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Intel Brings AI Everywhere Across Network, Edge, Enterprise

At MWC 2024, more than 65 of Intel's leading customers and partners showcase systems and solutions across new hardware, software and services for modernizing and monetizing future infrastructure.

NEWS HIGHLIGHTS

- Intel announced its future Intel® Xeon® processor with built-in AI acceleration, code-named Granite Rapids-D, and highlighted first-call validation with key partners.
- Intel, in collaboration with 5G core software suppliers, previewed its next-gen Intel Xeon processor for 5G core, code-named Sierra Forest, demonstrating a 2.7x performance per rack improvement[1].
- Intel announced Intel's Edge Platform, a modular and open software platform that enables enterprises to build, deploy, run, manage and scale edge and AI solutions on standard hardware with cloud-like simplicity.
- Intel will announce extended benefits of the AI PC to commercial designs with the new Intel vPro® platform, on day two of MWC 2024.

BARCELONA, Spain--(BUSINESS WIRE)-- At MWC 2024, Intel announced new platforms, solutions and services spanning network and edge AI, Intel® Core™ Ultra processors and the AI PC, and more.

In an era where technological advancements are integral to staying competitive, Intel is delivering products and solutions for its customers, partners and expansive ecosystem to capitalize on the emerging opportunities of artificial intelligence and built-in automation, to improve total cost of ownership (TCO) and operational efficiency, and to deliver new innovations and services.

More: Intel Announces New Edge Platform for Scaling AI Applications| Intel Unleashes 2.7x Performance per Rack Improvement for 5G Core | Intel at MWC Barcelona 2024 (Press Kit)

Across today's announcements, Intel is focused on empowering the industry to further modernize and monetize 5G, edge and enterprise infrastructures and investments, and to take advantage of bringing AI Everywhere. For more than a decade, and alongside Intel's customers and partners, the company has been transforming today's network infrastructure from fixed-function to a software-defined platform and driving success at the edge with more than 90,000 real-world deployments[2].

"Intel is delivering innovations for our partners and their customers across network, edge and enterprises to modernize their networks, monetize new services at the edge, and bring AI everywhere," said Sachin Katti, senior vice president and general manager of the Network and Edge Group at Intel. "Intel's network- and edge-optimized SOC strategy uniquely

integrates general purpose compute and acceleration for networking, AI and vRAN workloads, and we are announcing market-leading next generation products for 5G core with Sierra Forest and 5G vRAN with Granite Rapids-D."

Utilizing Built-in AI Acceleration, Intel Spearheads the Future of Modern Network Innovation

Announced last year, 4th Gen Intel® Xeon® processors with Intel® vRAN Boost (code-named Sapphire Rapids EE) deliver up to twice the capacity[3] for virtual radio access network (vRAN) workloads compared with the previous generation. The capacity increase allows operators to double their number of cell sites or subscribers while providing an additional 20% reduction[4] in vRAN compute power consumption by removing the need for external acceleration to reduce system complexity and costs.

Further extending its vRAN leadership, while driving down vRAN costs and power consumption and delivering it at a global scale, Intel announced its future Xeon processor Granite Rapids-D, featuring the latest generation of P-cores. This future processor will deliver significant gains in performance and power efficiency utilizing improved Intel AVX for vRAN and integrated Intel vRAN Boost acceleration alongside other architectural and feature enhancements. Silicon is currently sampling. Samsung has demonstrated a first-call at their research and development lab in Suwon, South Korea. Ericsson has also demonstrated a first-call validation in the Ericsson-Intel joint lab in Santa Clara, California. These accomplishments underscore the ease of gen-over-gen software portability and ecosystem readiness when the product launches. Intel is also working with Dell Technologies, Hewlett Packard Enterprise (HPE), Lenovo, Mavenir, Red Hat, Wind River and other leading ecosystem partners to ensure market readiness. Granite Rapids-D is planned to launch in 2025, following the launch of Granite Rapids server CPUs in 2024.

Artificial intelligence will play a pivotal role in helping operators optimize the performance, efficiency and intelligent management of resources in the evolving vRAN environment. To help operators and developers build, train, optimize and deploy AI models for vRAN use cases on general purpose servers in their existing network footprint, Intel is introducing early availability of the Intel® vRAN AI Development Kit to select partners. Built on Intel AI-optimized libraries, frameworks and tools, the optimized AI models in the development kit, when combined with 4th Gen Intel Xeon processors' built-in AI acceleration, power management and enhanced telemetry capabilities, offers potential for operators to reconfigure their network dynamically to conceivably save costs, extract more value from infrastructure and support new revenue streams. Intel is working with AT&T, Deutsche Telekom, SK Telecom and Vodafone to showcase the benefits AI can bring to the RAN.

Innovating in 5G Core Performance and Power Savings

Intel architecture is the backbone of cloud-native, software-defined core networks around the world, with most virtualized network servers running on Intel CPUs. As the primary choice for operators, equipment builders and software providers, Intel Xeon platforms have set the bar in commercial deployments for 5G core performance with superior TCO and comprehensive power management – all delivered via a world-class ecosystem.

For operators, the company today previewed its next-gen Intel Xeon processor Sierra Forest that will launch later this year to expand Intel's CPU roadmap by offering up to 288 Efficient-

cores (E-cores) on a single chip. It is well-suited for 5G core workloads to advance network core performance and power savings. By utilizing Intel's latest E-core technology, operators will recognize greater energy and cost savings, driving to a 2.7x performance per rack improvement[1] and industry-leading performance per rack for 5G core workloads.[5]

Operators and ecosystem partners – including BT Group, Dell Technologies, Ericsson, HPE, KDDI, Lenovo, and SK Telecom – are also showing interest in this ground-breaking next-gen platform, which is optimized for high performance per watt, core density and throughput.

For additional power savings and energy efficiency, Intel announced broad availability and industry adoption for the Intel® Infrastructure Power Manager software for 5G core, with Casa Systems, NEC, Nokia, and Samsung planning to deliver in 2024. Intel Infrastructure Power Manager enables operators to take advantage of the built-in telemetry of Intel Xeon processors to reduce CPU power by an average of 30% while maintaining key telco performance metrics[6]. Multiple operators are exploring lab trials for delivering carbon offset and TCO savings.

The Right Platform is Everything for Scaling AI and Edge Solutions

At the edge, enterprises want to innovate, be efficient and improve time to market by delivering new intelligent services. They are starting to leverage the tremendous amount of data they generate at the edge to achieve enhanced customer experience, scale operations through automation while being price-competitive, and dealing with the impacts of labor shortages. This is driving a tremendous new opportunity for edge AI.

Intel is leveraging its expansive installed base and deep expertise from more than 90,000 edge deployments today with a footprint spanning more than 200 million processors sold in the past 10 years[2] to help customers quickly and efficiently take advantage of the edge AI opportunity.

Announced today, Intel's Edge Platform has unique capabilities, including support for heterogeneous components for lower TCO and zero-touch, policy-based management of infrastructure and applications, and AI across a fleet of edge nodes with a single pane of glass. Additionally, AI runtime with OpenVINO™ inference is built-in to enable real-time AI inferencing optimization and dynamic workload placement within the infrastructure software for application deployment.

As an evolution of the solution first introduced at Intel Innovation 2023 under the code-name Project Strata, Intel's Edge Platform will be generally available later this quarter, with some partners and end users already taking advantage of its offerings. In support of Intel's Edge Platform, Intel is working across the ecosystem and with industry leaders such as Amazon Web Services, Lenovo, L&T Technology Services, SAP, Red Hat, Vericast, Verizon Business and Wipro.

Delivering the Best AI PC Experience for Businesses of All Sizes

On day two of MWC 2024, Intel and Microsoft will host an AI PC industry reception at the Intel booth. Watch the Intel Newsroom for details.

Delivering Choice in Acceleration

For emerging spaces where protocols and use cases are still being defined – like vRAN, OpenRAN, 6G and AI – FPGAs enable first-to-market advantages and deliver maximum flexibility with dynamic, low-power, low-latency, high-throughput solutions. Intel's Programmable Solutions Group (PSG) will launch two new radio macro and mMIMO Enablement Packages as well as Intel® Precision Time Protocol Servo, which allows customers to implement any timing configuration based on the 1588 timing precision protocol to synchronize devices in the Radio Access Network.

Additionally, the now standalone Programmable Solutions Group will conduct a business vision and strategy webinar on Feb. 29. Watch the Intel Newsroom for details.

Visit the Intel Booth at MWC 2024 (Hall 3, Booth 3E31), and don't miss the Technology Showcase to see firsthand the latest partner innovations, including:

- Creating modern networks of the future to deliver peak performance and power savings.
- Scaling AI across vertical industries to drive better business outcomes.
- Delivering the AI PC with new features and manageability for organizations of all sizes.

About Intel

Intel (Nasdaq: INTC) is an industry leader, creating world-changing technology that enables global progress and enriches lives. Inspired by Moore's Law, we continuously work to advance the design and manufacturing of semiconductors to help address our customers' greatest challenges. By embedding intelligence in the cloud, network, edge and every kind of computing device, we unleash the potential of data to transform business and society for the better. To learn more about Intel's innovations, go to newsroom.intel.com and intel.com.

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[1] Based on estimated architectural projections as of Feb. 14, 2024, vs. prior generation platforms as of 2021. Your results may vary.

[2] Internal Intel data.

[3,4] For workload configurations, visit www.Intel.com/PerformanceIndex (4th Gen Intel Xeon Scalable processors). Results may vary.

[5] Based on Intel analysis and publicly available data as of Feb. 20, 2024.

[6] Tested by Intel as of 01/26/23. One node, 2x Intel® Xeon® Gold 6438N CPU, 32 cores, Intel® Hyper-Threading Technology enabled; Intel® Turbo Boost Technology disabled; total memory 512 GB (16x 32 GB DDR5 4800 MT/s [4000 MT/s]); BIOS EGSDCRB1.SYS.0090.D03.2210040200; microcode 0x2b0000c0; 2x Intel E810-2CQDA2 (CVL, Chapman Beach, Total – 4x100G ports); 1x 223.6G INTEL SSDSC2KB240G8; 1x 745.2G INTEL SSDSC2BA800G3, Ubuntu 22.04 LTS, 5.15.0-27-generic; GCC 7.5.0; DPDK 22.11.

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