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Intel Refreshes Desktop CPUs

SAN JOSE, Calif. — Intel refreshed its line of desktop PC processors with six chips made in its 14-nm++ process. Reviewers said that the eighth-generation Intel Core CPUs nudge the x86 giant ahead of rival Advanced Micro Devices despite their lack of significant changes in architecture or process technology.

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SAN FRANCISCO — Programmable logic vendor Xilinx Inc. and the venture capital arm of Samsung Electronics were among a handful of firms to provide $9.5 million in funding to Efinix, a developer of silicon-based programmable product platforms based in Silicon Valley.

Efinix (Santa Clara, Calif.), founded in 2012, has raised a total of $16 million. The company says its Quantum programmable technology delivers a four-fold power, performance and area advantage over traditional technologies. The technology is based on what Efinix calls an XLR (exchangeable logic and routing) cell that can function as either a look-up table (LUT)-based logic cell or routing switch encoded with a scalable, flexible routing structure.

According to Efinix, this technology improves the active area utilization by 4X compared with traditional FPGAs, resulting in up to 4X area efficiency and 2X power consumption advantage

Averna, PTC Bring Test & IoT To Manufacturing

Boston — Test-system integration and National Instruments Alliance partner Averna is expanding its reach from test into manufacturing through IoT by teaming up with PTC, Boston-based producer of manufacturing software ThingWorx.

Based in Montreal, Averna's hardware for testing components and systems will now extend ThingWorx to cover manufacturing of electronic components, subsystems, and systems. Averna has long specialized in RF testing. Adding Averna's sensor, measurement, and test experience to ThingWorx extends the software by adding test data to manufacturing data through the use of IoT devices. The agreement will make Averna a ThingWorx Platinum Partner.

5G Sprint Led by Marathon Man

SAN JOSE, Calif. — Wanshi Chen is on the hot seat for 5G.

The chairman of the 3GPP's RAN1 committee is tasked with delivering by the end of the year a draft for the next-generation cellular radio. The spec will form the blueprint for silicon needed to make the first standard 5G connection.

On one side, carriers and their vendors are calling for the specs ASAP so they can test and launch 5G services as early as next year. On the other side, as many as 800 engineers are showing up at meetings of Chen's group, submitting as many as 3,000 proposals per meeting in hopes of getting a feature in the spec.

"Some sessions have run as late as 1 a.m., but a typical day is 12 hours," said Chen, a principal engineer at Qualcomm who was elected chair of RAN1 in August after nine years attending meetings, four of them as a vice chair.

IBM Uses Deep Learning to Train Raspberry Pi

TORONTO — Computations requiring high performance computing (HPC) power may soon be done in the palm of your hand thanks to work done this summer by IBM Research in Dublin, Ireland.

While scientists have come a long away in teaching machines how to process images for facial recognition and understand language to translate texts, IBM researchers focused on a different problem: how to use artificial intelligence (AI) techniques to forecast a physical process. In this case, the focus was on ocean waves, using traditional physics-based models driven by external forces, such as the rise and fall of tides, winds blowing in different directions, the depth and physical properties of water influence the speed and height of the waves.

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SAN JOSE, Calif. — Intel refreshed its line of desktop PC processors with six chips made in its 14-nm++ process. Reviewers said that the eighth-generation Intel Core CPUs nudge the x86 giant ahead of rival Advanced Micro Devices despite their lack of significant changes in architecture or process technology.

The so-called Coffee Lake chips arrive seven months after AMD started shipping its most competitive new line of PC processors in years. Although the PC market has generally been in decline over the last several years, PC sales have been on the rebound recently.

A new high-end desktop product, the Intel Core i7-8700K, runs at up to 4.7 GHz, the highest frequency ever for the company. Separately, Intel packed six and four cores in its mid-range and low-end parts that used to sport four and two cores, respectively. However, the low-end CPU no longer supports dual threading.

Overall, "clock speeds don't change much, and in fact, base clock speeds dropped in some cases," said Kevin Krewell, analyst with Tirias Research. "Single-threaded applications can see small performance increases when the boosted clocking is engaged … [and] the extra cores will help threaded applications perform better."