

Vertiv™ SmartIT for Enterprise

Pre-integrated, pre-validated rack-level
AI infrastructure, engineered as one solution



Summary

AI is changing the baseline for data center design. Enterprise infrastructure needs a faster path to keep up.

Current-generation GPU platforms introduce power, cooling, and density requirements that can exceed the baseline capabilities of many enterprise facilities.

Operators need a practical starting point for production AI workloads within existing footprints, with a path that can scale from a defined rack-level building block to larger configurations as demand grows.



Three barriers to production-ready enterprise AI

1. Complex integration at AI scale

AI at high-density rack scale requires liquid cooling, high-density DC power, and NVIDIA and OCP-compliant rack architecture that many enterprise environments were not designed to support. Integrating power, cooling, rack, and compute components adds coordination risk and accountability gaps that custom engineering cannot efficiently solve.

2. Legacy environments that were never designed for AI

The question for enterprise sites is not whether AI will require more capacity. It's whether the existing room can handle the jump. Thermal load, power delivery, and operating complexity all increase simultaneously, and retrofitting those constraints in parallel is what keeps deployments in pilot rather than production.

3. No fast path from validated use case to production

Multi-vendor procurement, custom engineering, and extended planning cycles compound an already compressed timeline. By the time infrastructure is scoped, sourced, and integrated, the window for competitive advantage has narrowed.

What if enterprise AI came as a finished product, not a construction project?

Vertiv™ SmartIT addresses the delivery problem directly

It is a pre-integrated AI infrastructure building block designed for enterprise AI workloads. Vertiv SmartIT combines Vertiv™ power, cooling, and rack infrastructure into a pre-validated package that can support defined one- to three-rack deployment models, ordered as one solution, delivered as one unit, and commissioned without multi-vendor coordination.

The design principle is straightforward: organizations that want to get up and running with AI should not need to assemble a data center engineering team to do it.

One integrated solution

Vertiv SmartIT packages compute, power, and cooling into a defined rack-level footprint that can begin with a one-rack configuration and extend into three-rack integrated deployments as requirements grow for additional compute, support, or storage.

Rapid deployment, with commissioning

Factory-integrated and tested before delivery, Vertiv SmartIT helps enterprise teams accelerate AI deployments while reducing field integration work. On-site activity still includes facility connections, liquid cooling connections, and commissioning.

Enterprise-ready by design

Sized and configured for enterprise environments with limited space and existing infrastructure constraints, Vertiv SmartIT fits within existing footprints without requiring a facility-level redesign or purpose-built data center. This matters because the enterprise AI deployment model is increasingly distributed — smaller, closer to the work, and driven by operational requirements rather than centralized IT planning.

Outcome-focused

The goal is not infrastructure for its own sake. The infrastructure is designed to maximize tokens per second per watt. The faster AI is operational, the faster organizations move from pilot to production, and from cost center to business value.



Solution architecture

Vertiv™ SmartIT is designed as a scalable rack-level architecture that can start with a single integrated rack and expand into one of two three-rack configurations below:

SKU 1 - Support rack (IRM692-362-VQE0M-N00)

Provides support for network switches, leak detection, and houses CDU and Power Shelves. Pairs seamlessly with the AI compute rack to enable a complete, deployment-ready infrastructure.

SKU 2 - Storage rack (IRM692-362-00E00-N00)

Purpose-built for storage deployments, featuring two 60A 3-phase PDUs with 69 kVA total capacity for reliable power distribution. Complements the AI compute rack to deliver a unified, high-density solution.



Components	Function	Support	Storage
Rack-scale compute			
Vertiv™ Open Rack for NVIDIA MGX	MGX-compliant enclosures for Blackwell-based NVL72 architecture	1	1
Power train			
Vertiv™ PowerDirect Shelf (33kW shelves, 50VDC)	Rack-level DC power conversion (Compute racks)	2	—
Vertiv™ Liebert® APM2 UPS + Battery Cabinet	Modular UPS protection; up to 97.5% efficiency	Optional	Optional
Vertiv™ rPDU (Switched, outlet-level monitored)	Intelligent AC power distribution (Storage rack)	—	2
Vertiv™ PowerIT Rack Transfer Switch	Redundant power transfer	2	2
Thermal chain			
Piping, valves and actuator assemblies	Facility water loop isolation and flow control	Comes with support rack	—
Vertiv™ CoolChip CDU 121	Direct-to-chip liquid cooling (121kW per unit)	3	—
Vertiv™ Liebert® DCD47 Rear Door Heat Exchanger	Supplemental air cooling; 47kW room-neutral per rack	1	1
Monitoring			
Vertiv™ Avocent® ACS 804	Leak detection and response gateway	1	—
Vertiv™ Avocent® RM1048P Rack Manager	IT infrastructure management	2	—
Services			
Services & warranty	Installation, commissioning—including flush and fill—and project management	Included	Included

***NVIDIA DGX Blackwell-based NVL72 provided by NVIDIA**

Scope boundary:

Site and facility preparation are outside the Vertiv™ SmartIT scope. This includes upstream power distribution, utility feeds, chilled-water or building water systems, floor space, structural changes, and other building-level work needed to connect and support the rack deployment package.

Specifications

Parameter	Specification
Solution footprint	Integrated package
Power Capacity per compute rack	120–142 kW
Liquid cooling capacity	2× 121kW = 242kW N+1 (direct-to-chip)
Supplemental air cooling	3× 47kW = 141kW (active rear door)
UPS efficiency	Up to 97.5% double-conversion
Rack standard	NVIDIA and OCP-compliant MGX architecture





Getting started with Vertiv™ SmartIT

As AI strategies expand, Vertiv SmartIT gives enterprise teams a practical starting point for production and a path to grow infrastructure as demand increases.

- Start with a defined rack-level building block instead of a custom-built deployment model
- Scale from one to multiple modules as AI workload demand grows
- Expand toward broader AI infrastructure including Vertiv™ SmartRun-based engineered solutions, as the organization's roadmap matures.

Deployment model:

Pre-integrated infrastructure

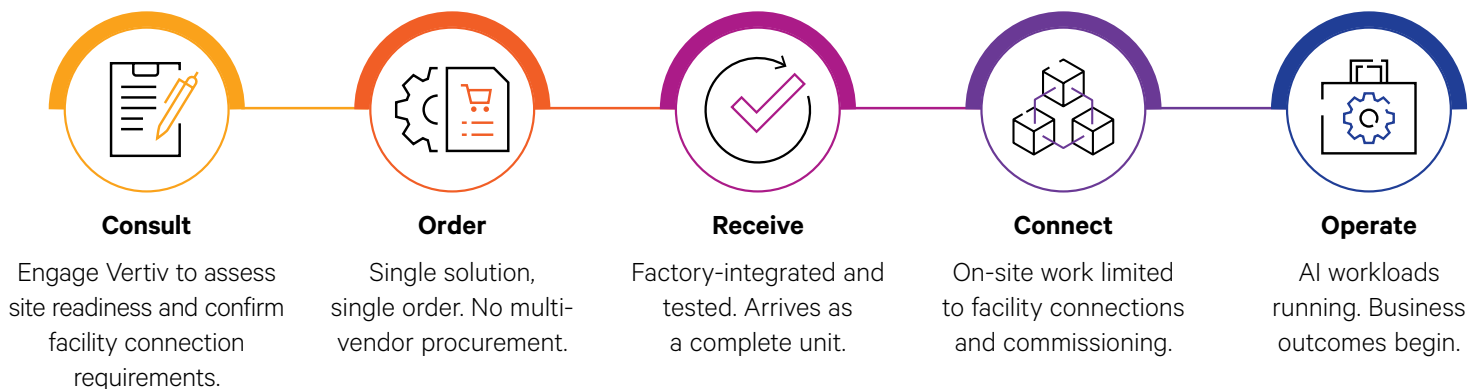
Core power, cooling, rack infrastructure, and compute are engineered together before delivery.

Defined solution boundary

Vertiv™ SmartIT delivers the integrated rack package, with site power, utilities, water, space, and building work handled separately.

Site-ready commissioning

Deployment planning focuses on facility readiness, connection points, and the commissioning path to production.



The window between AI ambition and AI execution is closing

Every day your AI workload is not running is a day that's not generating value. Tokens are the unit of measure for everything that follows: business outcomes, cost justification, and competitive positioning. The organizations that move from validated use case to production first will define the pace of AI advantage.

Contact your Vertiv representative to discuss how Vertiv SmartIT fits your enterprise AI deployment plans.

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