



Huawei Atlas 650E

8x Ascend 950DT Da Vinci v3 rack 2026

OVERVIEW

6.43 FP8 PFLOPS Dense	0.8 TB Aggregate Memory	32.0 TB/s Aggregate Bandwidth	14.5 kW Aggregate Power
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PERFORMANCE METRICS

Precision	Peak (PFLOPS)	Per GPU (TFLOPS)	TFLOPS/W
FP16	3.4	425.0	—
BF16	3.4	425.0	—
FP8	6.4	803.8	—
FP4	12.5	1560.0	—

All figures are dense. Vendors commonly headline the sparse number, which is twice the dense one.

CONFIGURATION

Accelerator	Ascend 950DT
Count	8
Memory per GPU	144 GB
Bandwidth per GPU	4.0 TB/s

POWER & EFFICIENCY

Aggregate Power	14.5 kW
TDP per GPU	—
FP8 Efficiency	0.44 TFLOPS/W
Aggregate Bandwidth	32.0 TB/s

SYSTEM DETAILS

Vendor: Huawei	Family: Atlas	Architecture: Da Vinci v3
Form Factor: rack	Release Year: 2026	Process Node: —

INTERCONNECT

UnifiedBus (Lingqu): 8 x 784 GB/s bidirectional within a node, 2 x 8 x 1.68 TB/s across a two-node pair; UBoE direct from NPU and RoCE both at 400 Gbps per NPU

NOTES

A 14U air-cooled rack server with eight Ascend 950DT NPUs and two Kunpeng 950 CPUs, built for ordinary air-cooled machine rooms rather than liquid-cooled halls. Huawei rates it at 12.48 PFLOPS mxFP4, 6.43 PFLOPS across mxFP8, FP8 and HiF8, and 3.40 PFLOPS FP16/BF16, with 768 GB of on-chip HBM across the eight NPUs at up to 4.0 TB/s each. Two machines can be joined over UnifiedBus into a sixteen-NPU full-mesh. Power is up to 14.5 kW from six hot-swap 3.0 kW supplies in 5+1 redundancy, cooled by thirty hot-swap fan modules. Note that the per-NPU figure works out at 1.56 PFLOPS mxFP4, below the 1.95 PFLOPS the same Ascend 950DT reaches in the liquid-cooled Atlas 950 SuperPoD: this is a de-rated air-cooled bin, not a transcription error, and should not be

reconciled upward. Huawei labels none of these figures dense or sparse and publishes no sparse rate; its asterisk on the compute row means only that the values are theoretical and measured results may differ by under one percent.