Canonical

Huawei Kunpeng
Ubuntu Server 24.04

950-Beta Image Release Notes

Canonical Partner Engineering

Milestone: Ubuntu Server 24.04 - 950 - Beta release
Release Date: Nov 23, 2026

Goal of Release and Delivery Summary

This image is a Beta release milestone of Ubuntu 24.04 Server for Huawei Kunpeng 950.

This section covers only what differs from generic Ubuntu 24.04 Server for arm64, due to the linux-kunpeng 6.8.0 kernel, built on top of Ubuntu's 6.8.0 generic kernel baseline.

For all other content — installer, applications, general fixes — refer to the standard Ubuntu 24.04.5 Server release notes.

Kernel linux-kunpeng-devel 6.8.0-1024

Scheduling

Supports NUMA-aware parallel scheduling, domain-based scheduling, and cluster-topology-aware scheduling; provides eBPF-based scheduling interfaces and enhanced CPU core isolation.

CPU Architecture

Supports dynamic SMT (Simultaneous Multithreading) toggling for ARM64, 64-byte atomic memory access (LS64/LS64_V), and hardware-managed page table access tagging (HAFT).

Interrupts and Fault Diagnosis

Supports hardware non-maskable interrupts (FEAT_NMI / FEAT_GICv3_NMI), improves hard-lockup detection and RAS (Reliability, Availability, and Serviceability) error handling, and provides online CPU health inspection.

Cache and Bandwidth Resource Management

Supports MPAM (Memory System Resource Partitioning and Monitoring) and `resctrl`, enabling L2/L3 cache allocation, memory bandwidth QoS, and resource usage monitoring grouped by task or thread.

Cache and Lock Optimization

Supports SoC-level cache maintenance, L3 cache locking, and NUMA-aware queue spinlocks (CNA qspinlock).

Frequency and Power Management

Enhances Boost control based on CPUFreq policies, CPPC (Collaborative Processor Performance Control) frequency feedback, ACPI low-power idle states, and power consumption alert handling.

Performance Monitoring and Analysis

Supports PMU (Performance Monitoring Unit) threshold counting, BRBE (Branch Record Buffer Extension), and hardware metric sampling; enables `perf c2c` false-sharing analysis via SPE (Statistical Profiling Extension); and expands Uncore PMU monitoring and PCIe traffic analysis capabilities.

Virtualization

Improves KVM support for LS64, enhances GICv4/4.1 interrupt passthrough, supports MSI interrupt passthrough for virtual devices, and optimizes interrupt routing during vCPU scheduling.

Network Path Optimization

Supports NUMA-affinity-based network traffic distribution (OENETCLS) and HiSock network transmit/receive path optimizations.

Data Copying and Asynchronous I/O

Optimizes large-block `copy_from_user` operations and enhances idle/periodic wake-up control for `io_uring` SQPOLL threads. Platform Devices: Enhanced support for HIBMC VGA/DisplayPort displays and HIBMCGE Ethernet; improved adaptation and exception handling for devices including SMMU, PCIe, I2C, GPIO, and SPI.

Kernel Specifications

Kernels available with 4 KB and 64 KB page sizes.

Image Release Deliverables

This is the Beta release milestone for the Huawei Kunpeng Ubuntu 24.04 Server.

Release image:
https://silicon.canonical.com/huawei/kunpeng/releases/noble/24.04-beta/server/kunpeng-noble-live-server-arm64.iso

Manifest:
https://silicon.canonical.com/huawei/kunpeng/releases/noble/24.04-beta/server/kunpeng-noble-live-server-arm64.manifest

Linux package

This release contains the following Linux package

Linux package	linux-kunpeng-devel 6.8.0-1024
GIT Repository	https://code.launchpad.net/~huawei-kunpeng-ubuntu/ubuntu/+source/linux-kunpeng/+git/noble
Branch	master-next-devel
Commit	6364ce3580438d7bc76a3bcd678af4eef847de10

Installation Instructions

Prerequisites

1. Hardware with Kunpeng 950 CPU
2. kunpeng-noble-live-server-arm64.iso

Installing the Image

1. Download the ISO image
2. Create a bootable USB flash drive with an image writer
3. Boot from the USB flash drive
4. Follow the Installation instructions for Ubuntu Server

Customizing the Installation with Kunpeng Specific Packages

1. The following PPAs contain Kunpeng packages:
    a. https://launchpad.net/~huawei-kunpeng-ubuntu/+archive/ubuntu/kunpeng-stable
    b. https://launchpad.net/~huawei-kunpeng-ubuntu/+archive/ubuntu/kunpeng-gcc
2. Follow the instructions in the PPA links on how to add them to the system. After adding them, packages with Kunpeng optimizations and enablements can be installed from the PPAs

Additional Tools and Documentation

More information and enablement scripts can be found at:
https://github.com/canonical/kunpeng/

Release Verification

Tested on the Hardware

- CID: 202609-39623
- CID: 202609-39624

Basic smoke tests and checkbox test suite.

Known Issues and Limitations

- Secure boot not enabled
- Linux kernel is not signed
- Ethernet Wake On LAN is not tested
- TrustZone is not tested

Image Changes and Bugs Fixed

Critical

- N/A

High

- N/A

Reopened Bugs

Critical

- N/A

High

- N/A

New Bugs found during QA validation

Critical

- N/A

High

- N/A

Open Bugs

All open bugs can be found at: Huawei Kunpeng on Ubuntu.