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## **FH MONDAY**

NYU Abu Dhabi Chip Processes Encrypted Data Researchers at NYU Abu Dhabi (NYUAD) have designed a co-processor that relies on partially homomorphic encrypted (PHE) execution, enabling it to perform computations directly on encrypted data.Processors

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### HP, Dell Reportedly Shifting Manufacturing From China

SAN FRANCISCO — PC heavyweights HP and Dell are looking to move substantial production capacity out of China amid a bitter trade war between the U.S. and China, according to a report by the Nikkei news service, which cites unnamed sources.

Fellow tech giants Microsoft, Amazon, Google, Nintendo, and Sony are also looking to shift production of game consoles and smart speakers out of China, according to the report. Other PC OEMs, including Lenovo, Acer, and Asustek Computer, are also studying plans to shift manufacturing.

The implication is that high-tech companies are moving production of goods headed for the U.S. market out of China to avoid the tariffs imposed on Chinese imports by the Trump administration. The Nikkei report quotes an unnamed supply-chain executive who said that the industry consensus is to move about 30% of production out of China, depending on how important the U.S. market is to the particular company

#### Next Gen Race Car Pushes Formula E

Against the backdrop of one of the most famous venues in motorsport, the notorious Monte Carlo street circuit, the Formula E electric vehicle championship last month showed off just how far the teams, drivers, and technology have come since the series started in 2014. It is essentially a technology competition, showcasing the cutting edge of electric vehicle powertrain technology that will eventually end up in all electric cars.

EE Times Europe visited the Venturi garage, where the home team was preparing its vehicle for the race. A different team had won each of the preceding eight races of the season, and with less than a second separating all the teams in qualifying, anything was possible. It was, and still is, an extremely exciting time for the championship.

#### NYU Abu Dhabi Chip Processes Encrypted Data

Researchers at NYU Abu Dhabi (NYUAD) have designed a co-processor that relies on partially homomorphic encrypted (PHE) execution, enabling it to perform computations directly on encrypted data.

Processors in PCs and smartphones currently compute on ordinary, unencrypted data only. The new processor, CoPHEE, mitigates data leakage and limits threats and vulnerabilities from hackers, by computing directly using encrypted data without decryption.

The project is led by NYUAD assistant professor of electrical and computer engineering Michail Maniatakos, with contributors including research engineers at NYUAD's center for cyber security (NYUAD CCS) Mohammed Nabeel and Mohammed Ashraf, NYUAD CCS post-doctoral associate Eduardo Chielle, and NYU alumni and assistant professor of electrical and computer engineering at the University of Delaware, Nektarios Tsoutsos. The project is funded by GlobalFoundries, which is owned by Mubadala, an investment firm based in Abu Dhabi.

#### IoT Nets in Two-Horse LPWAN Race

SAN JOSE, Calif. — LoRa and cellular's Narrowband-IoT (NB-IoT) are far ahead of a pack of low-power wide-area networks (LPWANs) staking out early design wins in the internet of things. The LTE-M version of 4G cellular is a distant third, and Sigfox trails, according to a new report from IHS Markit.

The report suggests that a once wide-open field is beginning to narrow significantly. However, it's still early days. IHS estimated that just 150 million LPWAN links were deployed in 2018, a figure that it expects to expand at a 63% compound annual growth rate to hit 1.7 billion links by 2023.

It's also worth noting that some alternatives are just emerging from the lab. For example, multiple vendors are shipping their first chips this year for a 900-MHz version of Wi-Fi called HaLow that's expected to hold significant promise for long-range connections. And last year, research institute CEA-Leti announced early work on a new option based on a patented Turbo-FSK waveform.

#### Xilinx Ships First Versal Devices for AI, 5G

LONDON — Xilinx has shipped the first Versal devices to select customers as part of its early access program, a milestone for the company's heterogeneous compute architecture. Versal devices use Xilinx's adaptive compute acceleration platform (ACAP), part of the company's strategy for modern workloads including high speed networking, 5G, and artificial intelligence (AI).

Xilinx has shipped its first Versal ACAP device (Source: Xilinx)

"Having our first Versal ACAP silicon back from TSMC ahead of schedule and shipping to early access customers is a historic milestone and engineering accomplishment," said Victor Peng, president and CEO of Xilinx, in a statement. "It is the culmination of many years of software and hardware investments and everything we've learned about architectures over the past 35 years.