



Product brochure

Vertiv[™] OneCore

The future of data centers

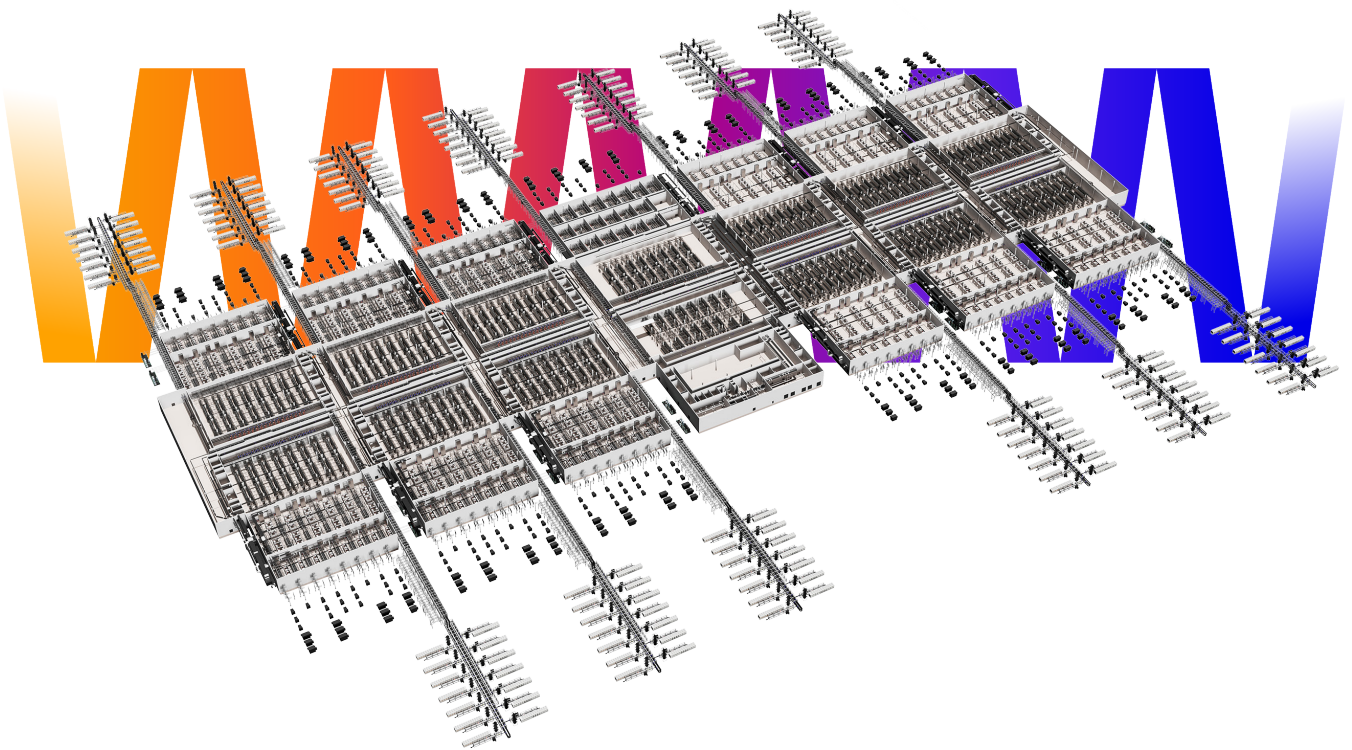




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About Vertiv

Vertiv (NYSE: VRT) brings together hardware, software, analytics and ongoing services to enable its customers' vital applications to run continuously, perform optimally and grow with their business needs. Vertiv solves the most important challenges facing today's data centers, communication networks and commercial and industrial facilities with a portfolio of power, cooling and IT infrastructure solutions and services that extends from the cloud to the edge of the network.

Headquartered in Columbus, Ohio, USA, Vertiv does business in more than 130 countries. For more information, and for the latest news and content from Vertiv, visit [Vertiv.com](https://www.vertiv.com).

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Vertiv™ Infrastructure Solutions at-a-glance

Vertiv™ Infrastructure Solutions offers you comprehensive support for designing data centers, utilizing the entire Vertiv™ product lineup to deliver efficiently integrated solutions. By combining our extensive portfolio and expertise, we create manufactured and modular solutions tailored both for AI and traditional data centers. With a platform-based approach, we tackle the challenges of selecting individual products and managing on-site integration, enabling you to build an efficient, resilient, and future-ready data center infrastructure.



Global presence with localized volume manufacturing facilities



Simplified and Scalable assembly for straightforward on-site installation



Full owners of the process from design to onsite installation



High quality Factory Integration with schedule and cost certainty

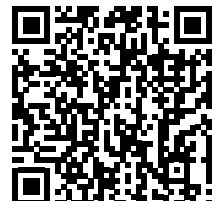


Energy Efficient Design allows for lower site PUE and reduced environmental impact while controlling costs

Vertiv™ Infrastructure Solutions bring over two decades of experience in deploying manufactured and modular solutions across the world to different industries and customer profiles.

Accelerating Deployment Cycles	- Repeatable factory-integration to reduce deployment up to 50% and 50% less on-site work (including commissioning) - Global supply-chain and service delivery footprint
Maximizing Building Blocks & Space Optimization	- Modular and hybrid solutions in multi-MW sizes - Module design-practice unlocks up to 30% space
Reduce Field Work and Improve Build Quality	Productizing non-repeatable field work in the factory, improving build-quality and customer's total cost of ownership up to 25%

Scan QR code and visit **Vertiv™ Infrastructure Solution** page.

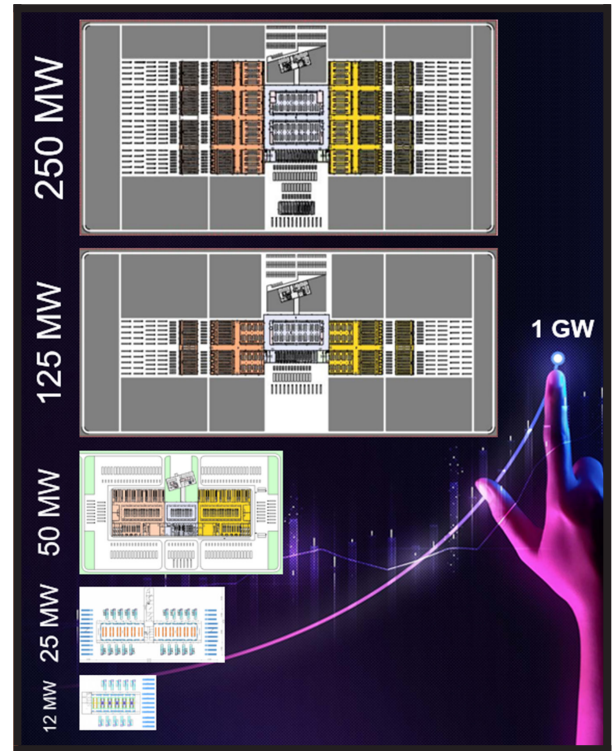


Vertiv™ OneCore

In today's rapidly evolving digital landscape, deploying data center infrastructure that can keep pace with AI applications and emerging technologies requires unprecedented speed and flexibility. To meet this demand, we are introducing Vertiv™ OneCore - a revolutionary turn-key solution designed specifically for 10 MW to 250 MW data centers and beyond that transforms the traditional data center deployment approach.

Vertiv™ OneCore offers a comprehensive end-to-end data center solution that simplifies the entire journey from construction to operation. As your single point of contact, Vertiv eliminates the complexity of managing multiple vendors and coordinates all aspects of your data center deployment. Our innovative approach combines a flexible building design with proven manufactured components integrated within a Vertiv-provided steel building shell.

What sets Vertiv™ OneCore apart is its unique ability to deliver speed without compromising on scalability or future-readiness. The solution's manufactured design enables simplified transportation and installation while significantly reducing on-site labor requirements and associated risks. Backed by Vertiv's global service network and rigorous quality control standards, Vertiv™ OneCore provides the reliability, cost efficiency, and schedule certainty that modern enterprises demand.



AI is accelerating demand!

Capacity demand of AI data centers is surging.

- AI demand is forcing a capacity step-change.
- delivery must move to repeatable manufacturing

Power availability and grid timelines are **the bottleneck**

- Electricity demand from data centers is projected to more than double
- Planned data centers could face grid-connection delays

AI densities are making liquid cooling mainstream

- Cooling architecture is shifting to 100% liquid.

Vertiv™ OneCore: one solution, complete integration

Unlike traditional data center construction or fully modular solutions, Vertiv™ OneCore revolutionizes the building process with its innovative manufactured hybrid-built based approach to deployment. The agile on-site assembly process features precision-engineered components, including easy-sliding equipment skids and outdoor-ready modular installations, all backed by rigorous quality control in Vertiv factories as well as at every stage of deployment.

Vertiv™ OneCore is a versatile thermal solution designed to support a wide range of AI technologies powered by next-generation xPU processors. It's not limited to traditional AC-powered xPU racks - Vertiv™ OneCore efficiently integrates with advanced 800VDC-fed rack architectures, offering unmatched flexibility and performance.

Vertiv™ OneCore consists of several key components:

A. Manufactured building blocks:

- Vertiv™ Power Modules and Skids
- Cooling modules and skids
- Vertiv™ SmartRun IT superstructure
- Vertiv™ Hydro modules
- Vertiv™ heat rejection
- Other prefabricated building blocks - auxiliary modules, like service corridors, piping skids, meet-me rooms, NOC rooms, shipping, storage area, etc

B. Building

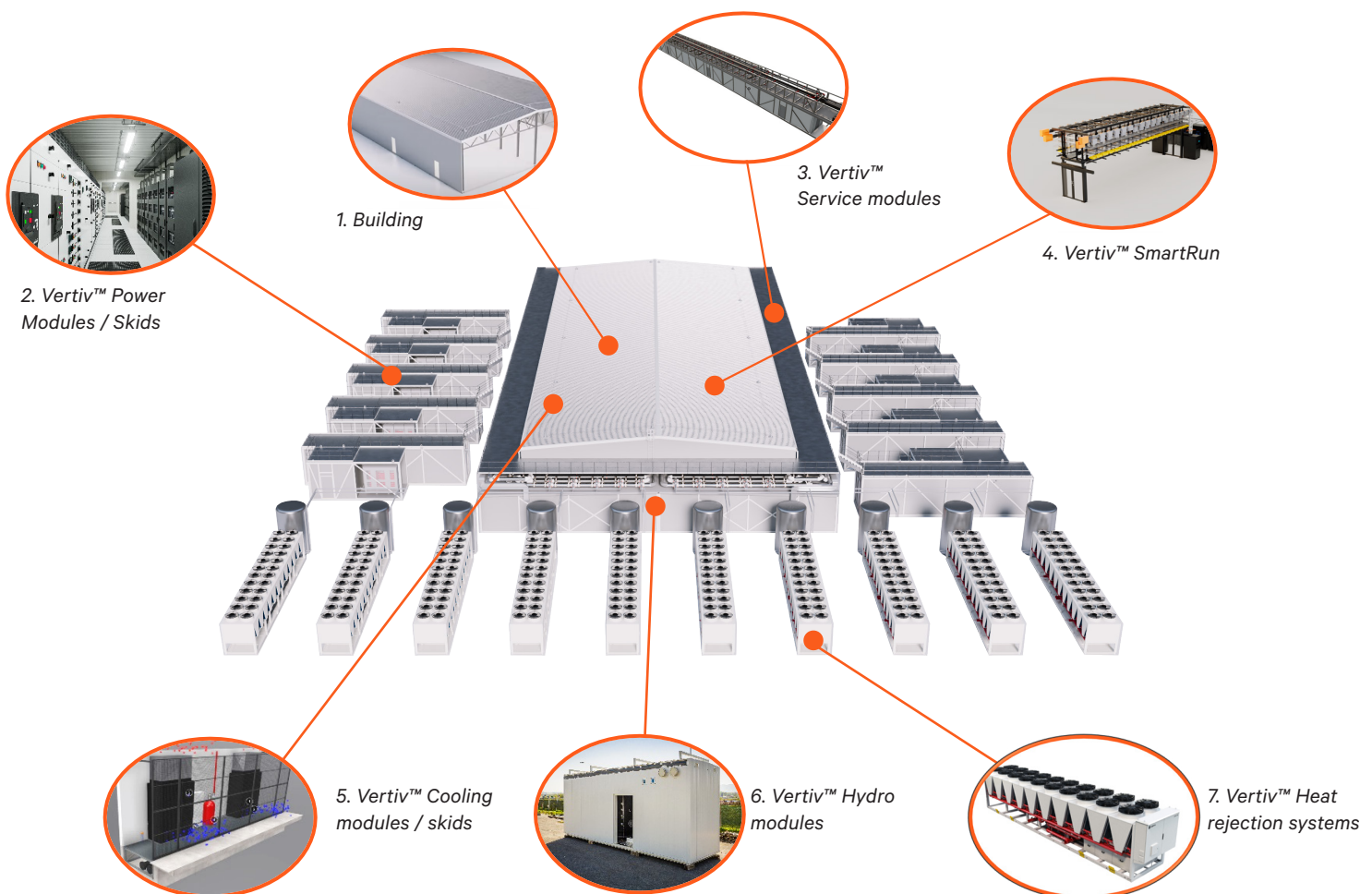
The building provides the physical enclosure for the Vertiv™ OneCore platform and can be implemented using prefabricated steel or concrete construction. Its flexible architecture accommodates a broad range of IT capacities and deployment scales while maintaining a consistent Vertiv™ OneCore design approach. Depending on the project execution model, the building shell may be provided by the customer or General Contractor, while Vertiv delivers and integrates all Vertiv™ OneCore building blocks.

The building's structural framework combines precision-manufactured load-bearing elements, reinforced floor and wall assemblies, and thermally optimized roof systems to create a durable and scalable data center enclosure. Its engineered deployment methodology enables efficient installation of IT, power, and cooling infrastructure using a variety of handling and positioning methods, while preserving accessibility for future maintenance, replacement, and expansion.

Power and mechanical infrastructure are strategically positioned to enable efficient modular growth as capacity requirements evolve. The manufactured construction model reduces site activity, construction waste, and project complexity, contributing to a lower environmental impact and faster deployment of the Vertiv™ OneCore platform.

The entire solution is delivered as a comprehensive package with Vertiv acting as a single point of contact for both the data center building and infrastructure components.

This enables customers to maintain control over their construction procurement approach while still benefiting from Vertiv's standardized, high-performance technology modules.



Vertiv™ OneCore: key features that make the difference

- Efficient data center solutions from Vertiv – a single-point-of-contact for turnkey efficiency
- Scalable & modular infrastructure – flexible building sizes and customizable data center building blocks
- Accelerated Deployment – speed-driven solutions
- Streamlined logistics – simplified transportation and hassle-free installation
- Optimized workforce needs – minimized on-site labor for greater efficiency
- Effortless outdoor installation – easy prefab deployment in diverse environments
- Designed for smooth integration – equipment skids built for effortless installation
- Predictable costs, maximum efficiency – cost certainty without compromising performance



Scan the QR code to learn
more about Vertiv™
OneCore

Inside Vertiv™ OneCore: the essential building blocks

1. Building

A building represents the next generation in purpose-built data center shell construction, offering a flexible solution for your computing infrastructure needs. This type of building provides custom-designed data halls for computing, storage, and networking racks engineered by Vertiv's expert R&D team for on-site assembly to achieve maximum efficiency. Customer/GC provides the building shell; Vertiv delivers all Vertiv™ OneCore building blocks.

Benefits that matter:

- Unlimited size possibilities with flexible design options
- Quick deployment capabilities
- Cost-effective with reduced transportation expenses
- Enhanced internal height for optimal whitespace utilization
- Superior airflow management throughout aisles
- Promotes environmental responsibility with recyclable materials



Building

The building combines innovative design with practical functionality, allowing parallel manufacturing of components to accelerate your data center deployment while maintaining the highest standards of quality and efficiency.

Perfect for organizations seeking a scalable and rapidly deployable data center solution that meets today's demanding IT infrastructure requirements

2. Vertiv™ manufactured Power infrastructure

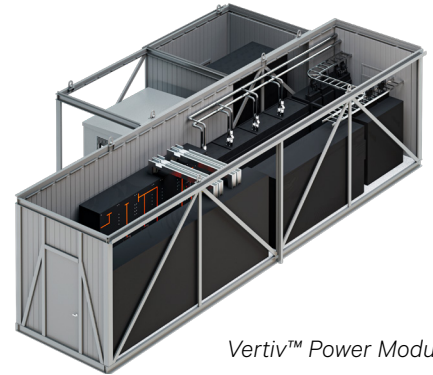
Within its cutting-edge Vertiv™ OneCore solution, Vertiv offers a wide array of manufactured power infrastructure solution options, designed to cater to the different and unique needs of individual data centers.

Vertiv™ Power Module

Manufactured enclosure that contains all the critical power infrastructure:

- Vertiv™ UPS and Batteries
- Vertiv™ LV Switchboards
- Vertiv™ Cooling
- Fire detection and suppression system
- Access Control
- Integration of MV and Transformer as option

Compact, all-in-one modules free up valuable space within the main building structure.



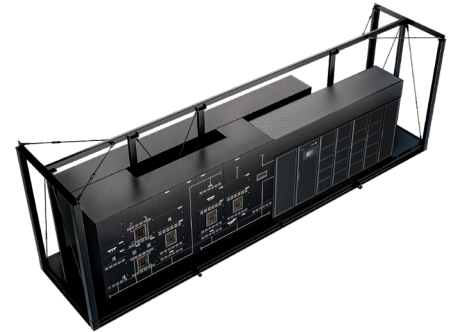
Vertiv™ Power Module

Vertiv™ Power Skid

Placed on single skid frame, critical power infrastructure includes:

- Vertiv™ UPS and Batteries
- Vertiv™ LV Switchboards

Perfect for installation within a dedicated single-space power room.



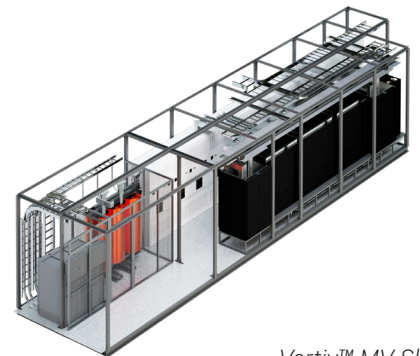
Vertiv™ Power Skid

Vertiv™ MV Skid

Placed on single skid frame, critical power infrastructure includes:

- Vertiv™ MV (Medium Voltage) RMU (Ring Main Unit) unit
- MV/LV Transformer(s)

Perfect for installation within a dedicated single-space power room.

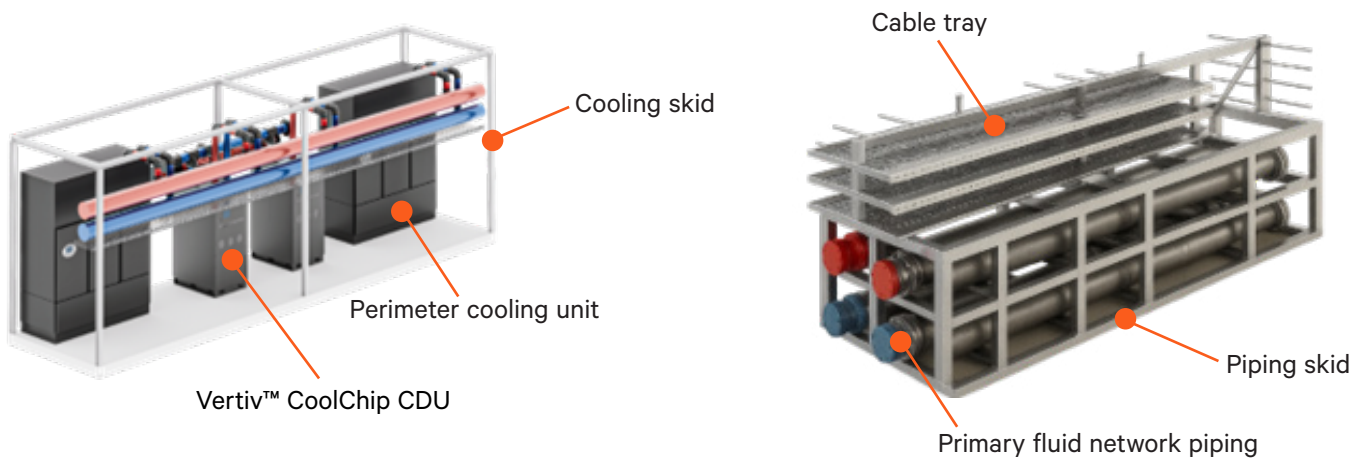


Vertiv™ MV Skid

3. Vertiv™ cooling modules and skids

Vertiv™ Cooling modules or skids are manufactured structures incorporating a range of Vertiv cooling units that enables ideal operational climate conditions within the data center IT hall, and also serves as a standalone mechanical corridor block, enabling full serviceability. These solutions typically include perimeter cooling units and, for AI applications, the Vertiv™ CoolChip coolant distribution unit, as well as necessary piping, both for primary and secondary fluid network. External primary fluid network piping can be featured in a separate piping skid, offering turn-key piping system delivered with verified cleanliness.

Manufactured cooling skids are engineered for efficient integration within Vertiv™ OneCore, allowing them to be effortlessly installed into the completed building structural framework.



4. Vertiv™ SmartRun - IT superstructure

Vertiv™ SmartRun, as Vertiv™ OneCore key feature, delivers manufactured data center data hall overhead infrastructure solutions including busway, piping, network cabling, and aisle containment, expertly engineered to streamline deployment and maximize efficiency. By reducing installation times by up to seven times compared to traditional methods, and leveraging manufactured assemblies from Vertiv's global manufacturing facilities, Vertiv™ SmartRun enables scalable projects with minimal on-site labor for overhead infrastructure.



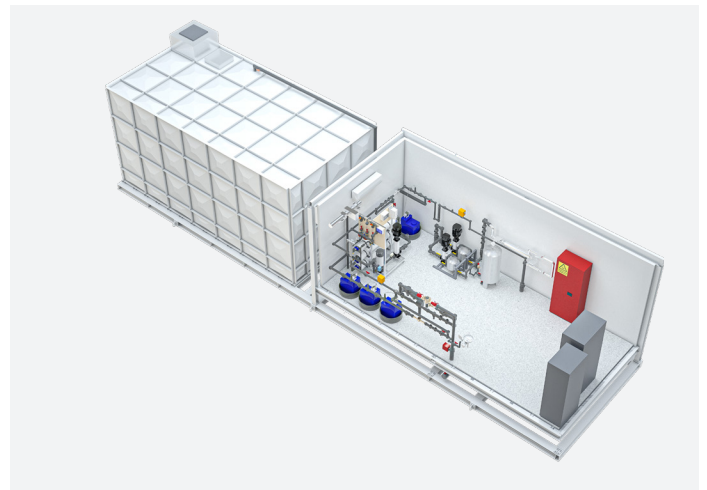
Features & benefits

- Committed delivery timelines
- Optimized labor on-site
- Accelerated assembly inside Vertiv facilities services
- One-stop-shop for equipment, deployment, installation, and services
- Modularity in design enables accessibility for every application
- Design and deploy globally with scale

5. Vertiv™ Hydro module

Vertiv™ Hydro module manufactured solutions offer a convenient and cost-effective solution for supporting data center cooling systems. These modular units are expertly designed, constructed, and rigorously tested off-site, enabling efficient delivery and hassle-free on-site installation with minimal operational disturbance.

Features & benefits



- Support for primary cooling systems
- Improved cooling efficiency
- Extended equipment lifespan
- Reduced downtime
- Modular & scalable
- Meets industry water quality standards
- Support for adiabatic and evaporative cooling systems
- Optimized water usage and chemical consumption
- Scalable depending on water site quality

6. Vertiv™ heat rejection systems

Vertiv™ OneCore offers an extensive selection of dependable and high-performance heat rejection systems from its portfolio, including air-cooled, water-cooled, air-cooled free cooling, adiabatic, and evaporative chiller options. It also features the innovative Vertiv™ CoolLoop trim cooler, an environmentally conscious, AI-ready, and densification-focused free cooling solution designed to support data centers in meeting the demands of increasing densification driven by AI advancements. Additionally, water tanks can be integrated to provide thermal backup, enabling a tailored solution for every data center's unique needs.

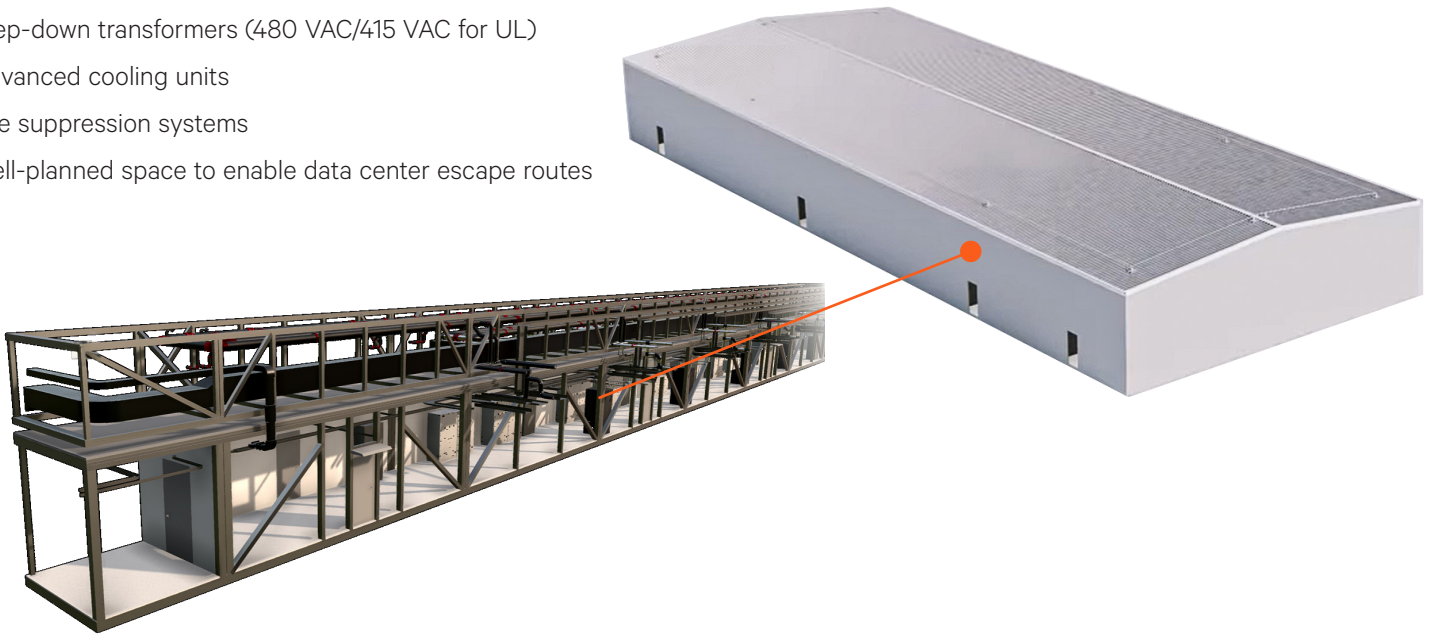


Vertiv™ CoolLoop trim cooler

7. Vertiv™ service modules

Vertiv™ OneCore can incorporate essential spaces that enables core data center functionality in the form of the Vertiv™ service module. These modules can include all of any of the following:

- Busway connections
- Remote power panels (RPP)
- Step-down transformers (480 VAC/415 VAC for UL)
- Advanced cooling units
- Fire suppression systems
- Well-planned space to enable data center escape routes



Having the service module as a separate unit enables rapid modular deployment of the Vertiv™ OneCore data center and simplified scalability as power requirements grow.

8. Auxiliary modules

Vertiv™ OneCore auxiliary modules offer additional and optional manufactured spaces that enhance the data center's capabilities, featuring amenities such as meet-me rooms, network operational center (NOC) room, staging areas, elevators, storage spaces, offices, hallways, and restroom facilities. Together, these modules create a complete and flexible Vertiv™ OneCore data center solution.



9. Vertiv™ Unify

Vertiv™ OneCore solutions offers Vertiv™ Unify onboard intelligence solution that delivers advanced monitoring, control, and automation. Vertiv™ Unify is an integrated platform that simplifies data center operations by consolidating power, thermal, and building management systems into a single, unified interface.

Designed to reduce complexity and risk, Vertiv™ Unify enhances visibility and control across the entire critical infrastructure chain. It offers plug-and-play deployment, efficient integration with third-party systems through open industrial protocols, and real-time data insights to optimize uptime and performance. Whether on-site, hybrid, or cloud-based, Vertiv™ Unify scales effortlessly to support hyperscale and colocation data centers, delivering smarter, more reliable operations with confidence and control at every level.

	Monitoring	Control	Redundancy
Essential	✓		
Advanced	✓	✓	
Premium	✓	✓	✓



Vertiv™ OneCore design specifications

Design Specifications	Unit	Vertiv™ OneCore	Reference Design 1 Vertiv™ OneCore 12.5	Reference Design 2 Vertiv™ OneCore 50-4
General				
Nominal IT load	MW	10 to 64 single block	12.5	50
Power Supply		400V, 415V, 480V/ 3ph / 50, 60 Hz		
Medium voltage (MV)	kV	11, 13.8, 15, 20, 22, 24, 33, 34.5	24	24
Number of racks ⁽¹⁾		96 – 2200+	236 (80 compute)	944 (320 compute)
Cooling technology		Chilled Water - CW	Chilled Water - CW	Chilled Water - CW
Separate circuits for Liquid cooling		Optional	Yes	Yes
Heat rejection		FIZ chiller for Air portion and TRIM cooler for Liquid portion		
White space cooling type		Perimeter CW, Cooling Wall CW	Perimeter CW	Perimeter CW
Coolant Distribution Unit (CDU)		CDU600, CDU1350, CDU2300	CDU1350	CDU1350
Secondary fluid network		Stainless steel, Copper, Plastic	Stainless steel	Stainless steel
Secondary fluid network coolant		PG 25	PG 25	PG 25
Redundancy				
Electrical redundancy		Concurrently maintainable, 4N/3	4N/3	4N/3
Compute rack feed		4N/3, 2N	4N/3	4N/3
Networking and storage rack feed		2N	2N	2N
Thermal redundancy				
Primary Fluid Network (PFN)		N+1, 2N, Concurrently maintainable	Concurrently maintainable	Concurrently maintainable
Secondary Fluid Network (SFN)		N+1 CDU	N+1 CDU	N+1 CDU
Back-up				
Thermal	min	2 - 5	3	3
Electrical	min	1 - 10	5	5
Power Smoothing ⁽²⁾	%	0 - 100	0	0
Site				
Site area ⁽³⁾	m ² / sq ft		6,600 / 71,100	26,100 / 281,000
Deployment in phases			No	Yes
Outdoor Temperature Range	°C / °F		-20 to 55 / -4 to 131	

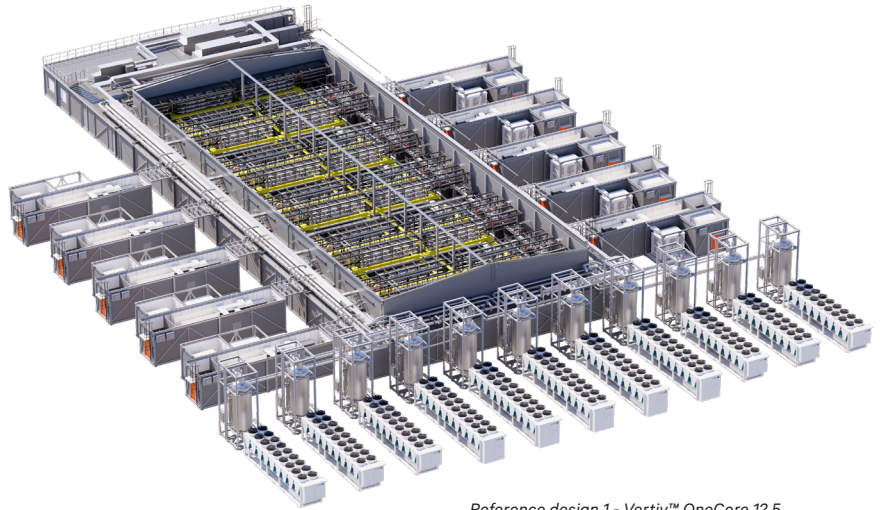
Vertiv™ OneCore design specifications

Design Specifications	Unit	Reference Design 3 Vertiv™ OneCore 50	Reference Design 4 Vertiv™ OneCore 125	Reference Design 5 Vertiv™ OneCore 250	Reference Design 5 Vertiv™ OneCore DSX
General					
Nominal IT load	MW	50	125	250	311
Power Supply		400V, 415V, 480V/ 3ph / 50, 60 Hz			
Medium voltage (MV)	kV	34.5	34.5	34.5	34.5
Number of racks ⁽¹⁾		832 (320 compute)	1,104 (512 compute racks)	2,208 (1,024 compute racks)	3,536 (1,344 VR200; 1x14 per SU) or 4,496 (1,536 VR200; 2x8 per SU) or 4,496 (1,536 VR Ultra; 2x8 perSU)
Cooling technology		Chilled Water - CW	Chilled Water - CW	Chilled Water - CW	Chilled Water - CW
Separate circuits for Liquid cooling		Yes	Yes	Yes	Yes
Heat rejection		FIZ chiller for Air portion and TRIM cooler for Liquid portion			TRIM coller
White space cooling type		Cooling Wall CW	Cooling Wall CW	Cooling Wall CW	Cooling Wall CW
Coolant Distribution Unit (CDU)		CDU2300	CDU2300	CDU2300	CDU2300
Secondary fluid network		Stainless steel	Stainless steel	Stainless steel	Stainless steel
Secondar Secondary fluid network coolant		PG 25	PG 25	PG 25	PG 25
Redundancy					
Electrical redundancy		4N/3	4N/3	4N/3	4N/3
Compute rack feed		4N/3	4N/3	4N/3	4N/3
Networking and storage rack feed		2N	2N	2N	4N/3, 2N
Thermal redundancy					
Primary Fluid Network (PFN)		Concurrently maintainable	Concurrently maintainable	Concurrently maintainable	Concurrently maintainable
Secondary Fluid Network (SFN)		N+1 CDU	N+1 CDU	N+1 CDU	N+1 CDU
Back-up					
Thermal	min	5	5	5	5
Electrical	min	5	5	5	5
Power Smoothing ⁽²⁾	%	0	0	0	100%
Site					
Site area ⁽³⁾	m²/ sq ft	107,264 / 1,154,580	189,222 / 2,036,769	269,071 / 2,896,256	487,892 / 5,251,624
Deployment in phases		No	No	No	Yes
Outdoor Temperature Range	°C / °F	-20 to 55 / -4 to 131			

Vertiv™ OneCore: reference designs

Reference design 1 - Vertiv™ OneCore 12.5

- 12.5MW AI data center
- 1 Data Hall
- 236 racks (80 GB200 compute racks)
- Separate Primary Fluid Network (PFN) for Direct Liquid Cooling (DLC)
- Liquid cooling / Air cooling ratio: 80% / 20%
- Electrical redundancy: 4N/3 (4 to make 3)
- Thermal redundancy:
 - SFN – N+1 CDU
 - PFN – Concurrently maintainable



Reference design 1 - Vertiv™ OneCore 12.5

Reference design 2 - Vertiv™ OneCore 50-4

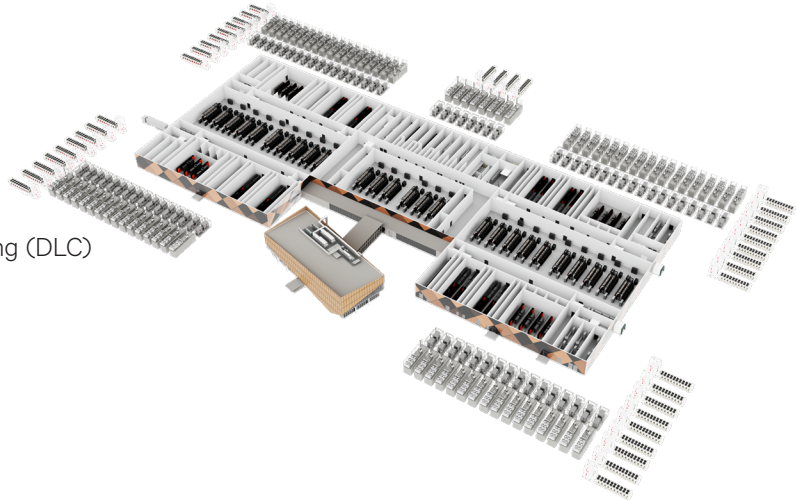
- 50MW AI data center
- 4 Data Halls
- 944 racks (320 GB200 compute racks)
- Separate Primary Fluid Network (PFN) for Direct Liquid Cooling (DLC)
- Liquid cooling / Air cooling ratio: 80% / 20%
- Electrical redundancy: 4N/3
- Thermal redundancy:
 - SFN – N+1 CDU
 - PFN – Concurrently maintainable



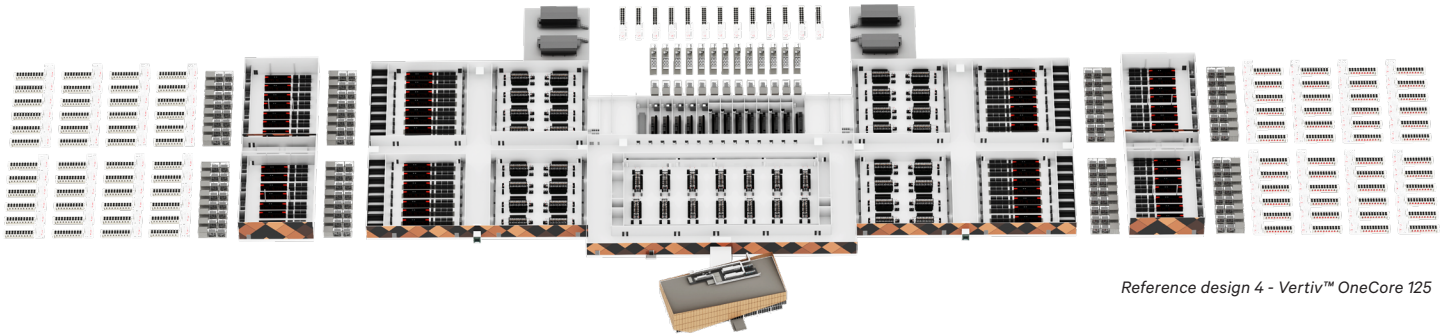
Reference design 2 - Vertiv™ OneCore 50-4

Reference design 3 - Vertiv™ OneCore 50

- 50 MW AI data center
- 2 Compute blocks, availability: 99,9%
1 Core block, availability: 99,999%
- 832 racks (320 GB300 compute racks)
- Separate Primary Fluid Network (PFN) for Direct Liquid Cooling (DLC)
- Liquid cooling / Air cooling ratio: 87% / 13%
- Electrical redundancy: 4N/3
- Thermal redundancy:
 - SFN – N+1 CDU
 - PFN – Concurrently maintainable



Reference design 3 - Vertiv™ OneCore 50



Reference design 4 - Vertiv™ OneCore 125

Reference design 4 - Vertiv™ OneCore 125

- 125 MW AI data center
- 4 Compute Data Halls, availability: 99,9%,
1 Core Data Hall, availability: 99,999%
- 1,104 racks (512 VR200 compute racks)
- Separate Primary Fluid Network (PFN) for Direct Liquid Cooling (DLC)
- Liquid cooling / Air cooling ratio: 90% / 5%
- Electrical redundancy: 4N/3
- Thermal redundancy:
 - SFN – N+1 CDU
 - PFN – Concurrently maintainable

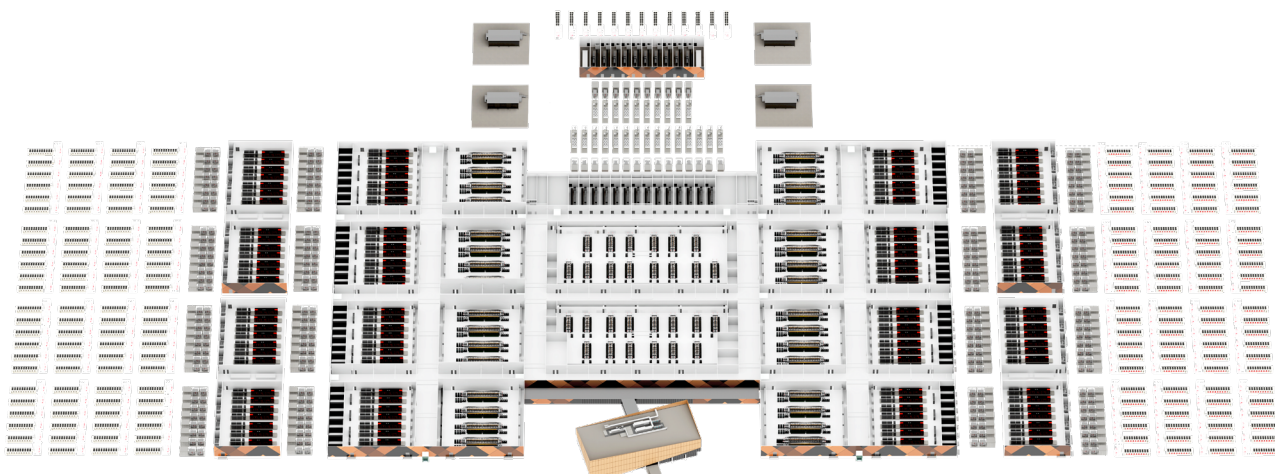
Reference design 5 - Vertiv™ OneCore 250

- 250 MW AI data center
- 8 Compute Data Halls, availability: 99,9%
1 Core block of 2 Data Halls, availability: 99,999%
- 2,208 racks (1,024 VR200 compute racks)
- Liquid cooling / Air cooling ratio: 95% / 5%

- Electrical redundancy: 4N/3
- Thermal redundancy:
 - SFN – N+1 CDU
 - PFN – Concurrently maintainable



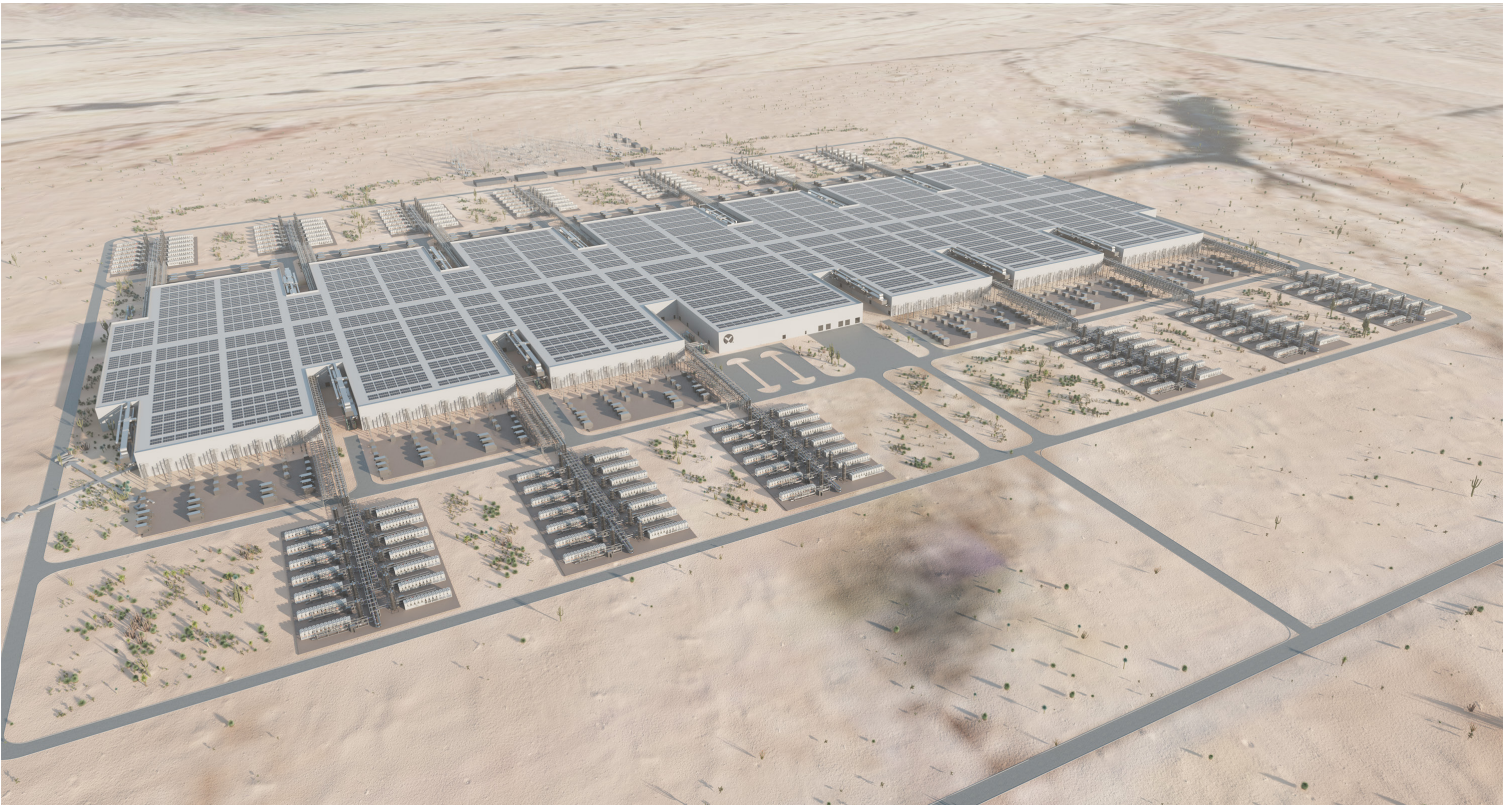
Reference design 5 - Vertiv™ OneCore 250



Reference design 5 - Vertiv™ OneCore 250

Reference design 6 - Vertiv™ OneCore DSX

- 311 MW AI data center
- 12 Compute Data Halls, availability: 99,9%
1 Core block of 2 Data Halls, availability: 99,999%
- 3,536 racks (1,344 VR200 compute racks / 14 racks per SU)
or
- 4,496 racks (1,536 VR200 compute racks / 2x8 racks per SU)
or
- 4,496 racks (1,536 VR Ultra compute racks / 2 x 8 racks per SU)
- Liquid cooling / Air cooling ratio: 100% / 2% Electrical
- Thermal redundancy:
 - SFN – N+1 CDU
 - PFN – Concurrently maintainable



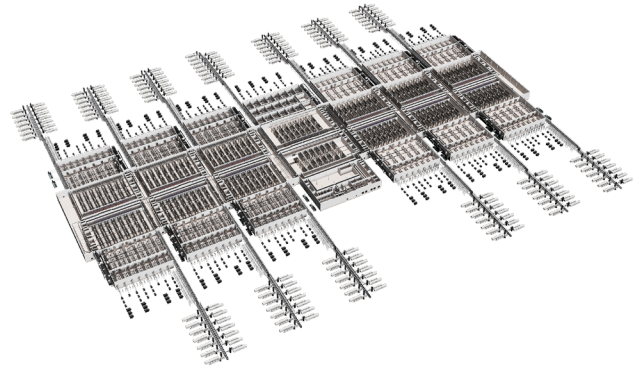
Reference design 6 - Vertiv™ OneCore DSX



Vertiv™ OneCore DSX description

Why OneCore DSX?

OneCore DSX is a purpose-built AI factory architecture designed around NVIDIA DSX principles. It provides a validated framework spanning power, cooling, networking, controls, and operations, reducing engineering effort and deployment risk while accelerating time to production.



1. Faster Deployment, Lower Risk

OneCore DSX delivers predefined building blocks, including the Core, Compute Halls, Scalable Units (SU), Deployment Units (DU), power systems, cooling infrastructure, and controls architecture. This minimizes engineering complexity, improves supply-chain predictability, shortens design cycles, and accelerates deployment.

2. Optimized for Token Economics

Unlike traditional data centers that focus primarily on uptime, OneCore DSX is designed to maximize AI output and performance per watt. Through NVIDIA MaxLPS, Dynamic Power Software (DPS), and high-temperature liquid cooling, the architecture increases compute productivity within a fixed site power budget, producing more tokens from the same infrastructure investment.

3. Higher Site Power Utilization

OneCore DSX integrates dynamic power allocation from the outset. Power can be shifted between cooling and compute as operating conditions change, reducing stranded capacity and enabling greater GPU utilization compared to conventional static designs sized only for worst-case scenarios.

4. Integrated IT and OT Operations

Through DSX Exchange, facility systems and AI infrastructure share real-time data. Telemetry from power, cooling, and building management systems can be used by AI operations and scheduling platforms, enabling optimization opportunities that are difficult to achieve in independently designed environments.

5. Scalable for Future Growth

The Core is sized for the site's ultimate capacity on Day One, while Compute Halls and Scalable Units can be added incrementally as demand grows. This enables phased investment, minimizes future integration risks, and provides a clear path for adopting future NVIDIA technology generations without redesigning the underlying infrastructure.

DSX topology

The Vertiv™ OneCore DSX architecture is a modular AI factory platform built around a centralized Core and repeatable Compute Halls. The reference design includes twelve Compute Halls surrounding a single Core, creating a scalable campus optimized for NVIDIA DSX deployments. Each Compute Hall operates as an independent fault domain with dedicated power, cooling, batteries, and controls, enabling phased expansion while maintaining a fully integrated architecture from day one.

The Core is sized for the AI factory's ultimate capacity and hosts the CIN (Cluster Interconnect Network), shared services, utility distribution, controls, and operational systems. This separation enables predictable scaling of compute capacity through Scalable Units (SUs) while maintaining a standardized deployment framework. Based on NVIDIA Vera Rubin requirements and optimized for MaxLPS, the architecture combines a fixed-size Core with scalable compute capacity.

Although presented as a single-story reference design for standardization and rapid deployment, Vertiv OneCore DSX can also be implemented as a multi-story or site-specific facility without changing its functional architecture.

Power Supply

Vertiv OneCore DSX supports two primary power delivery models. In the traditional approach, distributed UPS systems provide fault ride-through and power smoothing for GPU infrastructure, while standby generators protect Core services during extended outages.

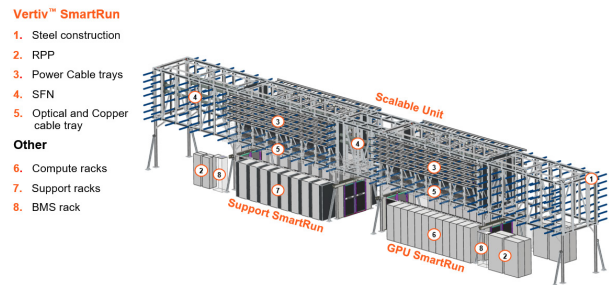
Alternatively, a BESS-centric architecture uses site-level Battery Energy Storage Systems to provide ride-through, grid support, power smoothing, and load management. In this model, high-power compute infrastructure operates without dedicated UPS systems, reducing losses, footprint, and cost. UPS protection remains only for critical services such as networking, controls, communications, and selected cooling systems. This approach aligns with NVIDIA's MaxLPS strategy and Intelligent Power Smoothing (IPS) concepts.

Compute Hall

The Compute Hall is powered using a 4-to-make-3 (4N/3) topology, where four power paths support loads that can be sustained by any three active paths. Each hall contains Deployment Units (DUs), which provide the space, power, and cooling envelope for AI infrastructure.

The fundamental building block is the Scalable Unit (SU), consisting of one GPU Hot Aisle Containment (HAC) and one Support HAC containing networking, storage, and other supporting infrastructure. Electrical systems are sized for MaxP operation, enabling support for the highest rack power requirements.

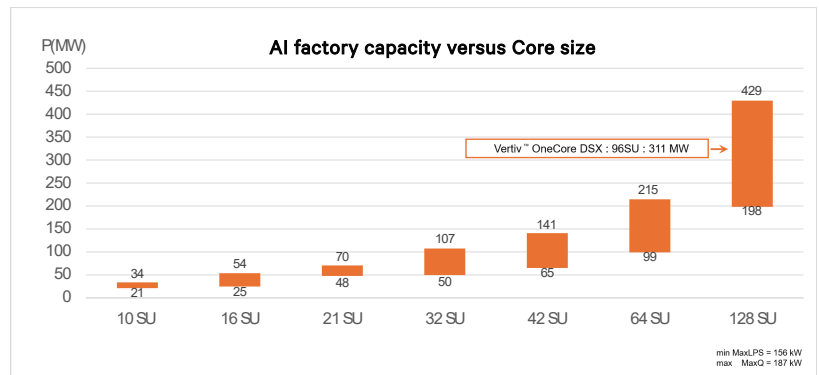
Multiple SUs form a DU, and multiple DUs form a Compute Hall. While infrastructure supports MaxP conditions, DUs are designed according to MaxLPS principles, enabling additional rack deployment at lower average power levels. This increases GPU count and token production while allowing dynamic power allocation within infrastructure limits.



AI factory Core sizing

Vertiv OneCore DSX Core must be selected based on the AI factory's ultimate capacity and is not intended for future expansion. Customers choose from predefined Core sizes ranging from 10 to 128 SUs. For example, a facility targeting 18 SUs would require a 21-SU Core.

The complete Core is deployed on Day One, including networking, power, cooling distribution, and shared infrastructure. Compute capacity is then added incrementally through new Compute Halls without modifying the Core.



A given site power target can be achieved using different Core sizes depending on rack density and compute technology. For example, a 100 MW AI factory may require a 32, 42, or 64 SU Core. Higher rack densities typically require fewer SUs and a smaller Core. This provides flexibility while preserving a standardized architecture and reducing expansion risk.

Heat rejection

Vertiv OneCore DSX cooling architecture uses dedicated cooling yards and two independent chilled-water loops. The High-Temperature (HT) loop serves liquid-cooled GPUs through CDUs and the Technology Cooling System, operating at elevated temperatures that maximize free cooling and minimize chiller operation.

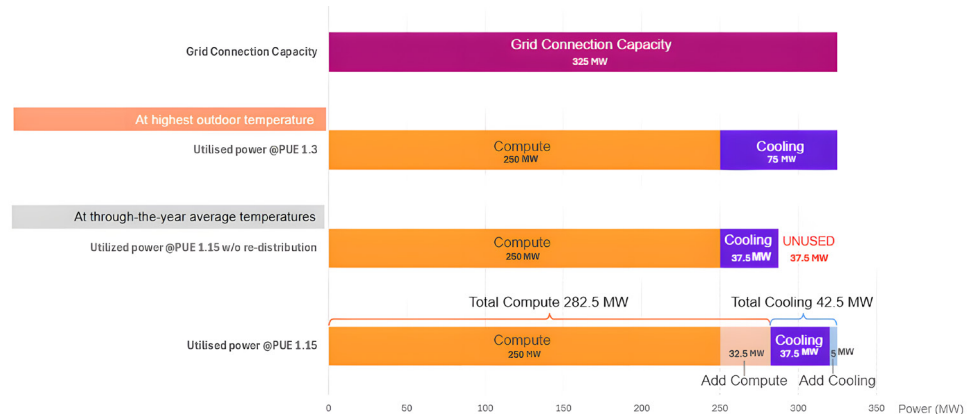
The Medium-Temperature (MT) loop serves CRAH units that cool air-cooled infrastructure, including network racks, support equipment, electrical rooms, and controls areas. Separating liquid-cooled and air-cooled loads enables optimal efficiency and simplifies capacity planning while supporting current and future high-density AI platforms.



Vertiv™ CoolLoop trim cooler

Site power utilization and tokenomics

MaxLPS maximizes AI token production from a fixed site power budget by dynamically allocating power to GPUs. NVIDIA Dynamic Power Software (DPS) continuously manages power across racks and clusters, converting unused facility capacity into productive compute power.



For example, a 325 MW site may reserve 75 MW for cooling under worst-case conditions, leaving 250 MW for compute. During typical conditions, cooling demand can drop significantly, creating available power that can be reassigned to GPUs. DPS adjusts compute power limits accordingly while remaining within site power constraints.

This approach aligns with NVIDIA's tokenomics strategy of maximizing tokens per watt and per dollar invested. By combining workload-aware power management with real-time facility data, Vertiv OneCore DSX increases compute utilization, token output, and economic return from a fixed Land-Power-Shell investment.

Vertiv™ OneCore: efficient end-to-end deployment from design to ready-for-service

Vertiv™ OneCore offers flexible deployment engagement options to meet your specific needs. The deployment journey spans from pre-sales consulting and design integration to factory assembly and on-site data center construction.

Our comprehensive approach includes thorough pre-construction planning, detailed method statements, risk assessments, and commissioning programs. During the construction phase, we provide expert site management, health & safety coordination, quality control, on-site commissioning, and training services. This approach enables an transition from factory to site deployment, supported by our skilled deployment team throughout the entire project lifecycle.

1. Pre-sales phase:

- Consulting with presales team during bidding stage
- Deployment cost estimation and supervision planning
- Identifying and contacting local partners across the world

2. Design phase:

- Consultation during schematic design (SD), detailed design (DD) and construction documentation (CD) phases
- Integration of on-site experience into existing and new design solutions

3. Factory assembly phase:

- Consulting with factory team
- Monitoring assembly process in collaboration with quality control
- Level 1 attendance for external suppliers
- Factory acceptance test (FAT) attendance and involvement
- Participation in module disassembly / transportation

preparation process

4. Pre-construction activities:

- Preparing method statements and risk assessments documentation
- Developing detailed scope of work documentation
- Creating commissioning programs, scripts, and schedules
- Supporting program managers during tendering phase

5. Construction phase:

- Managing or supervising the assembly
- Site management
- Health & safety coordination
- On-site quality control
- On-site commissioning
- Conducting training sessions



Rely on Vertiv™ Services for superior critical infrastructure performance

Global presence & local resources



With the broadest, most comprehensive service presence in the industry and more than 3,500 engineers dedicated to servicing the entire world, Vertiv™ products enable that your business is always protected, and that service is available whenever needed 24 h a day.

Project services



From project planning and design, through to equipment procurement, installation, and commissioning, our project team offers comprehensive capabilities, enabling speed of deployment and execution according to pre-defined and repeatable procedures.

Expertise & training



All service engineers are regularly certified according to country-specific regulations as well as wider international regulations and standards.

Vertiv service engineers are trained, experienced professionals who undergo an average of one week of intensive training each quarter, totaling one month of full-time training per year.

Training includes both technology and safety, to enable competent and safe field operations, reinforced by established procedures to follow and central technical support in case of need.

Premium response



With Vertiv you can count on an extensive supply of critical parts plus crash-kits ready for deployment, and on service engineers that can respond to requests in record time.

To do so, they rely on a solid knowledge-base, and established escalation procedures valid across the regions. In addition, they also benefit from advanced incident management, and widespread presence of Service Centers all enabling them to deliver premium restoration capabilities.

Supporting your business around the globe



Regular service of critical equipment supports maximum uptime and reduces total cost of ownership. A service program enables timely and proactive maintenance for avoiding unexpected, costly equipment downtime and enables optimal equipment operation. Vertiv service programs cover all technologies and can be tailored to suit individual business needs.



Vertiv deep infrastructure expertise is amplified by field data and analytics, enabling data-based services such as Advanced Incident Management and Condition Based Maintenance.

These services complement our portfolio providing additional insight into operating trends allowing informed decision and minimizing operational.

The process follows the manufactured approach with activities split between factory and site locations, enabling comprehensive project delivery from initial consultation through to final commissioning.

Effective Vertiv deployment of Vertiv™ OneCore enables:

1. **Project Complexity Management:** Flexible engagement options help customers manage complex data center projects according to their capabilities and needs.
2. **Risk Mitigation:** Through comprehensive pre-construction planning, detailed method statements, and risk assessments, we help customers minimize deployment risks.
3. **Quality Assurance:** Our dual-layer quality control process (both at factory and on-site) enables high standards throughout the deployment process.
4. **Resource Optimization:** By providing experienced site management, H&S coordination, and training services, customers don't need to source and manage multiple contractors or develop internal expertise.
5. **Project Timeline Management:** Our manufactured approach with clear phase progression from pre-sales through to commissioning helps efficient project delivery and reduces potential delays.
6. **Technical Integration:** By involving deployment experts during the design phase, we help prevent potential on-site issues before they occur, integrating practical experience into the design solutions.
7. **Efficient Transition:** Our comprehensive approach enables smooth transitions between factory assembly and on-site deployment phases, reducing coordination challenges for customers.

Efficient engineering, production and site construction



Design & engineering BOD, SD, DD



Office and factory activities



Construction design, procurement



Vertiv™ SmartRun production
Auxiliary modules production



Power modules production
Hydro modules production
Piping skids production



As build documentation



Site activities



Studies, permitting



Site preparation, road, foundation



Shell construction, smartrun installation



Vertiv™ SmartRun installation, internal
cooling installation



Installation of auxiliary modules, piping
skids, chillers, hydro modules, power
modules, controls and monitoring
implementation



Controls and monitoring implementation

