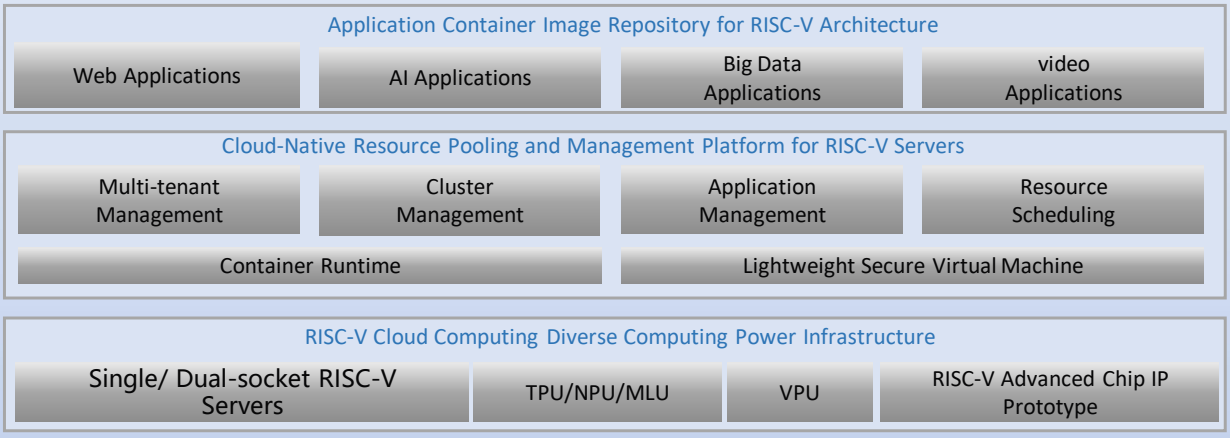
“Beihai” RISC-V Cloud Computing Platform

The RISC-V cloud platform ,“Beihai” ,integrates custom RISC-V hardware, Kubernetes-based management, and optimized applications. It features a three-layer architecture comprising heterogeneous computing infrastructure, a cloud-native management platform, and a container image repository. By managing a RISC-V cluster with several thousand cores, it enables adaptation of key cloud-native components and supports end-to-end recompilation, driving the development of the RISC-V cloud computing ecosystem.

“Beihai” RISC-V Cloud Computing Platform Architecture



RISC-V Heterogeneous Computing Infrastructure

- ✓ based on a RISC-V cloud computing cluster with thousands of cores.
- ✓ Completed compatibility verification between the RISC-V cluster and various accelerator cards, and successfully ran mainstream AI models such as ChatGLM3-6B, Llama2-7B/13B, and Yolov5.
- ✓ Covered the industry’s first RISC-V-based video transcoding card, TeleVPU

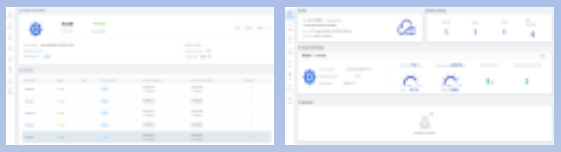
RISC-V cloud computing cluster

Cloud-Native Resource Pooling and Management Platform for RISC-V Servers

- ✓ The platform integrates a self-developed cloud-native lightweight secure virtual machine,TeleVM, which supports the RISC-V H extension, reducing virtualization overhead by up to 80% and significantly improving resource utilization and system performance.

Architecture of TeleVM

- ✓ The platform supports validation of key commercial-grade features such as multi-tenant isolation, cluster management, application management, and an application marketplace.



Management Page of the Platform

Application Container Image Repository for RISC-V Architecture

- ✓ Built a RISC-V container image repository with 100+ images across OS, databases, middleware, cloud, big data, web, and AI.
- ✓ Verified the “Beihai” platform through extensive real-world testing on the RISC-V cloud.