ELEVATING RISC-V TO WORLD CLASS PERFORMANCE LEVELS

Akeana is an industry leader in ultra high-performance RISC-V processors, enabling customers' next generation computation SoCs. Akeana offers customers a complete solution with a broad range of processors, System IP blocks, and advanced Coherent and Non-Coherent Interconnect IP solutions. This allows customers to not only benefit from processor performance uplift, but also optimized coherent multi-core scalability (up to hundreds of cores). Akeana provides the full range of IP blocks, allowing customers to quickly, with minimal risk, integrate that IP into their SoC.

Akeana's team of veteran microprocessor designers worked together on multiple industry leading processors, such as the ThunderX2 server chip, and have leveraged their vast experience to implement a portfolio of compute IP the right way. Akeana's IP offerings enable the creation of a broad, customizable range of processors, along with fully integrated verification and documentation. Akeana holds seats on the RISC-V International Board of Directors and Technical Steering Committee and is an active member of the RISC-V Software Ecosystem (RISE) Project.

Unbeatable Performance and Features

Akeana prioritizes highest performance and robust feature set. It brings top of the line security, RAS, telemetry, debug features, and power management to its advanced cores with either In-Order or Out-of-Order microarchitectures. Akeana's highest end processor delivers leading-edge SPEC benchmark performance.

Scaling Performance with Multi-core Interconnect Fabrics

Akeana offers customers interconnect fabrics for non-coherent and coherent multi-core systems. The coherent fabric implements AMBA CHI and scales up to 100s of coherent connected processors. Coherent fabric is supported with fabric blocks allowing customers to quickly build up their multi-core systems.

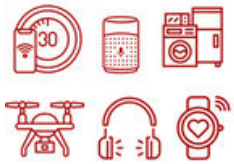
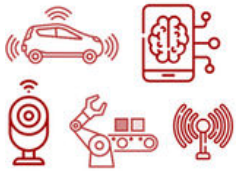
Customizable IP

Highly customizable processor and system IP allows you to meet your computation and bandwidth requirements. Configure existing product IP or fully customize your own Core and System IP. Akeana IP blocks are fully verified and supported by our software development kits.

Widest Market Application

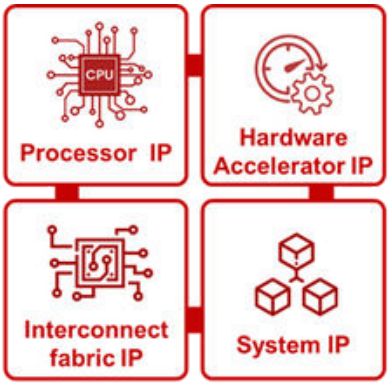
We provide you with a wide range of processor and system IP to cover an extensive range of applications. Solutions range from microcontrollers to processors for automotive, mobile computing, datacenters, cloud, hyperscale systems, and more.

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Akeana 100 Series Microcontroller, Embedded 2GHz fmax 4 to 9.5 CoreMark/MHz	**32-bit, PMP, 32-bit Physical Addressing, Single to Dual issue, In-Order, 4- to 9-stage pipeline, L1, L2 Caching, ICCM, DCCM**	**Equivalent to ARM Cortex-M and Cortex-R** 
Akeana 1000 Series Consumer, Automotive >2 GHz fmax 5 to 18 SpecINT2K6/GHz	**64-bit, MMU, 39-bit addressing, 1- to 4-wide issue In-Order cores with 5-stage to 9-stage pipeline, Optional 12-stage Out-of-Order, L1, L2 Caching, AI Acceleration, Vector Extension (up to 512 bits), Multi-Threaded (up to 4 threads)**	**Equivalent to ARM Cortex-A and Neoverse N1** 
Akeana 5000 Series Mobile / Data Center, Ultra Performance 3 GHz fmax 20 to 25 SpecINT2K6/GHz	**64-bit, MMU, 48-bit addressing, 6-wide to 10-wide issue Out-of-Order, 12-stage pipeline, L1, L2 Caching, AI Acceleration, Vector Extension (up to 512 bits), Multi-Threaded (up to 4 threads)**	**Equivalent to ARM Neoverse N2, X-Series** 

Akeana Provides All the Processor System IP Needed

Akeana is your single-point solution for semiconductor computer system IP, including the fullest available range of processors, Coherent and Non-Coherent Network-on-Chip solutions with embedded IP, Interrupt controllers, IOMMU, hardware accelerators, and more. This enables customers to quickly integrate complex processor systems into their SoC.



Akeana Mesh

Akeana provides IP blocks for building non-coherent and coherent NoC solutions for multi-core solutions. The Coherent NoC solutions use multiple IP blocks from Akeana conforming to AMBA CHI specification, enabling customers to create coherent systems connected through a 2D Mesh. Connectivity is for processors, Memory interfaces (DDR), and I/O devices, including PCIe and UCIe.

Akeana Forge

With Akeana Forge, Akeana enables its customers to configure and customize its extensive range of Processor IP and System IP to their specific requirements. Akeana Forge is a set of tools developed by Akeana, which enable customization of many IP features at customer request by Akeana and configuration of other features directly by the customer. These tools configure Akeana IP, which is written in the industry-standard System Verilog hardware description language.

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