Open standard IoT platform

The recent Embedded World event in Nuremberg saw the unveiling of the M2.COM Internet of Things sensor platform. By **Graham Pitcher**.

According to its creators – Advantech, ARM, Bosch, Texas Instruments and Sensirion – M2.COM is an evolutionary module technology designed specifically for IoT sensors and devices. With networking, computing and data collection features on one module, M2.COM is intended to help transform obsolete applications into IoT generation solutions. The partners say the modular design makes the concept flexible enough to support different applications and to meet the changing demands of the IoT world.

Miller Chang, VP of Advantech's Embedded Computing Group, said: "Data collection will be one of the main challenges for IoT. Sensors, wireless technology and embedded computing will be the three major core abilities for data acquisition and that's the reason Advantech worked closely with industrial partners to define the M2.COM open standard. With this standardisation, we envision M2.COM will accelerate IoT sensor device deployment."

M2.COM is said to support all the necessary software stacks needed to build IoT sensor devices. Devices built using the M2.COM standard will be able to take advantage of ARM's mbed operating system, as well as multiple IoT communication protocols, including LWM2M, OSGI, AllJoyn and MQTT. Using the modular format, say the collaborators, data can be acquired quickly and transformed into a format suitable for use by cloud service providers.

Zach Shelby, vice president of marketing with ARM's IoT business, noted: "The ARM mbed OS provides the perfect foundation for this new format, supporting the needed communication protocols and formats to securely and easily integrate M2.COM based sensor devices with IoT cloud applications."

The M2.COM platform (see fig 1) is based on the type 2230 M.2 form factor. With a 75 position host interface connector, the module measures 30mm long and 22mm wide, said to be helpful for implementing microsensors and for system integration.

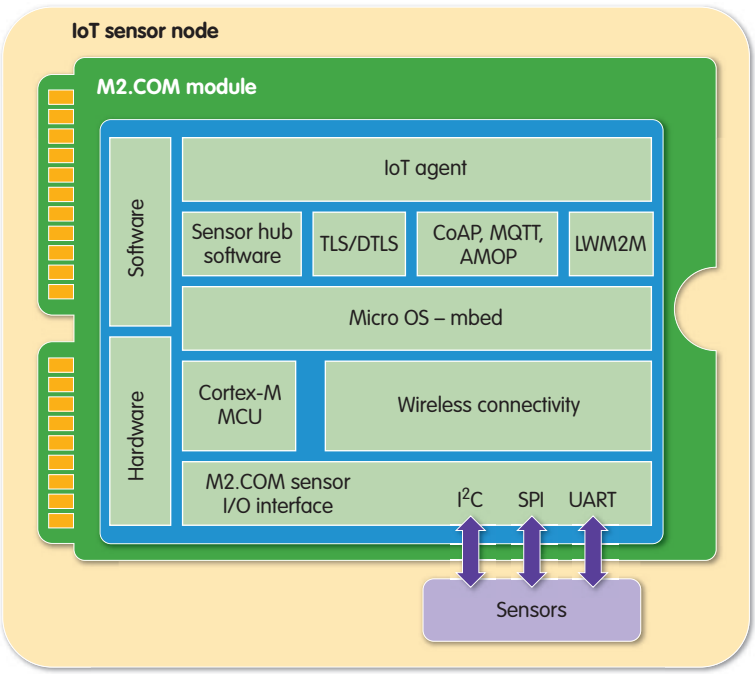

Fig 1: Based on the M.2 form factor, M2.COM modules have a 75 position interface connector

SEPARATE PLATFORM AND CARRIER

The partners claim a standard module form factor for sensors and sensor nodes will benefit a range of interested people, including sensor makers, module makers and sensor integrators. Instead of putting all functionality into one sensor, the M2.COM platform and a sensor carrier board can be developed separately, allowing sensor developers to select the most appropriate way to transmit data. Module makers, meanwhile, can develop M2.COM modules that support a variety of sensors.

Potential applications for the M2.COM approach include indoor and outdoor wireless sensors and intelligent wireless controllers.

"In order to accelerate the change and new business opportunities created by the IoT, it's important to have a platform that saves development time and cost with a standardised sensor interface, like M2.COM, where developers can connect anything anywhere," said Olivier Monnier, Texas Instruments' marketing director for wireless connectivity solutions/IoT. "By leveraging TI's SimpleLink Wi-Fi CC3200 wireless microcontroller, M2.COM IoT developers have access to award winning hardware that will enable them to get their design to market quickly and easily."

▪ **For more on the concept, go to www.M2COM-standard.org**