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NXP Seeks 'Edge' vs. Intel, Cavium

TOKYO — As the lines begin to blur between cloud and edge computing, NXP Semiconductors is racing to offer the highest performance SoC of the company's Layerscape family.

The new chip, LX2160A, can offload heavy-duty computing done at data centers in the cloud, enabling the middle of the network — typically, service operators — to execute network virtualization and run high-performance network applications on network equipment such as base stations.

Toby Foster, senior product manager for NXP, told us that his team developed the new high-performance chip with three goals in mind. They sought first to enable new types of virtualization in the network, second to achieve new heights of integration and performance at low power featuring next-generation I/Os, and third, to double the scale of virtual network functions and crypto, compared to NXP's previous Layerscape SoC (LS2088A), while maintaining low power consumption.

Foxconn Nudges Sharp Into 'Post-LCD' Era

Under the Taiwanese ownership, Sharp's LCD research engineers aren't just surviving but having a second wind. But their focus is no longer on 8K.

After Foxconn's $3.5 billion takeover of Sharp last year, how are the Japanese LCD giant's engineers and researchers faring? If they haven't already defected, how are they coping with change? Are they demoralized as their Taiwanese owner reportedly clamps down on Japanese spending habits?

I talked with R&D engineers at Sharp's booth during CEATEC Japan (Japan's equivalent to Consumer Electronics Show) this week, and was pleasantly surprised to find them not just surviving but rather invigorated.

TSMC Aims To Build World's First 3-nm Fab

TAIPEI — Taiwan Semiconductor Manufacturing Co. (TSMC) will build the world's first 3-nm fab in the Tainan Science Park in southern Taiwan, where the company does the bulk of its manufacturing.

The announcement lays to rest speculation that the company might build its next chip facility in the U.S., attracted by incentives offered by the administration of President Donald Trump to bring more manufacturing to America.

About a year ago, TSMC said it planned to build its next fab at the 5-nm to 3-nm technology node as early as 2022. The more recent one-paragraph announcement from TSMC on Sept. 29 didn't provide a timeframe for the opening of the 3-nm fab.

WD Gives Hard Drives New Spin

SAN JOSE, Calif. – Western Digital demonstrated a new technology for recording heads it claims will keep hard disk drives spinning for years to come. It will ship by mid-2019 drives using microwave-assisted magnetic recording (MAMR), a technology it expects can lead to 40 TByte drives by 2025.

The technique was born in a Carnegie Mellon lab in 2006. WD struggled for years to implement the technique until two years ago when a researcher at the former IBM plant here where the hard drive was born had an "a-ha moment" that paved the way to commercial products.

Today, WD believes MAMR should enable 15 percent declines in terabytes/dollar on hard drives through 2028. The company showed a working prototype at its headquarters here, promising engineering samples of a 14+ TByte drive by mid-2018 and production drives a year later.

Nvidia Outpaces Intel in Robo-car Race

MADISON, Wis. — Nvidia pushed the computational performance battle for autonomous cars to a new level, unveiling a new member of its Drive PX family, codenamed Pegasus, at its own GPU Technology Conference in Munich.

Noting that Pegasus can compute 320 trillion operations per second, CEO Jensen Huang boasted, "Our new DRIVE PX Pegasus AI computer — roughly the size of a license plate — can replace the entire trunk full of computing equipment used in today's Level 5 autonomous prototypes… DRIVE PX Pegasus has the AI performance of a 100-server data center."

Nvidia's Pegasus reportedly comes with a four-chip architecture featuring the equivalent of two Xavier units, plus two next-generation discrete GPUs.

Although computational power alone can't solve all the challenges still posed by Level 5 autonomous cars, Nvidia appears to have edged ahead of its rivals.