

Press Release

Socionext Announces Collaboration with Arm and TSMC on 2nm Multi-Core Leading CPU Chiplet Development

Next-Generation Compute Chiplet-based Proof-of-Concept Leverages Arm Neoverse CSS Technology and TSMC Silicon Process Along with Advanced Packaging Technology

[Yokohama, Japan October 18, 2023] --- Socionext today announced a collaboration with Arm and TSMC for the development of an innovative power-optimized 32-core CPU chiplet in TSMC's 2nm silicon technology, delivering scalable performance for hyperscale data center server, 5/6G infrastructure, DPU and edge-of-network markets.

This advanced CPU chiplet proof-of-concept using Arm® Neoverse™ CSS technology is designed for single or multiple instantiations within a single package, along with IO and application-specific custom chiplets to optimize performance for a variety of end applications.

Leveraging CPU chiplets, and customized application-specific chiplets, multiple target applications can be supported. When new chiplets become available, a cost-effective package level upgrade path can be supported.

"Socionext is a leading provider of custom SoCs for global hyperscale data center, automotive and networking customers. Driven by commercial and time-to-market benefits, there is a growing customer demand for granular compute power. Leveraging silicon re-use to create multiple product platforms enables innovative system architectures. With leading silicon node enablement and our partnership with Arm, we are designing and delivering highly integrated large scale silicon solutions to global customers," said Hisato Yoshida, Corporate Executive Vice President and the Head of Global Development Group at Socionext. "This chiplet complements our customers' current SoC designs and provides system architects new degrees of freedom to deliver many platform variants for a product family."

"Arm Neoverse CSS is unlocking greater accessibility to custom silicon and driving innovation across the chiplet ecosystem," said Mohamed Awad, senior vice president and general manager, Infrastructure Line of Business, Arm. "The advanced chiplet proof-of-concept from Socionext is demonstrating what is possible through Arm Total Design and will accelerate the path to custom, workload-optimized solutions for our broader ecosystem."

Harnessing the power of the ecosystem in the era of custom silicon on Arm
<https://www.arm.com/company/news/2023/10/arm-total-design-ecosystem>

"TSMC is pleased to support Socionext and Arm's flexible chiplet design with the outstanding performance, form factor and energy efficiency offered by our 2nm technology, as well as our comprehensive ecosystem to accelerate time-to-market of customer product innovations," said Dr. Cliff Hou, Senior Vice President of Corporate Research/Research and Development at TSMC. "We have worked with Socionext across many generations of our leading-edge technology, and look forward to extending this collaboration into the 2nm generation."

Press Inquiry:

Socionext Inc. <https://www.socionext.com/en/contact/>

About Socionext Inc.

Socionext Inc. is a global SoC (System-on-Chip) supplier and a pioneer of a unique “Solution SoC” business model through decades of industry experience and expertise. Socionext contributes to global innovation in advanced technologies including automotive, data center, networking, and smart devices. As a trusted silicon partner, Socionext delivers superior features, performance, and quality that differentiate its customers’ products and services from their competition.

Socionext Inc. is headquartered in Yokohama, and has offices in Japan, Asia, United States and Europe to lead its development and sales activities. For more information, visit <https://www.socionext.com/en/>.

About TSMC

TSMC pioneered the pure-play foundry business model when it was founded in 1987 and has been the world’s leading dedicated semiconductor foundry ever since. The Company supports a thriving ecosystem of global customers and partners with the industry’s leading process technologies and portfolio of design enablement solutions to unleash innovation for the global semiconductor industry. With global operations spanning Asia, Europe, and North America, TSMC serves as a committed corporate citizen around the world.

TSMC deployed 288 distinct process technologies and manufactured 12,698 products for 532 customers in 2022 by providing broadest range of advanced, specialty, and advanced packaging technology services. The Company is headquartered in Hsinchu, Taiwan. For more information, please visit <https://www.tsmc.com>.

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