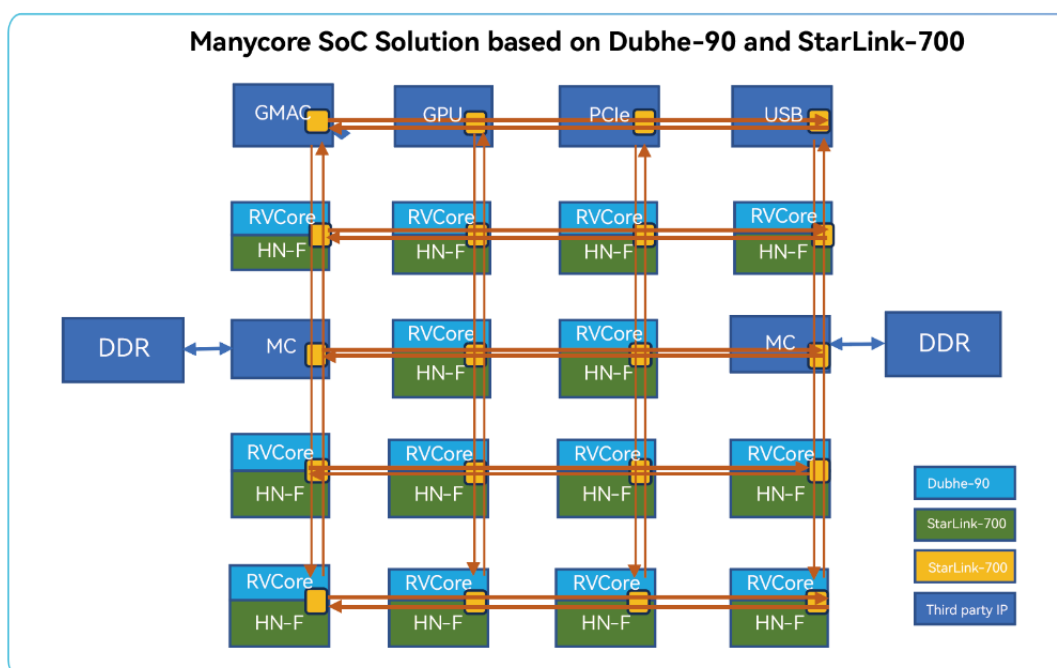


RISC-V MANYCORE SOC SOLUTION

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

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

- RISC-V high performance core--Dubhe-90
- High-speed interconnect fabric IP supporting cache coherence--StarLink-700
- RISC-V debug module interface
- RISC-V PLIC and CLINT
- Power management, security, virtualization, IO coherency, and memory subsystem.



EDGE / CLOUD DATA CENTERS

- | | | |
|-------------------------|-------------------------|-------------------------------------|
| • Cloud Server | • Network Communication | • AI training/inference accelerator |
| • DPU | • Base Station | • PC/Laptop |
| • Computational Storage | | |

SOLUTION HIGHLIGHTS

- Support all main RISC-V extensions (RV64GCBH)
- Support interrupt, debug, trace that compliant with RISC-V specification
- Support high-performance, highly scalable, and cache-coherent NoC connecting CPU cores with system components, achieving high speed, low power consumption, and low latency, with support for up to 256 cores in an SoC
- Utilize separate data NoC and control NoC
- 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
- Advanced power management for CPU clusters: supports Dynamic Frequency Scaling (DFS), power states (ON/OFF/Retention), temperature/voltage sensors, and performance monitors
- Efficient and high-performance cores achieved through power consumption optimization

DUBHE-90

StarFive max performance 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.

STARLINK-700

StarLink-700 is StarFive's self-developed interconnect fabric IP supporting cache coherence, enabling the construction of manycore SoC solution. It features mesh architecture, high performance, scalability, low power consumption, efficient data exchange, high reliability, and support for control interfaces.

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