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STMicroelectronics releases software to securely connect IoT devices to Microsoft Azure IoT Hub

New software for powerful STM32H5 MCUs leverages ST's advanced Secure Manager for protected connection to cloud IoT platform

Geneva, Switzerland, September 21, 2023 – STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, has released software that simplifies connecting IoT devices built using the latest high-performing STM32H5 microcontrollers (MCUs) to Microsoft Azure IoT Hub.

ST's STM32Cube expansion package, named X-CUBE-AZURE-H5, consists of a set of libraries and application examples for high-performance microcontrollers of the STM32H5 series, acting as end devices.

The sample application shows secure device-to-cloud connectivity with Azure IoT Hub, including network configuration and data publishing. The application handles Azure® messages, methods, and twin update commands. This solution also leverages ST's embedded security software, Secure Manager, to connect securely the STM32H5 to Microsoft Azure cloud.

"*With its state-of-the-art processor architecture and enhanced security, our STM32H5 is ready to power the next generation of IoT devices,*" said Daniel Colonna, STM32 Marketing Director, STMicroelectronics. "*By using the STM32Cube reference implementation, developers can take advantage of the powerful services offered by the Azure IoT Hub to transform the data collected from their devices into actionable insights. This can help them make informed decisions, optimize their operations, and improve their products and services.*"

"*With the STM32H5 chip's advanced security features, it simplifies the process for developers to securely provision and manage high-performance IoT devices, ensuring secure device-to-cloud connectivity with Azure IoT Hub,*" said Kam VedBrat, General Manager, Azure IoT at Microsoft Corp.

STM32H5 MCUs are programed in ST's own factory to give each one its own unique identity. The identity is managed by Secure Manager and allows smart devices to be easily and economically registered with Azure IoT Hub without needing to keep their identities secret during object production.

Devices in production, as well as those in the field, can also benefit from remote provisioning and administration of credentials via third-party service providers. Secure Manager stores the credentials needed to connect to Azure IoT Hub, as well as other device secrets and assets, within the STM32H5 MCU.

Secure Manager provides isolation properties that facilitate protecting the intellectual property of multiple owners on the same platform, also known as multitenant IP protection. From development to manufacturing and when deployed in the field, every aspect of protecting the confidentiality and integrity of these important assets contributed by developers and partners is covered.

This also works well with use cases that involve AI inference, where models are running on edge devices with the benefit of protection by ST's Secure Manager while training and secure updating are handled via the cloud. The STM32Trust TEE Secure Manager simplifies the implementation of strong security.

The combination of ST's STM32Cube Ecosystem and STM32H5 microcontrollers gives developers a powerful and secure platform on which to build IoT applications that meet applicable regulations and standards. The STM32H5 series, introduced in March 2023, are the first STM32 MCUs to support ST's Secure Manager. The devices target PSA Certified level 3 and SESIP3 certifications.

X-CUBE-AZURE-H5 is ready to download now.

For more information, please go to https://www.st.com/x-cube-azure-h5

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About STMicroelectronics
At ST, we are over 50,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An integrated device manufacturer, we work with more than 200,000 customers and thousands of partners to design and build products, solutions, and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world. Our technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of the Internet of Things and connectivity. We are committed to achieving our goal to become carbon neutral on scope 1 and 2 and partially scope 3 by 2027. Further information can be found at www.st.com.

For Press Information Contact:

Michael Markowitz
STMicroelectronics
Tel: +1 781 591 0354
Email: michael.markowitz@st.com