview of Visual Studio 2019, so that every Visual Studio developer can take advantage of Live Share's real-time collaboration features.

We initially launched Visual Studio Live Share at Connect 2017, and announced our most [recent updates at Build 2018](#).

2.3 Enhancements to Visual Studio IntelliCode

Artificial Intelligence not only brings innovation to the apps and software developers build, but also can help them be more productive. Microsoft is announcing custom models for Visual Studio IntelliCode, as well as expanding language support on December 4, 2018.

By training IntelliCode on their code, custom models are created to further improve AI-enhanced IntelliSense, giving developers personalized recommendations based on the actual patterns and libraries used in their code, in addition to the analysis made on thousands of open source repos, further enhancing their productivity.

Developers using Visual Studio now get IntelliCode for XAML and C++ code in addition to C#. Developers using Visual Studio Code can use IntelliCode when developing JavaScript, TypeScript, Python, and Java.

Microsoft [first announced Visual Studio IntelliCode](#) at Build earlier this year.

To see all the tools and languages IntelliCode supports today, as well as new features, go to <https://aka.ms/intellicode>.

2.4 Visual Studio 2019 for Mac Preview

Visual Studio for Mac brings enhanced productivity and collaboration capabilities to Mac developers working with solutions written with C# and .NET Core, or mobile apps with Xamarin and, finally, games with Unity while also providing back-end services to client applications.

Today, Microsoft is announcing a first public preview of Visual Studio 2019 for Mac, providing developers with a faster way to get to their code with a new welcome screen and a powerful new code editor that helps developers do more than ever before. This preview can run side-by-side with the released versions of Visual Studio 2017 for Mac and is available as of December 4, 2018.

Microsoft first unveiled Visual Studio for Mac in 2016 and has updated the product numerous times since then. For more information, check out the [Visual Studio 2019 for Mac preview page](#).

2.5 CAST Highlight for Visual Studio Enterprise Subscriptions

Developers need critical insights on their software when migrating to the cloud. With [CAST Highlight](#), Visual Studio Enterprise subscribers can rapidly scan their application source code to identify the cloud readiness of their applications for migration to Azure and monitor progress of their app both during and after a migration.

Microsoft is announcing that Visual Studio Enterprise subscribers can get a [free, full-feature, one-month subscription](#) to CAST Highlight for up to five apps per subscriber, beginning December 4, 2018.

In a matter of minutes, CAST Highlight identifies specific roadblocks to migration and vulnerabilities that need to be addressed in the source code and makes recommendations on how to remediate the code to make the app cloud ready.

2.6 UnifyCloud CloudPilot for Visual Studio Subscriptions

Developers need solutions that enable quick and easy app migration to the cloud.

CloudPilot helps move apps to Microsoft Azure in a few easy steps, including all required changes down to the line of code for successful migration to containers, VMs, Azure App Service, Azure SQL and SQL MI.

Microsoft is announcing a [free subscription of CloudPilot](#) for Visual Studio subscribers, beginning December 4, 2018. Visual Studio Enterprise subscribers are eligible for two 90-day subscriptions to the full-featured CloudPilot, while Visual Studio Professional subscribers can take advantage of one 30-day subscription.

For more information, visit [here](#).

2.7 .NET Core 2.2 General Availability

.NET Core gives you a fast development platform for creating .NET applications that run on Windows, Linux and Mac. Today, Microsoft is releasing .NET Core 2.2, which includes several performance and web and data app frameworks improvements.

.NET Core 2.2 is generally available as of December 4, 2018 and [ready for download](#). The [most recent preview was released in September 2018](#).

The latest improvements include enabling tiered compilation by default, as well as new features in the ASP.NET Core web stack, such as hosting model improvements for IIS, Web API improvements including API security, template updates for Bootstrap 4 and Angular 6, and HealthCheck upgrades.

.NET Core 2.2 also offers enhancements in our data stack, Entity Framework Core, such as support for spatial extensions in SQL Server and SQLite.

For more information see our posts on the [.NET Team blog](#).

2.8 .NET Core 3.0 Public Preview

.NET Core 3.0 is the next generation of the .NET Core platform providing significant updates to web, cloud, IoT, AI/ML and Windows desktop workloads. .NET Core 3.0 adds support for WinForms and WPF, two of the most popular .NET application types used by millions of developers, bringing Windows desktop development to .NET Core. It enables more flexible deployment with side-by-side and self-contained EXE, along with better performance. In addition, it enables the use of native UWP controls in WinForms and WPF applications via XAML islands.

Initially [announced in May at Build 2018](#), .NET Core 3.0 is now available in public preview, which Microsoft announced on December 4, 2018. Developers can download .NET Core 3.0 today at <https://aka.ms/netcore3preview1>.

You can learn more about .NET Core 3.0 at the [.NET Team blog](#).

2.9 ML.NET 0.8 Public Preview

Machine learning is vital to today's developers, yet it can require significant training and expertise to use it effectively. Our open source, cross-platform machine learning framework, ML.NET, enables any developer to create and infuse custom AI into their applications without prior experience in developing or tuning machine learning models. With ML.NET, .NET developers can quickly build models for regression, classification and clustering.

Microsoft is releasing the latest public preview of ML.NET, ML.NET 0.8 as of December 4, 2018 for public preview, and [developers can get started](#) on the ML.NET site today.

We first announced ML.NET at Build 2018, and we released a [blog post with updates](#) in October.

You can learn more about the latest release on the [.NET Team blog](#).

2.10 Xamarin.Forms 3.4 General Availability

Xamarin.Forms is a framework that allows developers to build cross-platform applications for Android, iOS and Windows, addressing some of the hardest tasks developers face. To help developers speed time to market and reduce the need to write platform code, Microsoft is announcing improved existing controls in Visual Studio Tools for Xamarin, which became generally available on December 4, 2018. We've also added accessibility improvements for screen readers, and tab indexing and focus support for both touch device usage and keyboards, making it even easier to develop accessible mobile applications.

For more information, [check out the blog post](#).

2.11 Xamarin.Forms 4.0 Public Preview

Consistent development across platforms and devices is a time-consuming challenge for many developers. Xamarin.Forms is a framework that allows developers to build cross-platform applications for Android, iOS and Windows.

Xamarin.Forms 4.0 makes it easier for developers to style their code for consistent UI across devices and provides platform-specific design for native controls, making it easier than ever for developers to achieve a common UI for applications across iOS and Android. Microsoft is announcing a public preview of Xamarin.Forms 4.0, available as of December 4, 2018 which will deliver enhanced productivity and performance for cross-platform mobile developers. Developers can download the preview bits directly from NuGet — no sign-up required.

The Xamarin.Forms 4.0 preview introduces the next generation of performance improvements, and also includes Xamarin.Forms Shell, which offers modern design patterns for navigation, control styling, animations and transitions out of the box. The Shell, which will ship with Material Design by default, will allow developers to specify a material visual preference and all controls so that the application can adopt native control renderers that implement that visual style and behavior on every platform, saving countless hours spent unifying the iOS and Android control styles.

For more information, including a look at some other great new features, [visit our blog post](#).

AI & Data

2.12 Azure Machine Learning Service General Availability

Today Microsoft is announcing the general availability of Azure Machine Learning service, a cloud service that enables developers and data scientists to quickly and easily build, train and deploy machine learning models.

Azure Machine Learning service is generally available now. General availability pricing will be in effect on Feb 1, 2019.

Azure Machine Learning service eliminates the heavy lifting of end-to-end machine learning workflows and can reduce time to production from weeks to hours. It enables data scientists to automate model selection and tuning, increase productivity with DevOps for machine learning, and easily deploy models to the cloud and the edge.

Today's general availability builds on the recently added new capabilities to the preview of [Azure Machine Learning service](#) at Ignite this September.

For additional information, see the [announcement on the Microsoft Azure blog](#) or the [Azure Machine Learning service webpage](#).

2.13 Azure Cosmos DB Shared Throughput Offer General Availability

Azure Cosmos DB offers turnkey global distribution across multiple Azure regions by transparently scaling, and replication data that enables developers to build data driven apps worldwide.

On December 4, 2018, Microsoft is announcing the general availability of the Azure Cosmos DB Shared Throughput Offer, which lowers the entry point and improves pricing options for customers who have databases with multiple containers. Azure Cosmos DB also announced Azure Cosmos DB .NET SDK 3.0, CORS support to enhance developer experience for .NET and JavaScript application developers.

For more information, visit the [document page](#).

2.14 Azure Cognitive Services Updates

On December 4, 2018, we're introducing two new updates for Azure Cognitive Services, a collection of intelligent APIs that allow systems to see, hear, speak, understand, and interpret our needs using natural methods of communication.

With ever-increasing volumes of data being generated across organizations, customers need the flexibility to deploy AI capabilities in a variety of environments. By deploying Cognitive Services in containers, customers can analyze information close to the physical world where the data resides, to deliver real-time insights and immersive experiences that are highly responsive and contextually aware.

Container support for [Language Understanding](#) is available in preview today, allowing customers to run language understanding solutions on the edge and to build consistent app architectures across the cloud and the edge. In addition, custom translation capability of [Translator Text](#) is now generally available, enabling customers to use human-translated content to [build a custom translation system](#) that can better handle specific writing styles, industry expressions and vocabulary.

For more information, check out the [Microsoft Azure blog](#) and [Microsoft Translator Blog](#).

Internet of Things (IoT)

2.15 Azure Stream Analytics on IoT Edge Now Available

Azure Stream Analytics (ASA) on Azure IoT Edge increases the responsiveness of IoT solutions, while providing data privacy and sovereignty by processing the data locally. ASA on Azure IoT Edge makes it easy to move analytics between edge and cloud, which can be critical in scenarios where customers need low-latency command and control, have limited connectivity to the cloud, have limited bandwidth, or have certain compliance needs.

Microsoft is announcing the general availability of ASA on IoT Edge, which was released [in public preview on Nov. 15, 2017](#).

ASA on IoT Edge empowers developers to deploy near-real-time intelligence closer to IoT devices so that they can unlock the full value of device-generated data. It runs within the Azure IoT Edge framework, which means that once a job is created in ASA, it can be deployed and managed using IoT Hub.

To learn more, visit the [Microsoft Azure blog](#).

2.16 Updates to the Azure IoT Device Simulation Solution Accelerator

The Azure IoT Device Simulation solution accelerator empowers developers to conduct realistic tests of their IoT solutions using complex device models. Solution accelerators work out of the box for demo or production environments, using fully tested, open source code and proven architecture that supports custom solutions for unique business needs.

Now, Microsoft is adding further enhancements to this solution accelerator that enable developers to more seamlessly create advanced device simulations to test their IoT solutions in development — before making costly and time-consuming hardware investments — saving money and making room for more innovation.

The Azure IoT Device Simulation solution accelerator makes it possible to script complex device behavior, include multiple device models in a single simulation, and let simulations run for as long as necessary to emulate real-world scenarios.

To learn more, visit the [Microsoft Azure blog](#) or the [Azure IoT solution accelerator website](#).

2.17 Updates to the Azure IoT Remote Monitoring Solution Accelerator

Azure IoT solution accelerators help developers create fully customizable solutions for common Internet of Things (IoT) scenarios. This drives digital transformations through more efficient processes, better customer experiences and new revenue streams.

With several updates to the Azure IoT Remote Monitoring solution accelerator, developers can now empower operators to manage more facets of their IoT solutions.

The updates to the Azure IoT Remote Monitoring user interface enable customers to:

- Deploy edge modules to IoT edge devices
- Trigger actions such as email notifications in response to device alert
- Manage device updates via using Automatic Device Management
- Visualize device data using Azure Time Series Insights

Previously, managing devices, deploying edge modules and triggering actions could only be done by developers within the Azure portal.

To learn more, visit the [Microsoft Azure blog](#). Additional details can be found at the [Azure IoT solution accelerator website](#).

2.18 Azure Maps SKU News

Azure Maps is a portfolio of mapping, navigation and traffic services that uses simple and secure location APIs to add geospatial context to data.

To give customers an enhanced service option, Microsoft is introducing a new S1 pricing tier for Azure Maps, to complement the Standard S0 offering.

The S1 offering, available starting December 4, 2018, provides an enhanced service level for production scale deployments of applications using Azure Maps, with no Query Per Second limitation.

To learn more about the new Azure Maps SKUs, visit [the Azure Maps pricing page](#).

2.19 Azure Maps Partner News

Azure Maps continues to strengthen its leadership in geolocation services by enhancing its tools for developers and building closer ties to mobility data and analytics providers. Earlier this month, [Microsoft announced a new partnership with public transit analytics provider Moovit](#).

Moovit will provide public transit data to Microsoft for the Azure Maps service with feature release in 2019 . This partnership will provide developers with an end-to-end destination for location information, helping urban transportation planners optimize the flow of people, while enabling better solutions for retailers, consumers and many more applications.

To learn more, visit the [Microsoft Azure blog](#). Additional details can be found in the [announcement from Moovit](#).

2.20 Azure Time Series Insights New Features Public Preview

Azure Time Series Insights is a fully managed analytics, storage and visualization service that empowers customers to quickly glean insights from billions of time series data generated by their IoT solutions and other sources. To help maximize the value of this data, Microsoft is updating Time Series Insights to help customers efficiently store decades worth of data, analyze both modeled and ad-hoc data, and connect to advanced analytics tools that can visualize it all in an intuitive and powerful way.

These new features, [initially announced in April 2018](#), will go live in public preview on December 4, 2018. Customers can now add rich contextualization to incoming telemetry data for operational insights, store their IoT data in layers according to their applications' needs, and leverage advanced machine learning and analytics tools to generate deeper insights from IoT applications.

Microsoft is also introducing a new "pay as you go" pricing model, giving customers the pricing scalability innate to IoT scenarios.

To learn more about the Azure Time Series Insights news, read the [full blog post](#) and visit the [Time Series Insights webpage](#).

Azure DevOps

2.21 Azure Boards Integration with GitHub Issues

Azure Boards is a service for managing software projects, offering a rich set of capabilities including native support for Scrum and Kanban, customizable dashboards, and integrated reporting. Microsoft is announcing a new feature in Azure Boards that enables work item integration with GitHub commits and pull requests for private projects. Users can join the preview, available on December 4, 2018.

By integrating Azure Boards with GitHub issues, development teams have even simpler and more streamlined access to their work items, enabling a flexible workflow for tracking work, including bugs, and easily navigating between all the information that helps them plan even the most complex project.

With this integration, users will be able to:

- Create links by mentioning an Azure Boards work item in a GitHub commit message, PR title or PR description.
- See GitHub links in the Development section in our work item form.
- See Azure Boards work items listed in the Pipelines build results when building GitHub commits that link to Boards work items.

For more information, visit [Azure Boards](#).

2.22 Azure Pipelines Extension for Visual Studio Code

[Azure Pipelines](#) enhances Microsoft's existing cloud-hosted build service with more powerful tools for building and delivering on-premises and cloud-hosted applications for Windows, MacOS and Linux. It's a continuous delivery tool, designed to build code in popular languages, test them, and then deliver them to your choice of endpoint.

Microsoft is announcing a preview of a new Azure Pipelines extension for Visual Studio Code, which is available on December 4, 2018 as an [open source project on GitHub](#).

The extension helps shorten the developer inner loop by providing syntax highlighting and IntelliSense (autocomplete) support for YAML-based pipelines. To help further increase time to market for developers, the extension also supports built-in tasks and can validate that the file is structured correctly and uses valid keywords.

For more information, visit <https://aka.ms/Connect2018-AzurePipelinesVSCode>.

2.23 Azure DevOps Projects - IoT Edge Support

As real and simulated IoT edge device scenarios become increasingly important to developers and the enterprises they work for, Azure DevOps Projects enables developers to easily create a CI/CD pipeline that can deploy IoT applications to an Azure IoT Edge device, supporting multiple languages such as .NET and Python for edge modules.

Microsoft is announcing that Azure DevOps Projects is expanding support to IoT applications, including Azure IoT Edge, in a preview available on December 4, 2018.

Although IoT Hub Support in Azure DevOps Projects is new, it builds on our existing offerings for IoT, including our work in November 2018 to enable developers to [create a CI/CD pipeline for IoT Edge solutions with Azure DevOps](#).

For more information, visit <https://aka.ms/Connect2018-AzureDevOpsProject>.

Serverless and Containers

3.1 AKS Virtual Node Public Preview

Powered by the open source [Virtual Kubelet](#) technology, [Azure Kubernetes Service](#) (AKS) virtual node lets developers elastically provision additional pods inside [Container Instances](#) that start in seconds.

Microsoft is announcing the public preview of AKS virtual node on December 4, 2018. [Previous details were released](#) in September at Ignite 2018.

With a few clicks in the Azure portal, you can turn on the AKS virtual node feature and get the flexibility and portability of a container-focused experience in your AKS environment without worrying about managing the additional compute resources. Your ACI resources can join the same virtual network together with AKS.

You can read more about this announcement at the [Microsoft Azure blog](#).

3.2 Cluster autoscaling for AKS Public Preview

Azure Kubernetes Service (AKS) manages your hosted Kubernetes environment, making it quick and easy to deploy and run containerized applications. It also simplifies ongoing operations and maintenance by provisioning, upgrading and scaling resources on demand, without taking your applications offline.

On December 4, 2018, Microsoft is announcing the public preview of AKS cluster autoscaling.

Based on the upstream Kubernetes cluster autoscaler project, AKS cluster autoscaling automatically adds and removes nodes to meet the needs of the workloads that the customer has deployed, subject to minimum and maximum thresholds. When used in conjunction with horizontal pod autoscaling, cluster autoscaling can ensure that you always have enough capacity to meet your business needs.

You can read more about this announcement at the [Microsoft Azure blog](#).

3.3 GPU Support in ACI Public Preview

Azure Container Instances (ACI) enables customers to easily run containers on Azure without managing servers. For developers, that means creating apps fast without having to administer virtual machines or learn new tools.

ACI now supports graphic processor unit (GPU)-enabled virtual machines, giving developers additional choices for running containers in VMs, and empowering them to run more intensive jobs required for machine learning. The public preview of this support is available on December 4, 2018.

You can read more about this announcement at the [Microsoft Azure blog](#).

3.4 Azure Serverless Community Library

Microsoft is announcing that Azure Serverless Community Library, an open source set of pre-built components based on common use cases using Functions and Logic Apps, is available in public preview, beginning December 4, 2018.

These components range from a Blob Storage image resizer to an OpenALPR license plate reader to a raffle application. They are ready to deploy on the desired Azure subscription. Developers can plug-and-play and use those pre-built components out of the box, saving coding time and increasing productivity.

You can check out the available components at <https://serverlesslibrary.net/>, and contribute your own components in its [GitHub repo](#).

Read more about this announcement at the [Microsoft Azure blog](#).

3.5 Consumption Plan for Linux-based Azure Functions

To expand development stacks and hosting options for Azure Functions, Microsoft has invested in serverless Linux hosting, starting with a private preview of the Consumption plan for Functions built on top of Linux OS, [unveiled in September 2018](#) during Microsoft Ignite.

The public preview of the new support plan is available as of December 4, 2018.

Previously deploying to Linux was supported only while running under App Service plan. This latest enhancement makes possible deploying Azure Functions built on top of Linux OS using the pay-per-execution model (consumption mode), thereby enabling serverless architectures for developers who want to bring their code assets or their pre-built containers to Linux and use them for Functions.

This update gives Linux developers a seamless and natural path to hosting on the platform with the highest affinity to their development stack, while taking full advantage of the serverless benefits.

You can read more about this announcement at the [Microsoft Azure blog](#).

3.6 Python Support in Azure Functions

Azure Functions now supports Python development using Python 3.6 on the cross-platform Functions runtime 2.0 to enable machine learning-related scenarios using a serverless architecture.

Python functions are a natural fit for data manipulation, machine learning, automation and scripting scenarios. Building these scenarios using a serverless architecture can take away the burden of managing the underlying infrastructure, so customers can move faster and focus on solving their business problems.

Customers can now use their Python code and dependencies on Linux-based Functions, or build/publish a Docker container, while enjoying an end-to-end development experience — build, debug/test, publish — using local tooling, such as Functions CLI and Visual Studio Code. This enables new scenarios for developers using Azure Functions, as they can now use Python functions to streamline the data preparation part of machine learning experiments or the inference while consuming already-trained models based on input data.

Microsoft is announcing the public preview of Python support in Azure Functions on December 4, 2018. The [private preview was unveiled](#) in September 2018 during Microsoft Ignite.

You can read more about this announcement at the [Microsoft Azure blog](#).

3.7 Azure Functions Support for JavaScript on its Durable Functions Extension

Durable Functions is an extension of [Azure Functions](#) and [Azure WebJobs](#) that helps customers write stateful functions in a serverless environment. The extension manages state, checkpoints and restarts, freeing up developers for higher value work.

Microsoft announced the [public preview](#) of JavaScript support in Durable Functions in May at Microsoft Build 2018 and are announcing the general availability on December 4, 2018.

Azure Functions will now support orchestration of serverless workflows programmatically using the Durable Functions extension to the Azure Functions runtime, which will support JavaScript in GA to be used for production workloads.

With Durable Functions developers can simplify complex, stateful coordination problems in serverless applications, defining the workflows in code instead of using JSON schemas or any visual designer. With this release we are enabling new scenarios for Node.js and JavaScript developers following some development patterns (such as functions chaining, fan-out/fan-in, or human interaction).

You can read more about this announcement at the [Microsoft Azure blog](#).

3.8 Azure API Management Consumption Tier Public Preview

Azure API Management (APIM), a turnkey solution for publishing APIs to external and internal customers, is now available for public preview in a new consumption-based usage plan called Consumption Tier. This allows APIM to be used in a serverless fashion, with instant provisioning, automated scaling, built-in high availability and pay-per-action pricing.

Microsoft is announcing the public preview on December 4, 2018.

Using APIM on a pay-per-action basis, with dynamically allocated and shared underlying resources, allows customers to take full advantage of Functions and other serverless technologies while paying for only those services that they consume.

This gives customers more flexibility to use APIM to monetize their data and services and open new sales channels, by giving them greater certainty over their budget.

You can read more about this announcement at the [Microsoft Azure blog](#).

RESOURCES

All materials will be live on the influencer microsite at Microsoft Stories

<https://news.microsoft.com/connect-2018>

