

New Azure RTOS collaborations with leaders in the semiconductor industry

IoT is reaching mainstream adoption across businesses in all market segments. Our vision is to enable Azure to be the world's computer, giving businesses real-time visibility into every aspect of their operations, assets, and products. Businesses are harnessing signals from IoT devices of all shapes and sizes, from the very smallest microcontroller units (MCUs) to very capable microprocessor units (MPUs). This presents a great opportunity for collaboration between semiconductor manufacturers with extensive expertise in MCUs/MPUs and Azure IoT, an industry leader in IoT.

It has been nearly one year since we acquired Express Logic and their popular ThreadX RTOS, and last year we announced Azure RTOS that provides customers those capabilities with the leading real-time operating system (RTOS) in the industry. Today, we're announcing additional collaborations with industry leaders, which together represent the vast majority of the market for 32-bit MCUs. Their MCUs are embedded into billions of devices from sensors, streetlights, and shipping containers to smart home appliances, medical devices, and more.

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DEMONSTRATION ONLY



Microsoft (MS)

Stakeholder(s):

Sam George :

Corporate Vice President, Azure IoT

Vision

Businesses have real-time visibility into every aspect of their operations, assets, and products.

Mission

To enable Azure to be the world's computer.

Values

Needs: We continue to work diligently with industry-leaders to create a rich, robust ecosystem that serves the world's unique and diverse needs.

Ideas: Our collective aim is to enable customers to easily bring their ideas to life and truly unlock the opportunities available on the intelligent edge and the intelligent cloud.

Intelligence

Information Streams

Provide access to streams of information coming from IoT devices.

Embedded developers will be able to use Azure RTOS to provide access to streams of information coming from IoT devices ...

1. Applications

Enable development, testing and adaptation of Azure RTOS for specific applications.

As part of this initiative, Microsoft is releasing the full source code for all Azure RTOS components on its GitHub site. This will make it possible for members of developer teams to develop, test and adapt Azure RTOS for the specific applications they are creating, according to the company.

Stakeholder(s):

Developers :

When developers are ready to take their code into production, the production license will be included automatically if they deploy to any of the supported MCU devices from STMicroelectronics, Renesas, NXP, Microchip, or Qualcomm. If they prefer to use a different device in production, they may contact Microsoft for direct licensing details.

STMicroelectronics :

STMicroelectronics (ST), a French-Italian multinational electronics and semiconductor manufacturer headquartered in Geneva, Switzerland, will be including Azure RTOS as middleware for its installed base of 5 billion MCUs.

Renesas

NXP

Microchip :

Chandler, AZ-based Microchip Technology Inc., plans to incorporate support for Azure RTOS and Azure IoT Edge across its products, which include microcontrollers.

Qualcomm :

Qualcomm Technologies Inc., based in San Diego, Calif., plans to incorporate the Microsoft technology into its chips for smartphones and tablets for a host of applications including asset trackers, health monitors, security systems, smart city sensors, smart meters, and wearable devices.

2. Security

Provide protection for the world's computer.

Because IoT devices, data and applications are targets of cybersecurity attacks, Microsoft is incorporating its Azure Sphere IoT security solution for hardware, OS and cloud components, which is designed to provide protection for the world's computer.

Stakeholder(s):

NXP Semiconductors :

NXP Semiconductors, touts itself as "a world leader in secure connectivity solutions for embedded applications, serving customers in the automotive, industrial and IoT, mobile, and communication infrastructure sectors." The Netherlands-based company is collaborating with Microsoft on applications for voice control and machine learning (ML) for edge computing.

Renesas Electronics Corp. :

Renesas Electronics Corp., headquartered in Kyoto, is also stressing the security aspects of Azure RTOS in its MCU and MPU products.

Administrative Information

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