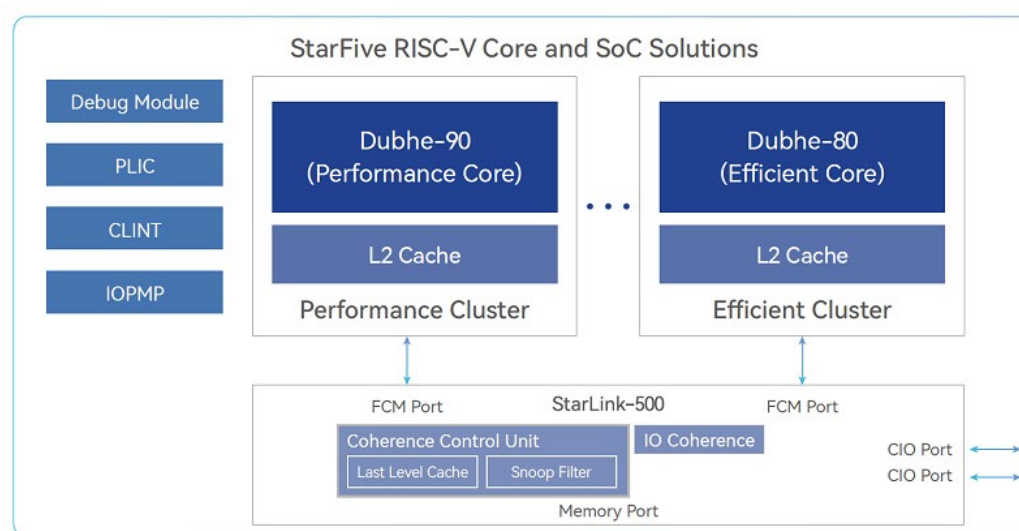


RISC-V MULT-CORE SOC SOLUTION

A high-performance, high-bandwidth, low-latency SoC solution based on StarFive RISC-V CPU IP and Interconnect Fabric IP.

A high-performance, high-bandwidth, low-latency SoC solution based on StarFive RISC-V CPU IP and Interconnect Fabric IP. This solution provides:

- RISC-V high performance core--Dubhe-90
- RISC-V high efficiency core--Dubhe-80
- High-speed Interconnect Fabric IP supporting cache coherency--StarLink-500
- RISC-V debug module
- RISC-V PLIC and CLINT
- Power management, security, virtualization (CPU), IO coherency, and memory subsystem.



EDGE / CLOUD DATA CENTERS

- Edge/Cloud Server
- DPU
- Computational Storage
- Storage Array

COMMUNICATION / NETWORKING

- 5G Core and Access
- Mobile Application
- Router
- Switch

CLIENT COMPUTING/MACHINE LEARNING

- Linux PC/Mini PC/Laptop
- Industrial Control
- Industrial robot
- KIOS

SOLUTION HIGHLIGHTS

- Support all main RISC-V extensions (RV64GCBH)
- Support interrupt, debug, trace that compliant with RISC-V specification
- StarFive supports NoC connections between clusters and system components with cache coherence, achieving high speed, low power consumption, and low latency
- This solution can easily integrate the AMBA interface with existing IPs
- Security solution: RISC-V Trusted Execution Environment, RISC-V secure boot, and secure debugging
- A CPU cluster supports advanced power management, with each core and each cluster supporting dynamic frequency scaling (DFS), power states (ON/OFF/Retention), temperature/voltage sensors, and performance monitoring.
- Achieves efficient and high-performance cores through power optimization.

DUBHE-90

StarFive Dubhe-90 processor features an 11+ stage and 5-issue pipeline, superscalar, and deep out-of-order execution, and supports standard RISC-V RV64GCBH extensions. With a score of 9.4 SPECInt2006/GHz, Dubhe-90 is designed for high-performance computing scenarios and devices, such as data centers, PCs, mobile devices, high-performance network communications, and machine learning.

DUBHE-80

StarFive Dubhe-80 processor features a 9+ stage, 3-issue, out-of-order pipeline, fully compliant with RV64GCBVH specifications. With a score of 8.0 SPECInt2006/GHz, Dubhe-80 is designed for mobile, desktop, AI, and automotive applications that require highly energy-efficient computation.

STARLINK-500

StarLink-500 is StarFive's first self-developed interconnect fabric IP with cache coherence support, supporting the construction of multi-cores and SoC to provide cache coherence NoC: connecting multiple CPU clusters, IO devices, and DDR, and maintaining cache coherence within the SoC.

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