Vertiv™ SmartRow™ 2

Intelligent, Integrated
Converged Infrastructure
Solution

DC Trends

Standardization

It is a new approach to data center design where equipment components are standardized and consistent designs are followed across the data center build. Due to this, organizations are able to leverage the advantages such as reducing equipment costs, less deployment timeline, simplified service and maintenance, etc.

Hyper-converged Infrastructure

To handle the massive data influx, data centers are being built in cities and regional hyperscale nodes. The rise of hyperscale data centers are also to lower costs, reduce latency and provide the fastest, most reliable service. Enterprises are adopting this hyper-scale data centers with new level of security, thereby becoming more prevalent with the latest IT infrastructure requirements.
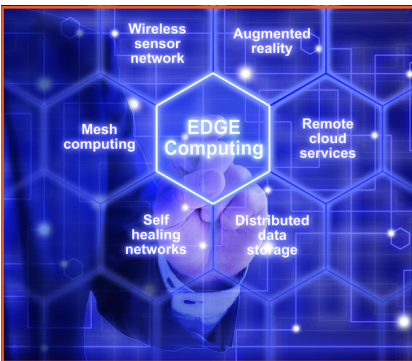
Edge Computing

When there are limitations of supporting users and emerging technologies through centralized IT infrastructures, storage and computing are pushed closer to users and devices. This requires the edge of the network to get more smarter, simpler, and self-sufficient to support the smart and connected future, particularly at the local level.

Content Delivery Networks (CDN)

CDN is a system of distributed servers that deliver pages and other web content to a user based on geographic locations, the origin of the webpage and the content delivery server. The closer the CDN server is to the user geographically, the faster the content will be delivered to the user. CDNs also provide protection from large surges in data traffic.

Introducing Vertiv™ SmartRow™ 2

The Vertiv™ SmartRow™ 2 is an innovative approach to data center design by efficiently integrating power and distribution systems, thermal management, security, IT management, and other critical components.

It is an upgrade to the previous generation of products providing users with a more compact, reliable, safer and convenient technology room experience.

The solution comes with the fastest deployment rate, lowest operating cost and the lowest learning curve for operation.

Full Containment Rack

EIA310 19-inch rack system coupled with tempered glass door enables fully enclosed system design. Allows focused cooling in IT environment.

Monitoring Module

Enables central management of all intelligent equipment and IT devices within the system. Reading & data are consolidated into single platform.

Precision Cooling

Row-based solution designed to provide maximum cooling in a compact footprint. Cooling modulation enables cooling on demand and quickly adapts to load fluctuation.

9-inch Touchscreen Panel

User-friendly display enables easy access to system running status & condition.

Power Management & Distribution

Pre-assembled & pre-integrated switchboard with surge protection.

Power Protection

On-line double conversion UPS with unity power factor ensures clean power feeding to critical IT equipment.

Environmental Sensor

Report critical environmental information and alarm notification. Ensure IT equipment is kept in desired condition.

Emergency Ventilation

Activates automatically in the event of overheating or cooling unit failure.

Electronic Lock

Enables rack level security and access log is recorded intelligently. Supports local & remote door authorization.

● **Power Management & Protection**   ● **Thermal Management**   ● Centralized Management & Monitoring

Vertiv™ SmartRow™ 2

Vertiv™ SmartRow™ 2 Configuration

- IRC: In-Row Cooling
- PMC: Power Management Cabinet

IRC   PMC   IT Rack   SmartRow2 (1+3)

Vertiv™ SmartRow™ 2 Design Flexibility

Vertiv SmartRow2 (1+2)

Vertiv SmartRow2 (1+3)

Vertiv SmartRow2 (1+4)

Vertiv SmartRow2 (1+5)

Vertiv SmartRow2 (1+6)

Vertiv SmartRow2 (2+6)
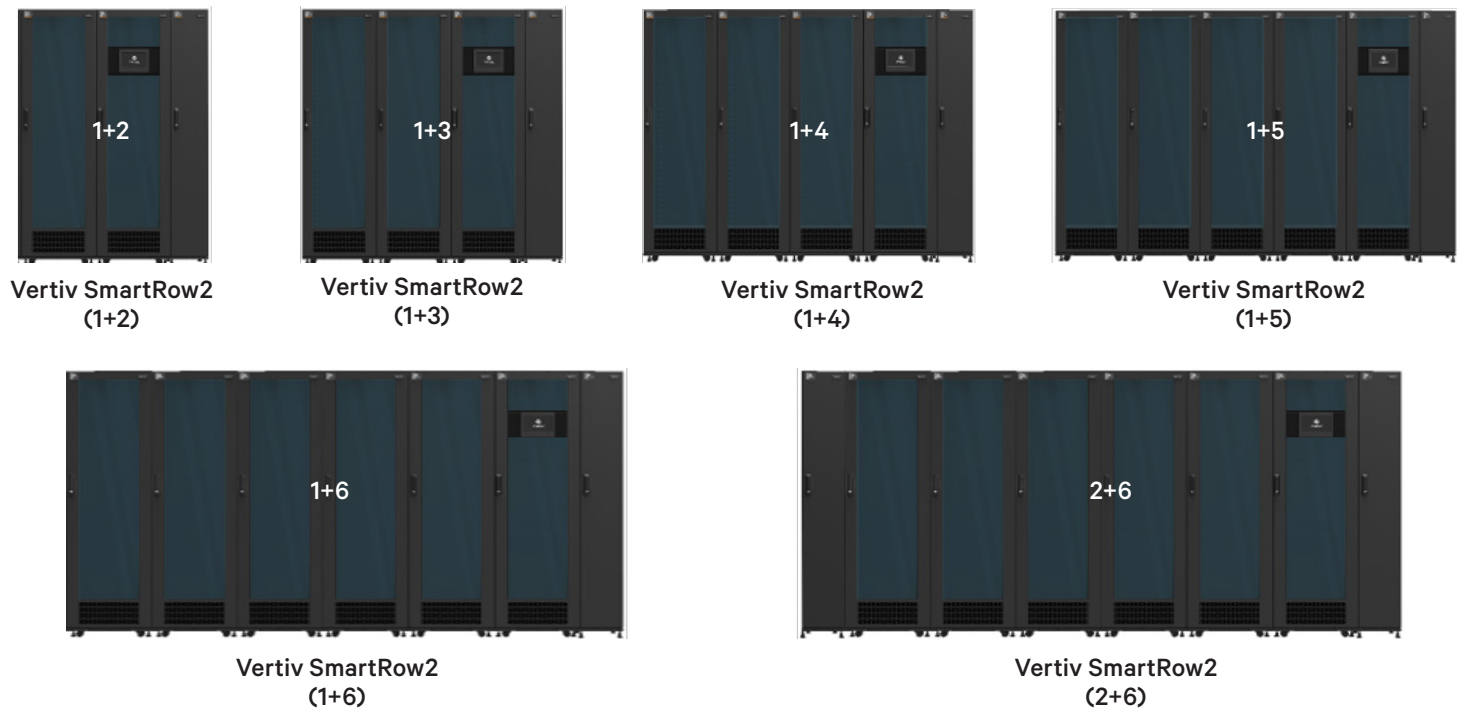
* Vertiv SmartRow2 (A+B), Where A denotes the Number of Cooling (IRC) and B denotes Number of Racks (IT + Infrastructure (PMC))

Vertiv™ SmartRow™ 2 Features

Efficient System

- Fully-enclosed design that comes with cold aisle and hot aisle containment. Contained airflow provides greater cooling efficiency.

- Multiple temperature and humidity measuring points ensure precise control over the environment.

- Inverter technology offers cooling capacity modulation to match with cooling demand. Greatly reduce the compressor cycling and component wear.
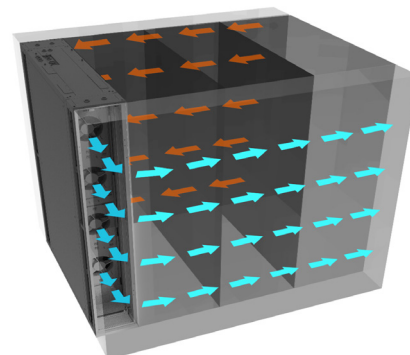
Fully Enclosed Hot Aisle & Cold Aisle Containment

RDU501

Centralized Infrastructure & IT Management System

- Monitor and manage infrastructure devices (UPS, thermal, sensors & etc.) and IT device (server, switches & etc.) under single platform.

- Enable access to server's service processor (IPMI 2.0) to query sensor information and execute remote plan & conditional power cycle

- Allow serial console management via serial connection.

- Support local viewing through in-built HMI display and remote system health check via IP-based webpage.

- Alarm notification can be alerted via email or SMS.

- Activity log and alarm history can be downloaded for reporting purpose.
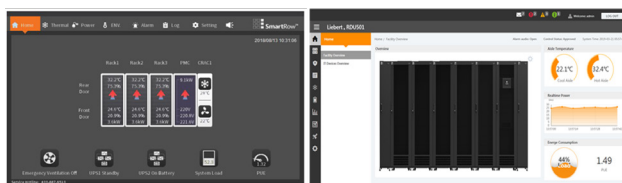
HMI & Web Interface

Controllable Security & Safety

- Enable remote door access via IP-based webpage and local access with proximity card.

- Optional surveillance system setup to monitor onsite activity.

IP Camera

Intelligent Lock

Demand-Driven Deployment

- Preconfigured and pretested complete system reduce complexity of implementation

- Flexible design using scalable architecture offers infrastructure on demand for future expansion.

- Features space saving benefits compared to upfitting a room as traditional data center.
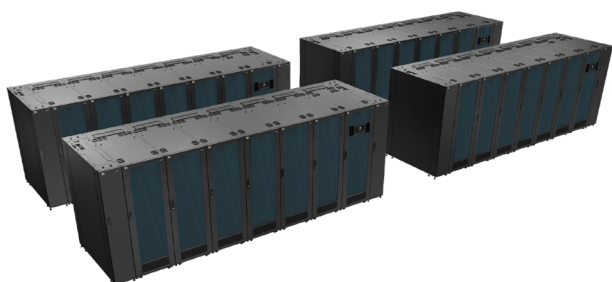
Vertiv™ SmartRow™ 2

Vertiv™ SmartRow™ 2 Unique Offerings

Integrated infrastructure

A full containment solution includes cooling, power protection, monitoring and power distribution that works together to deliver high efficiency and high availability system.

Industry best practices

Seven data center best practices:

- Optimized return air temperature to improve cooling capacity and efficiency

- Cooling capacity based on demand

- Enhanced cooling design that reduces energy consumption

- Intelligent power management that offers high availability and efficiency

- Modular and scalable architectures that minimizes footprint

- Streamlined and comprehensive monitoring system reduces the risk of downtime

- Leverages on data center design expertise and technical assistance

Lower capital expense

Room-neutral design allows this system to be placed virtually anywhere. No raise flooring is required. Modular and scalable architecture allows system expansion based on business needs.

Simplified project management

Pre-engineered & preconfigured design reduces the complexity of installation, time and cost of implementation.

Flexibility

All-in-one data center solution with scalable rack design and adjustable cooling capacity.

Streamlined monitoring and management

Integrated comprehensive and remote monitoring. Intelligent alarm notification and security feature enhances controllability over authorization access.

Technical Parameters

Cabinet type	PMC14	PMC18
Power Management Cabinet (PMC)		
UPS Capacity	10 kVA/ 10 kW	20 kVA/20 kW
UPS Architecture	N/N+1	
PDU Outlet	12	16
RU Usable Space (excl Internal Battery)	28U (10kVA UPS, N) 26U (10kVA UPS, N+1)	23U (20kVA UPS, N) 20U (20kVA UPS, N+1)
Cooling Outlet	2	
LCD Touchscreen Panel	9-inch, Local Access	
LED Lighting	Tri-Color LED (Front Door), White LED (Rear Door)	
Emergency Ventilation System	Included	
Door Lock Type	Electronic Lock	
Dimension (W x H x D, mm)	600 x 2000 x 1400	
Net Weight	290 kg (10kVA UPS, N) 305 kg (10kVA UPS, N+1)	320 kg (20kVA UPS, N) 340 kg (20kVA UPS, N+1)
Thermal Management System		
Cooling Capacity	12.5 kW	25 kW
Max Airflow	4200 m³/h	5500 m³/h
Cooling Mode	Air-Cooled, In-Row Cooling	
Electrical Power	380 V - 415 V/ 3Ph/ 50 Hz & 60 Hz	
Door Lock Type	Electronic Lock	
Dimension (W x H x D, mm)	300 x 2000 x 1400	
Net Weight (kg)	215	**235**
IT Rack		
LED Lighting	Tri-Color LED (Front Door), White LED (Rear Door)	
Emergency Ventilation System	Included	
Door Lock Type	Electronic Lock	
Dimension (W x H x D, mm)	600 x 2000 x 1400 (600 mm Rack) 800 x 2000 x 1400 (800 mm Rack)	
Static Load Capacity	1600kg	
Net Weight(kg)	150 (600 mm Rack) 180 (800 mm Rack)	
Rack Power Distribution Unit		
rPDU Type	0U, Intelligent PDU, 32 A, C13 x 18 + C19 x 6	
Monitoring Module		
Form Factor	1U	
Power Input	Dual AC	
IT Server Remote Management (IPMI 2.0)	Yes	
Server Console Management	Yes	
Optional IP Camera (IPC)	1 x IPC or, 1 < IPC <4, via NVR	