



Vertiv™ SmartAisle™ 2

Complete Edge Data Center
Infrastructure Solution



Coming Soon
Available beginning in 2024

The Vertiv™ SmartAisle™ 2 is a Pre-Engineered Edge Data Center complete with power, cooling, and all the critical pieces required to ensure data center availability.



Complete Containment
Fully contained hot and cold aisles enable more efficient cooling. EIA310 19-inch IT racks included for IT equipment.

Precision Cooling
In-row cooling units are included with N+1 Redundancy. They work in tandem with temperature sensors at the rack and supply air to optimize cooling capacity and increase energy efficiency.

Centralized Management & Monitoring
Equipped with revolutionary integrated communications module and touch screen control panel to provide unmatched access to the entire system including remote monitoring & control.

Power Management & Distribution
Pre-integrated power distribution across the entire system to the IT racks including N+1 redundancy.

80% Faster Deployment*

30% Lower Deployment Cost*

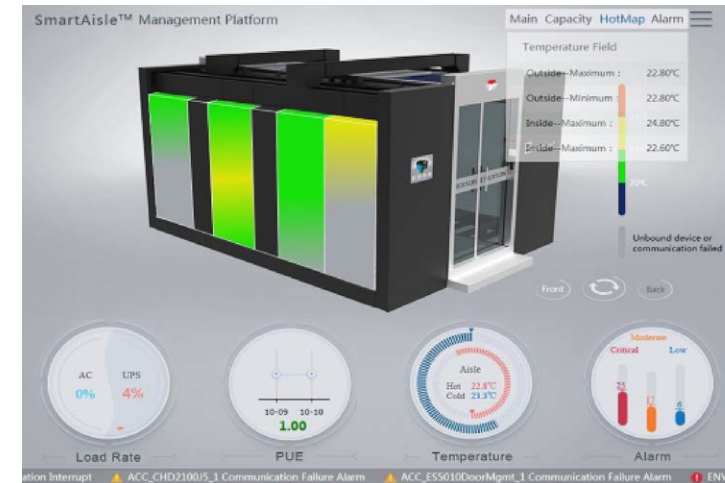
20% Lower Carbon Emissions*

Power Protection
Online Double-Conversion UPS with Unity power factor ensures clean power feeding to critical IT equipment.

Smart Security & Safety
Automatic sliding doors with fingerprint access. Magnetic locking roof with emergency exhaust ventilation.

Environmental Sensors
Reporting critical environmental information and alarm notifications ensure IT equipment is always kept at the desired conditions.

Top Benefits of the Vertiv™ SmartAisle™ 2



Accelerate Edge Computing Deployments

- Vertiv™ SmartAisle™ 2 is a deployment-ready solution engineered by global leaders in Data Center Infrastructure. This reduces most of the time spent on planning, design, and site preparation.
- 24 unique configurations enable unique selections of system capacity, cooling capacity, rack quantity, etc.

Reduce Carbon Footprint and Save Energy

- Hot and cold aisle containment reduces cooling energy consumed by approximately 30% compared to a typical space with perimeter cooling.
- Cooling units include capacity modulation to reduce compressor cycles and component wear and tear.
- PUE is monitored with detailed and precise reporting available.

Lower Deployment Costs

- The solution is Engineered by Vertiv to eliminate most of the planning and design that normally comes with a new Edge Data Center deployment.

Full Redundancy Capability Helps Prevent Downtime

- Redundant power and cooling can optionally be built into each system to add another layer of protection from downtime.
- Options to place redundant UPS outside the aisle.



Maximize Existing Space With a Room Neutral Design

- In-Row power and cooling systems enable more compute capacity in a smaller footprint.
- System can be placed virtually anywhere – no raised floor is required.

Lower Deployment Costs

- The solution is Engineered by Vertiv to eliminate most of the planning and design that normally comes with a new Edge Data Center deployment.

Centralized IT and Infrastructure Management System

- System visualization with 3D models for easy system monitoring.
- Allows serial console management via serial connection.
- Local (control panel) and remote system health check via IP-based webpage.
- Alarm notifications via email or SMS with downloadable activity logs and alarm history.

Intelligent Safety & Security

- Systems include fire suppression, intelligent locks, cameras, and optional surveillance.
- Enable remote door access via IP-based webpage, local access with proximity card.

*For illustration purposes only. Figures are estimations based upon Vertiv's internal engineering studies and analysis. Actual deployment times, costs, and savings may vary depending upon scope, specifications, geographic locations, etc.



Time Consuming Process

The process from planning to commissioning takes 6 – 12 months on average and is difficult to predict with confidence.

Hidden Costs

Over half the cost of a deployment goes to the process, including planning, consulting, site prep, etc.

Cooling Capacity

Computing generates too much heat for the existing infrastructure, requiring additional cooling capacity.

Power Upgrades

New compute technologies may require more power than the current facility can handle.

Management

IT distributed across multiple sites and from different vendors is very challenging for IT teams to manage efficiently.

Sustainability

With energy costs and demand both rising at the Edge, the pressure is on to find more sustainable technologies.



Did you know that 60% of network outages are related to power or cooling?

How Vertiv™ SmartAisle™ Simplifies Deployment

Pre-engineered systems simplify edge deployments with a repeatable and scalable solution, enabling business agility for future growth.



Accelerate Deployments

Accelerate the deployment process by reducing planning, build, and overall deployment time.



Reduce Costs

Reduce costs associated with planning, construction and renovation and make the budget for the project more predictable.



Integrated Cooling

Many solutions offer integrated cooling and containment to maximize cooling capacity and energy efficiency in the space.



Pre-Integrated Power Distribution

Solutions can include Busway, UPS battery backup, surge protection, and pre-integrated power distribution to IT rack enclosures to simplify installation and commissioning.



Remote Management

Standardized, single-vendor solutions include remote management options to simplify environments.



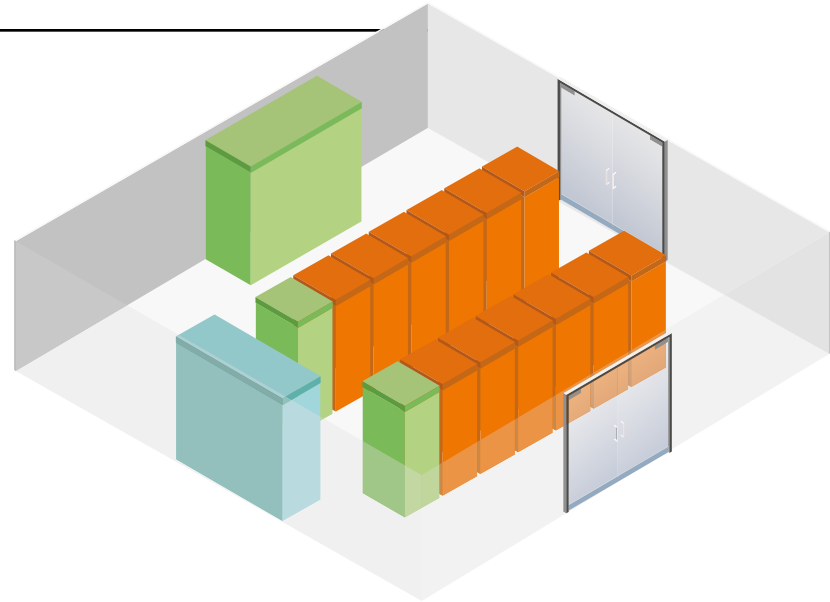
Contained In-Row Cooling

Contained systems with dedicated cooling are proven to reduce cooling energy use and carbon emissions by as much as 30%.

Vertiv is a Global Leader in Data Center Power and Cooling Solutions

It is Time to Rethink the Traditional Process

Traditional Room Build



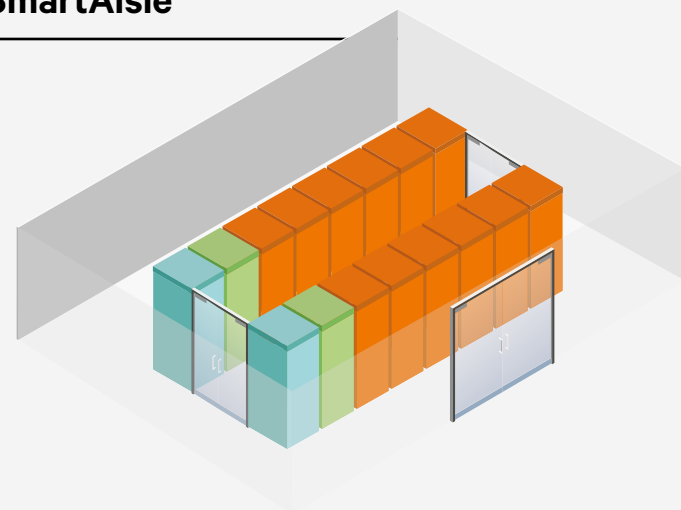
Complex Process

Months of planning, design, procurement, legal permitting, and consulting go into creating custom designs for a room build or upgrade. It takes months for each deployment, and each room is typically repeated all over again for every location.

Planning and labor consume

50%
of the deployment cost*

Vertiv™ SmartAisle™



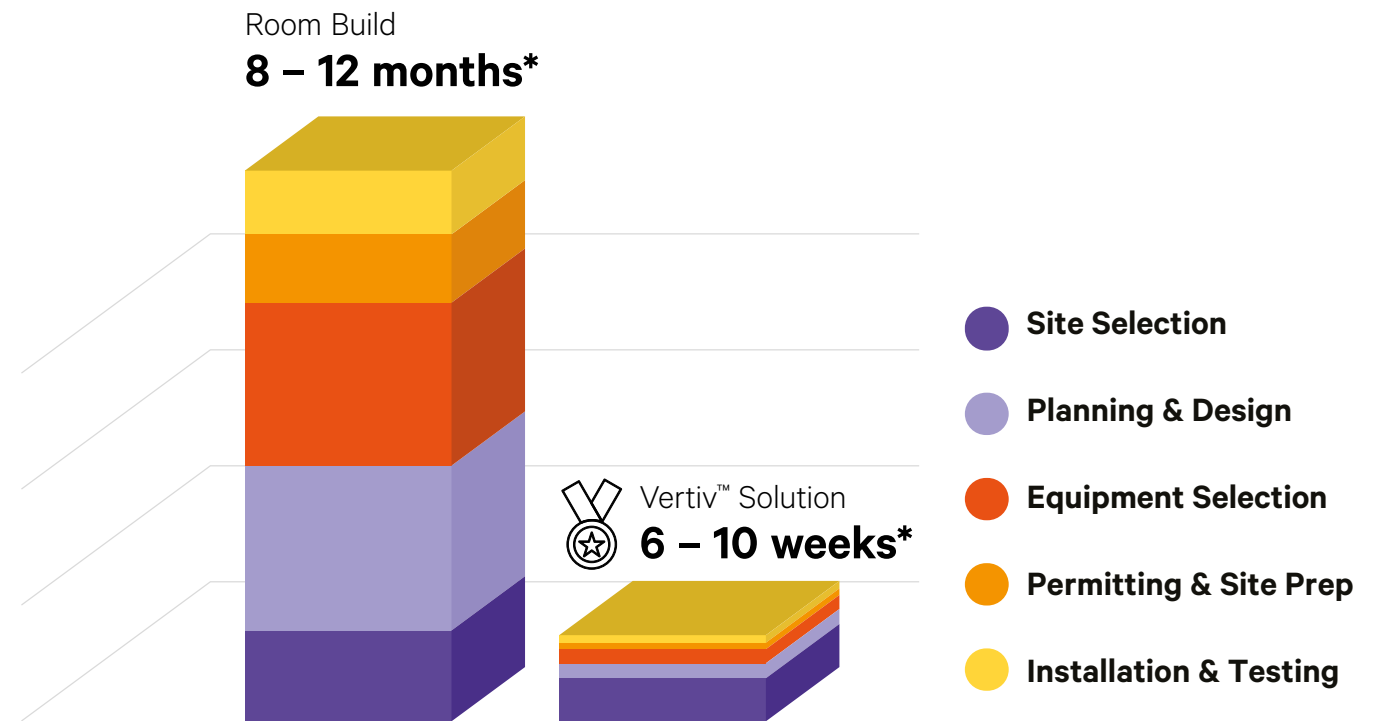
What's Included

- Sealed Racks
- In-Row Cooling
- Power Distribution & UPS
- Fire Suppression
- Physical Security

Pre-Engineered systems eliminate most of the design and planning that goes into Edge deployments.

Vertiv™ SmartAisle™ vs Room Build

The SmartAisle™ 2 offers a simplified approach to deploying an Edge Data Center when compared to designing and building or retrofitting a room.



80% **Faster time to deployment***



30% **Initial cost savings per deployment***



20% **Reduction in carbon emissions***

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High Efficiency Thermal Management

Each system includes sealed racks with contained in-row cooling and airflow management to maximize cooling efficiency and reduce energy costs.

Intelligent Monitoring

System includes temperature sensors in each enclosure to ensure precise control over temperature and humidity.

Capacity Modulation

Cooling units work as a team allowing the system to modulate capacity to increase efficiency, minimize wear and tear on the compressor, and extend the useful life of each cooling unit.

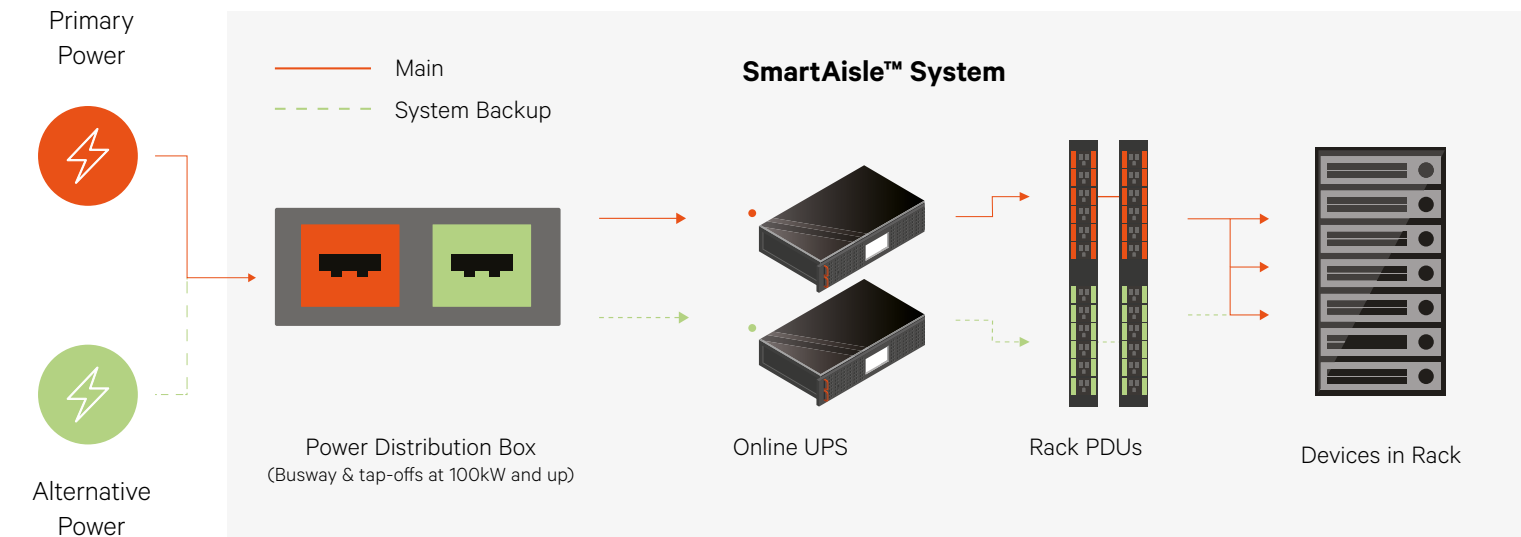
Emergency Ventilation

The roof includes emergency ventilation to pull heat away from the IT and enable a safe system shutdown.



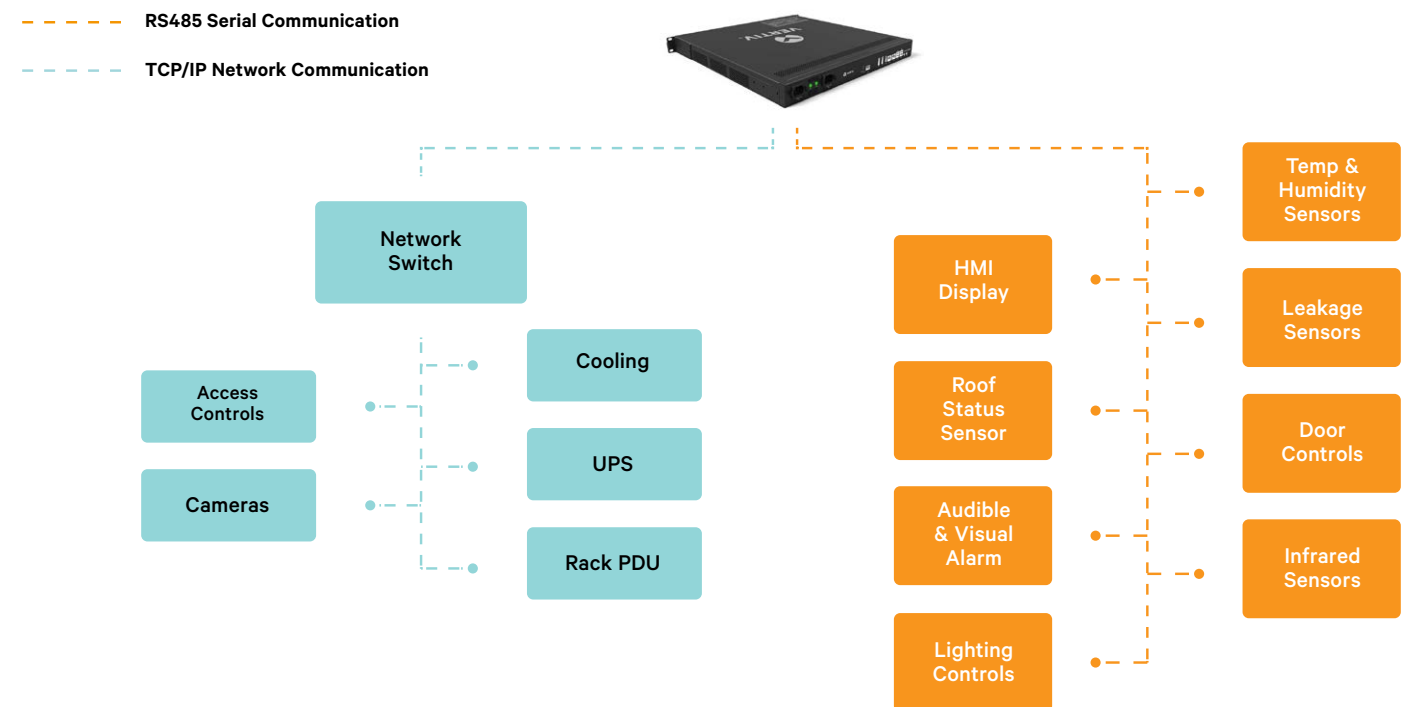
Fully Redundant Power Management

Each system includes pre-integrated power management complete with online double-conversion UPS, N+1 power redundancy, and pre-integrated distribution to rack PDUs in each rack enclosure.



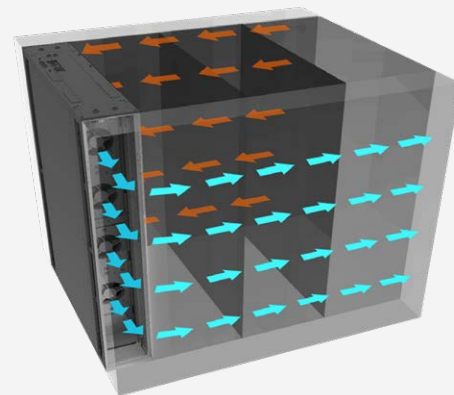
Centralized Management and Monitoring

Infrastructure Management Gateway Appliance



Reduce Cooling Costs & CO2 Emissions by 20%

In a traditional room build, precision cooling units cool an entire room. The Vertiv™ SmartAisle™ 2 is a fully contained system that includes hot aisle and cold aisle containment. This is an industry best practice proven to significantly increase cooling efficiency, which reduces the energy required to cool the system and reduces total carbon emissions by an estimated 20%.*



Fully Enclosed Hot Aisle & Cold Aisle Containment

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Our Most Advanced Infrastructure Control Available

The integrated controller in the SmartAisle™ 2 provides unmatched reporting and analysis of the operation and status of the system.

Main Screen

Displays the current status of the unit, operational efficiency, aisle temperature and number of alarms based on priority.



PUE Screen

Displays the precise PUE with detailed bifurcation of power usage by recording the demand fluctuations.



Thermograph Profile

Displays the entire temperature field of each rack in the unit providing micro-level data for temperature variation.



System Alarms

Displays all the current alarms with the precise fault location and the level urgency in the Vertiv™ SmartAisle™ 2.



IT Load Profile

Displays the capacity utilization for the load rate and the power supply to factor the instant demand profile variation.



Nephogram

Displays real-time temperature reading for each rack on both sides of the hot aisle and the cold aisle.



Site Planning Data

Vertiv™ Model Number	Max Power Capacity (kW)	IT Racks	Rack Type (U x mm x mm)	Capacity per Rack (kW)	Cooling Units	PDU Type	PDU Count	Distribution Type	Length (mm)
SA2N08068MFA1 ¹	68	8	42Ux600x1100	8.5	3	30 A	16	100kW PDB	4800
SA2N08068MFB1 ¹	68	8	42Ux800x1100	8.5	3	30 A	16	100kW PDB	4800
SA2N09068MXA1 ²	68	9	42Ux600x1100	7.6	3	30 A	18	100kW PDB	4200
SA2N09068MXB1 ²	68	9	42Ux800x1100	7.6	3	30 A	18	100kW PDB	4200
SA2N12100MFA1 ¹	100	12	42Ux600x1100	8.3	4	30 A	24	100kW PDB	5400
SA2N12100MFB1 ¹	100	12	42Ux800x1100	8.3	4	30 A	24	100kW PDB	5400
SA2N12100MXA1 ²	100	12	42Ux600x1100	8.3	4	30 A	24	100kW PDB	5400
SA2N12100MXB1 ²	100	12	42Ux800x1100	8.3	4	30 A	24	100kW PDB	5400
SA2N15125MFA1 ¹	125	15	42Ux600x1100	8.3	5	30 A	30	250A Busway	6000
SA2N15125MFB1 ¹	125	15	42Ux800x1100	8.3	5	30 A	30	250A Busway	6000
SA2N15125MXA1 ²	125	15	42Ux600x1100	8.3	5	30 A	30	250A Busway	6000
SA2N15125MXB1 ²	125	15	42Ux800x1100	8.3	5	30 A	30	250A Busway	6000
SA2N09137HFA1 ¹	137	9	42Ux600x1100	15.2	5	60 A	18	250A Busway	4200
SA2N09137HFB1 ¹	137	9	42Ux800x1100	15.2	5	60 A	18	250A Busway	4200
SA2N09137HXA1 ²	137	9	42Ux600x1100	15.2	5	60 A	18	250A Busway	4200
SA2N09137HXB1 ²	137	9	42Ux800x1100	15.2	5	60 A	18	250A Busway	4200
SA2N20172MFA1 ¹	172	20	42Ux600x1100	8.6	6	30 A	40	250A Busway	7800
SA2N20172MFB1 ¹	172	20	42Ux800x1100	8.6	6	30 A	40	250A Busway	7800
SA2N20172MXA1 ²	172	20	42Ux600x1100	8.6	6	30 A	40	250A Busway	7800
SA2N20172MXB1 ²	172	20	42Ux800x1100	8.6	6	30 A	40	250A Busway	7800
SA2N13200HFA1 ¹	200	13	42Ux600x1100	15.4	7	60 A	26	400A Busway	6000
SA2N13200HFB1 ¹	200	13	42Ux800x1100	15.4	7	60 A	26	400A Busway	6000
SA2N13200HXA1 ²	200	13	42Ux600x1100	15.4	7	60 A	26	400A Busway	6000
SA2N13200HXB1 ²	200	13	42Ux800x1100	15.4	7	60 A	26	400A Busway	6000

Notes

- N+1 Redundancy
- N+1 Redundancy, UPS placed outside the aisle.



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