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Avnet Exec. Predicts “Rebirth” of Microcontroller

Terms:

Growth of microcontroller adoption in IoT is breathing new life and strategic value into MCU market

In a recent ECN magazine 2018 Tech and Engineering Predictions [1]article, Avnet’s Vice President, Engineering and Technology Jim Beneke discusses how Arm, Ltd.’s move to split MCU technology into two distinct categories – A-class Application processors and M-class Microcontroller processors – set the stage for what he sees as a “re-birth” in microcontroller technology.

He explains: “With this split came a divide in software and how it was targeted at these two different processor classes. Application processors gained the support of more robust and commercialized operating systems, namely Linux, Windows and Android. With the growth of the Internet of Things, embedded systems based on application processors could leverage the wealth of drivers, libraries and stacks that these operating systems provided. This resulted in easier, quicker and more secure implementation of IoT solutions that targeted application processors.”

While using available microcontroller operating systems or bare metal code has been challenging for designers implementing various connectivity protocols, communication stacks, and security features required for IoT solutions, the answer to this technical dilemma, according to Beneke, has come in the form of more packaged open-source operating systems targeting microcontrollers, such as the Mbed OS developed by Arm, which specifically targets its 32-bit Cortex-M microcontrollers cores.

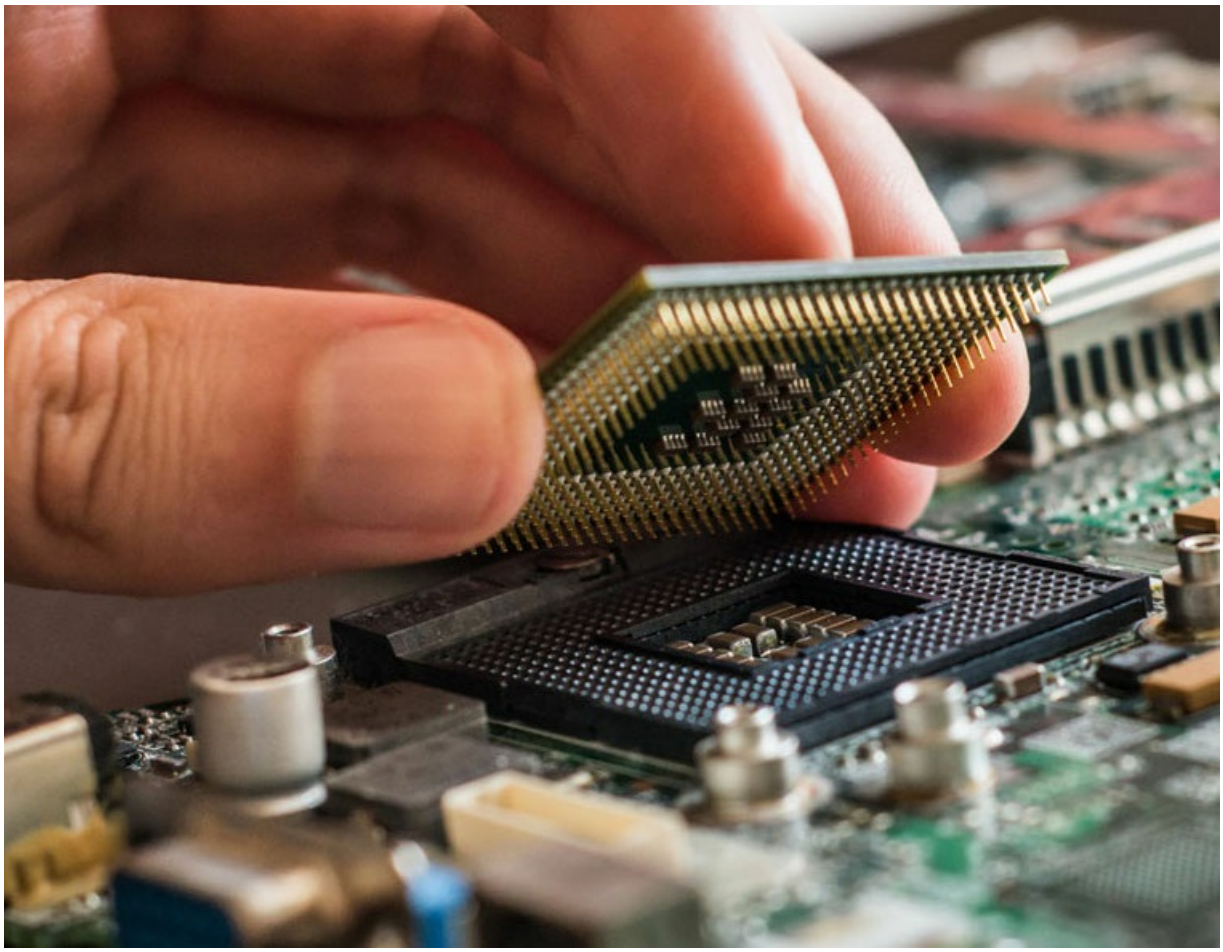
“The recent announcement from Amazon Web Services (AWS) pronouncing their support of an enhanced FreeRTOS that includes built-in connectivity capabilities to AWS IoT cloud services, seems to signal that the momentum of this OS solution is building,” he said. “I expect we will see other cloud vendors follow suit in hopes of making it easier for IoT developers to connect their billions of microcontroller-based sensors and edge devices to cloud systems.”

An added benefit of this approach is the more robust security that operating systems like Windows and Linux can bring to microcontrollers in IoT-enabled systems, Beneke concluded. “The ability to bolster security with microcontrollers will fuel a continued growth of microcontroller adoption in the IoT, breathing new life and strategic value into the microcontroller market for years to come.”

To read the full text of the ECN 2018 Tech And Engineering Predictions article, click here [2]. Learn more about processing technology solutions from Avnet at https://www.avnet.com/wps/portal/us/solutions/technologies/processing/ [3]. Search the more than 34,000 MCUs components and solutions available from Avnet at https://www.avnet.com/shop/us/c/microcontrollers [4]

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