



VERTIV™

SmartCabinet™

Intelligent, Integrated Containment for IT Infrastructure



WE ARE VERTIV

Vertiv, formerly Emerson Network Power, designs, builds, and services mission critical technologies that enable vital applications for data centers, communication networks, and commercial & industrial environments



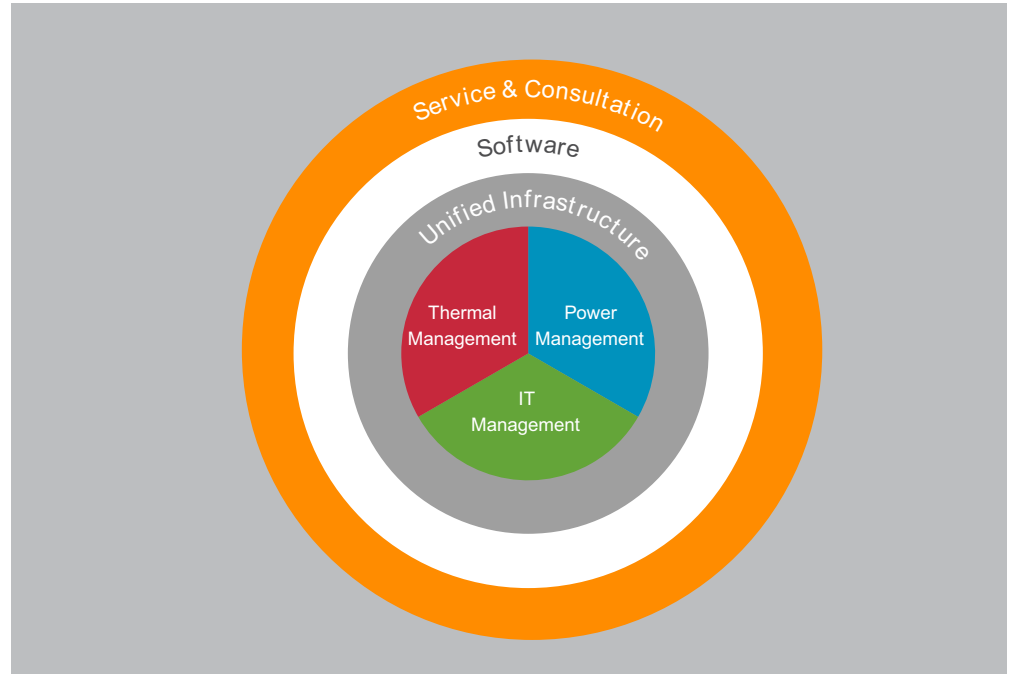
We support today's growing mobile and cloud computing markets with our portfolio of power, thermal and infrastructure management products, software and solutions, all complemented by our extensive global service network.

We help strengthen the world's most vital applications by bringing together global reach and local knowledge, and our decades-long heritage, including brands like ASCO, Chloride, Liebert, NetSure, and Trellis.

Vertiv

Your Vision, our Passion

With a unique combination of industry expertise, technology, and resources, our mission is to support and power mission-critical technologies that drive possibility.



ASCO®

Our global critical power switching, control, and management solutions, engineered to the most demanding specifications, ensures power, reliability, compliance, and efficiency

Chloride®

Our global industrial power solutions meet the most demanding technical specifications and provide safe, reliable power- no matter the challenge

Liebert®

Our global power and thermal management solutions are some of the world's most efficient and reliable power and cooling technologies

NetSure™

Our global intelligently engineered DC power systems deliver high availability, energy efficiency, and scalability for converged networks

Trellis™


Our industry-leading software gives customers an integrated view of operations across IT and facilities resources, enabling better decisions that save time and money

DAY-TO-DAY CONCERNS IN TYPICAL EDGE APPLICATIONS





Room Renovation
 Housing all components
 Takes 15 - 20 days to build
 Footprint : 10 to 20 sqm.

Cleanliness & Noise
 Aesthetics
 Balancing operations in an organized DC
 Fan noise exceeding 65dB levels





Integrating Design activity
 Time-consuming
 advances step-wise wastage of material

Monitoring
 High CAPEX for integration
 Complex processes for integrating all systems.

Power distribution
 Separate UPS + Battery
 Tedious Power management
 Wall mounted panels

Cooling system
 Cooling requires N+1 Configuration
 SHR > 0.95 requires Heaters/ Humidifier operation



Primary IT Infrastructure
 Areas of Concern in mission-critical Edge Applications

- Justifying the area for Edge Application facilities in crunched floor spaces
- Accommodating all the essential components in a minimal footprint
- Compromising your output capacity due to space constraints

Enterprises in today's dynamic era need to address these concerns with a streamlined solution in a well-planned ecosystem followed by easy upkeep, all in a low carbon, compact footprint.

There is a need for a turnkey infrastructure for edge applications that includes:

- Standardized configurations that are tailored to the application, factory integrated, validated and tested.
- High availability with network independent remote management and extensive emergency service coverage.
- Secure physical and remote access with on-site intrusion detection and user rights-driven remote management

Enter SmartCabinet™ - a pre-configured, self-contained solution that offers the efficiency, economy, interoperability, and control to implement an exceptional infrastructure strategy

- **Economical** - Reduces implementation costs compared to conventional solutions
- **Simplified** - Maximize use of existing infrastructure and gets up-and-running in a matter of weeks
- **Controllable** - Enforce add / change policies, speeds IT administration request response times significantly

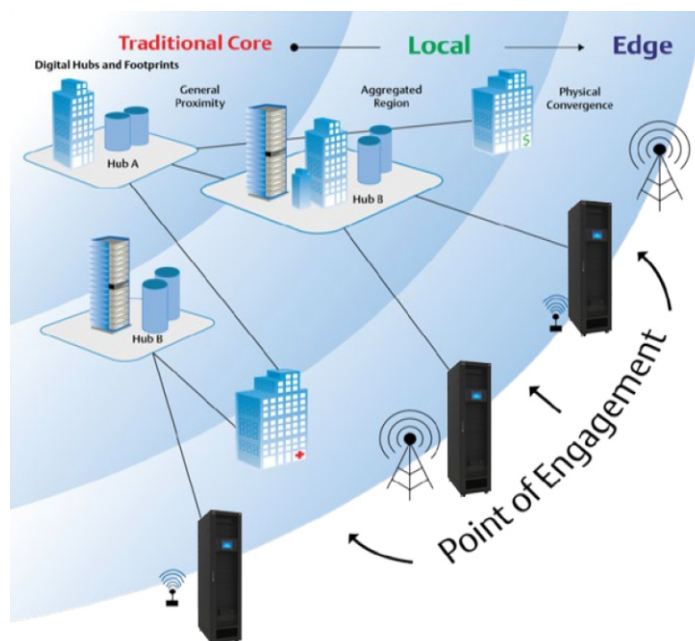
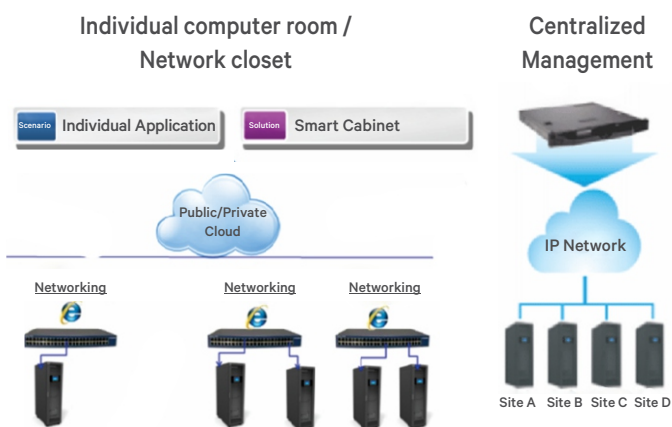


SmartCabinet™ - The Spirit of Innovation



SMARTCABINET™ - PERFECT SOLUTION FOR EDGE APPLICATIONS

Advanced monitoring solution to all the SmartCabinet™ using RDU-M



Distinctive Benefits in small sizes

- Components work as an integrated force
- Fully-protected from dust, moisture, and rodents
- Emergency temperature control cooling
- Integral UPS & back-up autonomy
- Standard Class C lighting protection
- Integrated fire suppression system

Efficient I & C

- Rapid deployment with single day boot-up
- Factory-assembled and pre-loaded
- Doesn't require outdoor units to be installed
- Fits in your existing whitespace

*SmartCabinet™
Delivering value*

Savings on Electricity Bills

- Equipped with a variable frequency compressor for capacity modulation at part loads
- Pre-defined path for cold air and hot air circulation
- Annualized PUE < 1.5

Think Smart, Act Smart

- 9-inch touch screen + remote WEB access
- Remote door access control
- Centralized control for 256 units
- SMS & Emails can be registered for notifications
- The door & in-cabinet lights operate intelligently
- Intelligent monitoring & control with RDU-M

KEY COMPONENTS



Built-in Power Management Unit (PMU) - Provides MCB to UPS, Cooling unit, PDU, and UPS bypass. It also provides surge protection to SmartCabinet™ solution



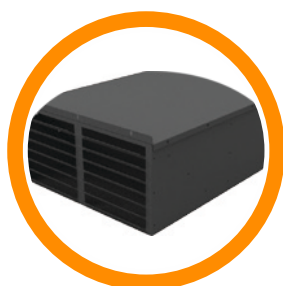
Intuitive LCD Display Panel - 9" Inch Touch Panel display that provides easy access to information for power, thermal management, and security



Centralized Monitoring Empowered by RDU - M
One stop management utility for supervision and management of power, thermal, environment and security ecosystem via the interactive touch-based LCD display



UPS & Batteries - 5kVA On-line double conversion UPS and battery cabinet ensures clean power feeding to critical IT equipment. It also provides backup power to emergency fans during power outages



Thermal Management & Emergency Fans
Provides up to 3.5kW cooling capacity directly to the IT equipment. Front and rear emergency fans automatically run during power outages ensuring continuous air ventilation

Lighting System - Low power consumption LED lights that automatically light up on opening the door



Technical Specifications

Parameter	600 mm wide integrated unit	600 mm wide split unit	800 mm wide split unit
Cabinet Size (HxWxD)	2100 x 600 x 1200 (mm)	2000 x 600 x 1200 (mm)	2000 x 800 x 1200 (mm)
Usable U space	18U	29U	29U
Air Flow Management Panel	5U x 3, 2U x 3, 1U x 2	5U x 3, 2U x 3, 1U x 2	5U x 3, 2U x 3, 1U x 2
Outdoor Unit for Air conditioner	Integrated	Yes (Split)	Yes (Split)
Vertical Cable Management Panel	2	2	2
Area (incl. service space)	1.5 m ²	1.5 m ²	2.0 m ²
Color		RAL7021 Black	
IP Marking		IP5X	
Display panel		9" Touch Panel LCD	
Display Languages		English / Chinese	
LED Lighting		2, Front & Rear	
System Luminance		88lux/1M	
UPS Capacity		5 kVA	
UPS Backup time		10 minutes @ 3 kW	
System Capacity		3 kW	
System Input Requirement		Single Phase 220 V, 230 V, 240 V	
System Frequency		50Hz or 60Hz	
Power Distribution Units (PDU)	16A input , 12 x C13 + 4 x C19	32A input , 18 x C13 + 6 x C19	
Lightning Protection / Surge Suppression		Level 3, 20KA	
Maintenance Bypass		Included	
Cooling Capacity		1,800W ~ 3,500W, variable speed	
Refrigerant		R410A	
Emergency fan		Two, one at front bottom and one at rear top	
System Management (UPS/Cooling/PDU)		Yes	
Temperature Sensor		2	
Water Leak Detection		1 piece, 5 meters long	
Door Access Sensor		2	
Safety Standards		EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013	
EMC Standards		EN 55022:2010 EN 61000-3-11:2000	EN 55024:2010 EN 61000-3-12:2011
Noise Level	< 58 dB ¹	< 50 dB ¹ (excluding outdoor unit)	
Net Weight	290kg	230kg	255kg

*Conditions apply

* Specification are subject to change without any further notification

* 1 - Higher than Class 2 Decibel level in Environmental Quality standard for Noise local standards



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