Vertiv™ eBase 2.0

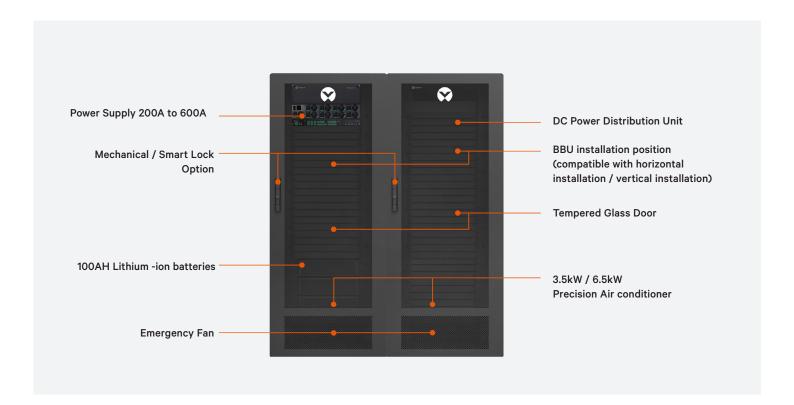Smart Integrated 5G Access
Infrastructure Solutions

Vertiv™ eBase 2.0

The Vertiv eBase 2.0 is a pre-integrated, enclosed cabinet solution designed to meet the demands of the BBU pool for 5G C-RAN deployment and traditional BTS sites. The Vertiv eBase 2.0 adopts IP5X enclosed cabinet, powered with the most efficient and intelligent functional units such as NetSure™ power system, DC PDU, self-contained rack cooling unit, power backup, and monitoring system to support the integral BBU/ICT equipments in order to deliver uninterrupted communication network. This solution brings significant amount of OPEX savings up to 20% by adopting most efficient power system and inverter driven & containment cooling system. It is powered by centralized monitoring & management system that enables central management of all intelligent components within the rack.

Its modular architecture enables rapid site construction and deployment under different application scenarios. With simplified and standardized designs, you can seamlessly expand the cabinets to support the growing networking needs over time.

Ideally Suited For:

- BBU Pool for 5G C-RAN Deployments

- Edge Data Centers

- Indoor Shared BTS sites

- Shared Sites for BSC & RNC

- Content Delivery or Distribution Network (CDN)

Power Supply 200A to 600A

Mechanical / Smart Lock Option

100AH Lithium -ion batteries

Emergency Fan

DC Power Distribution Unit

BBU installation position (compatible with horizontal installation / vertical installation)

Tempered Glass Door
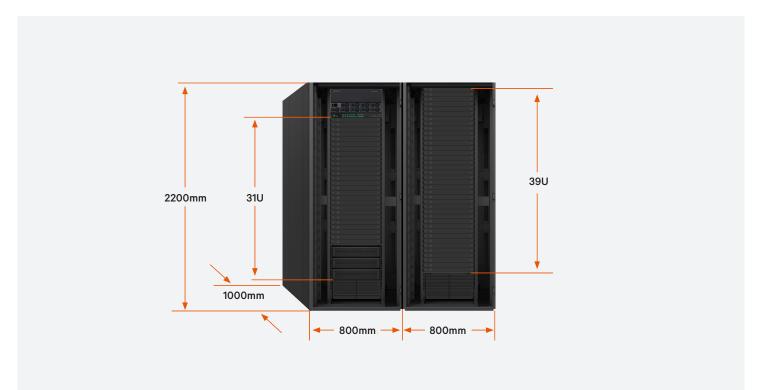
3.5kW / 6.5kW Precision Air conditioner

Key Features

- **Energy Efficient:** Delivers up to 98% efficiency and coupled with ECO mode algorithm ensures maximum efficiency even at partial load conditions.

- **Precision Air conditioning:** Reduces cooling power usage through inverter driven and containment cooling system.

- **Reliable & Compact Power Supply:** Supports -48 VDC / AC power system, compatible with new construction, expansion and transformation of telecommunication sites.

- **Intelligent Monitoring:** Integrated monitoring such as temperature & humidity, access control, smoke, water leak, fire protection, video surveillance, etc., with RS232, RS485, SNMP, USB, dry contacts and other intelligent interfaces provides a full range of environmental and system operational management.

- **Small Foot Print:** Efficiently utilizes the vertical space by integrating power, cooling and other infrastructure in a standard rack space. Its advanced design not only saves space but also reduces system complexity. Single cabinet solution occupies floor area of 0.8 m^2, two cabinet occupies floor area of 1.6 m^2.

- **High Ingress Protection:** Protection grade is IP 5X, adopts to hazardous telecommunication room environments.

- **Aesthetically Appealing Design:** IT style design, tempered glass door/metal door options, improves the overall visual experience of the communication room.

- **Optional 10.4" LCD Touchscreen Panel:** User-friendly display enables easy access to power, cooling, environment, and security information.
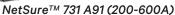
Vertiv™ eBase 2.0 - Two Cabinet System

Vertiv™ eBase 2.0

Highly Reliable & Compact Power System

NetSure™ 731 A91 (200-600A)

100AH

Energy Efficient	Highly Reliable	Intelligent
• High-efficiency modules are 96%efficient, and ultra-efficient modules are 98% efficient • ECO Mode - Embedded with an advanced energy optimization technique that enables significant savings, even at low load operation	• Tolerates a wide range of input voltage, i.e. from 80 to 300 VAC • Ultra-wide full power operating temperature range from -40 °C to +70 °C – meets the harsh climatic environmental requirements	• Built-in communication ports such as RS 232, RS 485, USB, dry contact, and Ethernet enable flexible remote controlling & monitoring

Intelligent & Efficient Thermal Management Solutions

• Integrated rack cooling unit capacity of 3.5 kW or 6.5 kW eliminates the hotspot issues created by multiple BBU units

• Optional heating function to meet the requirements of low temperature operating environment

• Tempered glass coupled with heating function can effectively reduces cabinet condensation

• Comprises with water leakage detection and alarm function to ensure the safe and reliable system

• Optional N+1 integrated redundancy to enhance the system reliability
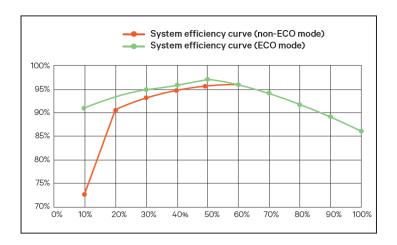

Cooling capacity: 3.5 kw / 6.5 kw

ECO Mode Algorithm– Maximizing Energy Efficiency

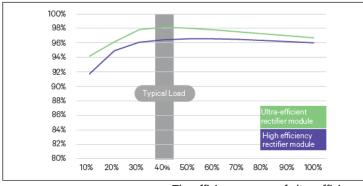*At high percentage of loading, all modules work normally*

When the load percentage is low, initiates ECO mode and some modules go in sleep mode to improve the system efficiency

- Intelligently shuting down rectifier modules based on the load current versus system capacity, boosts the load percentage of the system, ensure that the system always operate at their peak efficiency point.

- System algorithm will rotate the rectifiers supplying power to the load in order to ensure the uniform aging of internal power components and thus increases the reliability of the system.

98% Efficient Rectifiers

- Utilizes the next-genertion switching technology known as GaN FET, which exhibits superior properties compared to silicon.

- The result is a 3X reduction in switching losses and a 5X increase in switching speeds, resulting in power supplies that are more efficient, cooler (and thus more reliable) and up to 4X higher power density than those using traditional silicon-based MOSFET devices.

The efficiency curves of ultra-efficiency & high efficiency rectifier modules

Energy saving comparison: 96% vs 98%

- Enable low-cost system upgrades by being compatible with prevailing rectifier with 96% efficient modules.

- Activating the ECO mode function - especially at lower load truly maximizes the savings.
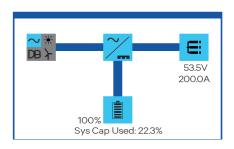
Embedded with Intelligent Contoller and Monitoring System

- Simplified user interface includes an installation wizard, graphical color display and user friendly web pages

- ECO mode functionality delivers maximum efficiency at partial loads

- Stable and reliable management of lead-acid & lithium ion batteries.

- Multiple communication interfaces (USB/SNMP/RS232/RS485) are available for remote monitoring.

- Integrated environmental monitoring such as smoke, water leakage, access control (IP card / fingerprint / password) management.

- Compatible with high-definition video and face recognition technology applications.

10.4" Touch Screen Display Interface

Controller display interface

Controller Web interface

Prefabricated Modular Design Saves Floor Space and Shortens Deployment Time

Two cabinet floor space: 1.6 m²; Deployment time: 2 hours with extremely fast installation

Install the base

Cabinet in place

Cabinet wiring

Outdoor unit installation

Equipment Installation

AC pipe installation

Device side completion

Equipment completion

Base station apperance

Flexible Configurations To Adopt Diverse Application Scenarios

Single cabinet	Two cabinet	Three cabinet	Scale seamlessly

Single cabinet
- Foot print (WxDxH) in mm: 800 x 1000 x 2200
- Suitable for typical configuration of 5 BBUs
- Power supply: 48 VDC / 200 A, 96% efficiency
- Battery: 48 VDC / 100 Ah x 2, lithium ion battery
- Backup power: 4 Hours
- Air conditioning: Cooling capacty 3.5 kW

Two cabinet
- Foot print (WxDxH) in mm: 1600 x 1000 x 2200
- Suitable for typical configuration 10 to 15 BBUs
- Power supply: 48 VDC / 400 A, 96% efficiency
- Battery: 48 VDC / 100 Ah x 3, ithium ion battery
- Backup power: 2 Hours
- Air conditioning: cooling capacity 3.5 kW + 6.5 kW

Three cabinet
- Foot print (WxDxH) in mm: 2400 x 1000 x 2200
- Suitable for typical configuration 15 to 25 BBUs
- Power supply: 48 VDC / 600 A, 96% efficiency.
- Battery: 48 VDC / 100 Ah x 5, lithium ion battery
- Backup power: 2 Hours
- Air conditioning: cooling capacity 3.5 kW + 6.5 kW x 2

Scale seamlessly
- Supports seamless expansion as per business growth
- Flexible deployment in single and double rows.
- High-density cabinets can be prefabricated and enclosed in cold aisle containment solution
- Flexible deployment of BBU pool, core computer room, and office station computer room.

System Configuration

Parameter name		1 cabinet	2 cabinet	3 cabinet
Embedded power system	NetSure™ 731 A91	1	1	1
	AC input meter	Optional	Standard	Standard
	Output distribution metering	Standard	Standard	Standard
Controller	M530B	1	1	1
50A rectifier module	R48-3000e3	4	8	12
60A rectifier module	R48-3500e3			or 10
DCDU	DCDU48/300		1	2
Precision air conditioner	3.5 kW	1	1	1
	6.5 kW		1	2
Lithium-ion battery	100 AH	2	3	5
Collector	GFSU	1	1	1
Temperature and humidity sensor	ETM-HT02Z	2	3	3
Smoke Detector	JTY-GD	1	2	2
Water Leak Detector	S3-WDT	1	2	2
Camera	DS-2CD2110FV2	1	2	2
Mechanical door lock		2	4	6
Smart door lock		Optional	Optional	Optional
BBU vertical assembly	Compatible with 5 BBU installations.	Optional	Optional	Optional
Weight (kg)	800 x 1000 x 2200	or 1	or 2	or 3
	800 x 1000 x 2200	220	440	660

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