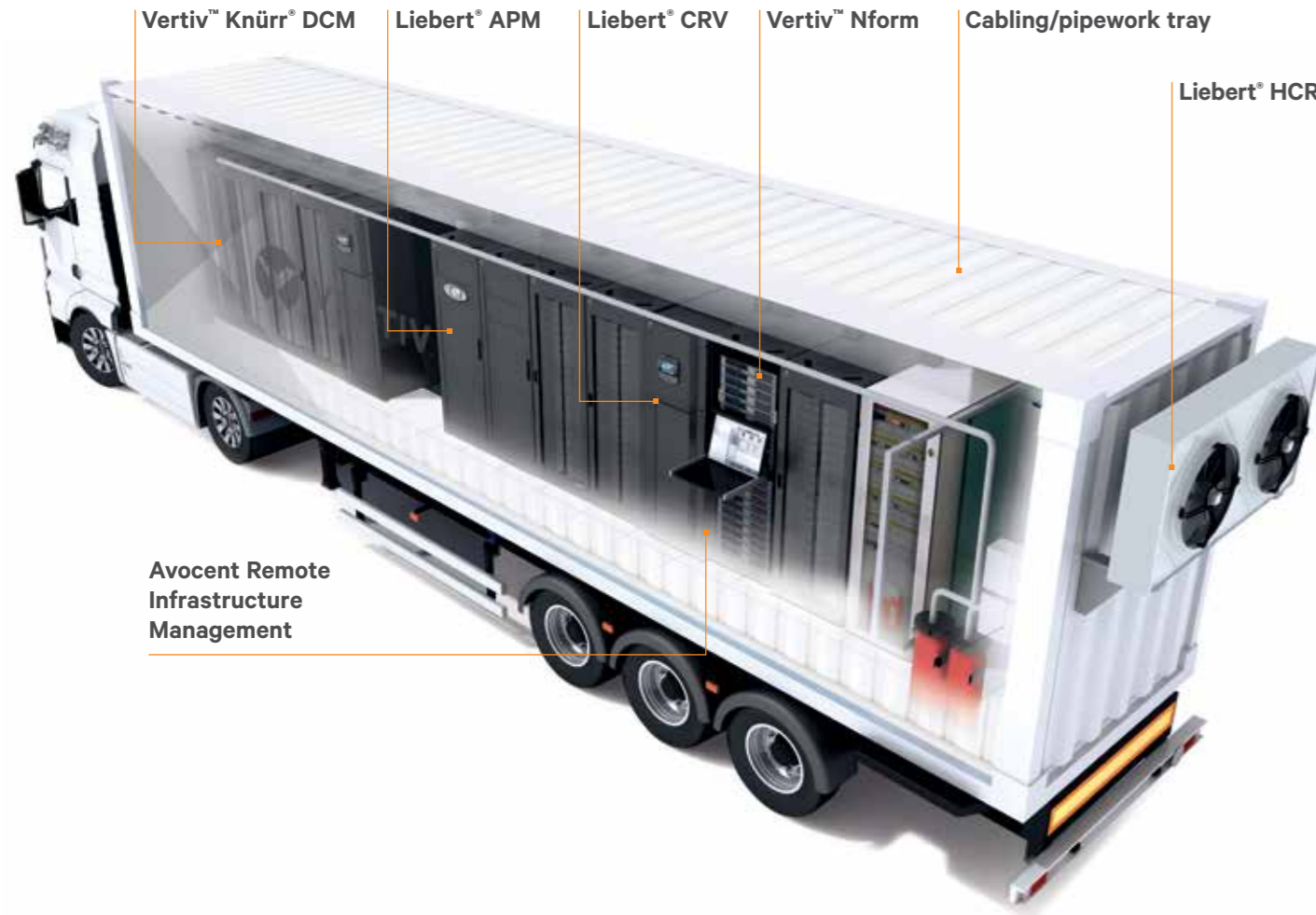


Vertiv™ Containerized Data Center Infrastructure



**TECHNOLOGY
AND SOLUTIONS
FOR A WORLD IN
ACTION**

Vertiv Data Center Infrastructure

Vertiv™ Knürr® DCM
Rack platform for any data center application

- Improved airflow: highest in the industry
- Lightweight aluminum frame
- Doors open to 135°

Liebert® GXT4

- UPS with up to 0.9 Power Factor to maximize power availability
- Rack/Tower configuration in one form factor to better adapt to customer's installation needs
- Wide variety of communication options
- Extended runtime availability
- ECO mode for increased efficiency
- Internal automatic and manual bypass
- Rotatable multi-language LCD display panel

Vertiv™ MPX™ Rack PDU

- Scalable & modular power distribution inside the rack
- Control and management at the receptacle level
- Hot swappable modules allowing system expansion without powering down
- IP consolidation through array of up to 4 rack PDU's connected together

Vertiv™ SmartAisle™



Vertiv™ Knürr® DCC Containment

- Roof and door elements, accessories (sealing, protection, etc.)
- Patented energy-efficient dynamic control
- Safety components for emergency exits and fire extinguishing

Liebert® APM

- FlexPower Technology™ adds unit capacity without increasing UPS system footprint
- Parallel technology allows 4 parallel units
- Lower Mean Time to Repair (MTTR) with hot swappable modules

Liebert® CRV

Row-based high efficiency cooling units available from 10-60 kW in DX and CW versions

- Full airflow and cooling capacity modulation to match server load and save energy
- Best footprint capacity with the highest efficiency
- Six different control modes to ensure greater flexibility

Liebert® DCL

Modular rack cooling

- Two different architectures:
 - Closed Loop
 - Hybrid Loop
- Multiple combinations for up to 4 server racks
- Dual CW coil version for redundancy



VertivCo.com | Emerson Network Power Limited, George Curl Way, Southampton, SO18 2RY, VAT Number: GB188146827

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CENTERS OF EXPERTISE

When you partner with Vertiv™ for your business continuity needs across your enterprise, you benefit from more than products to support and protect your technology infrastructure.

Developing such a wide range of technologies gives us in-depth industry knowledge and a “big-picture” understanding of how all systems must work together within any critical environment.

We deliver this knowledge through Vertiv’s Centers of Expertise: distinct areas of world-class products and services that help you determine what you need and where, depending on your application.

All so that you can keep your business moving forward for your customers.

- 1 AC Power
- 2 Infrastructure Management & Monitoring
- 3 Power Switching & Controls
- 4 Thermal Management
- 5 Racks & Integrated Cabinets
- 6 Surge Protection
- 7 DC Power

Vertiv™ Data Center Infrastructure for Large Applications

AC Power

Sustaining critical operations that simply can't go down. We deliver a full range of uninterruptible power systems plus STS devices, providing everything from individual products to integrated power protection solutions that keep network closets, computer rooms and data centers up and running.

DC Power

Supporting voice and communication networks through reliable and efficient DC power. The extensive DC power portfolio includes a wide range of -48 V and 400 V DC systems; from sub-racks to large stand-alone systems. Improved reliability, increased energy efficiency and load balancing is enabled through the patented Intelligent Load Management functionality.

Infrastructure Management & Monitoring

Managing and monitoring critical environments at multiple sites around the clock. We make it easy in today's ROI-driven business environment, with comprehensive infrastructure management and monitoring systems for both IT and facilities. Solutions and services that provide continuous oversight of data centers, computer rooms and network closets, as well as wireless, wireline and enterprise telecom applications.

Power Switching & Controls

Safeguarding facilities from operational disruption due to electrical power interruption. We provide ASCO® power-transfer switches, generator paralleling switchgear/power control systems, and touch screen SCADA for monitoring and control of the utility service and on-site backup power generators; all helping to ensure continuity of supply to essential and mission-critical communications, data-processing, life-safety, and other critical loads. Backed by the largest manufacturers, direct field based project management and service technicians in the industry.

Thermal Management

Managing the heat transferred from the data center to the external environment, while assuring the right temperature and airflow for each server. The Thermal Management range of Liebert® solutions answers to all different customer needs and applications, adopting state-of-the-art technologies to achieve the highest efficiency while minimizing energy costs.

Racks & Integrated Solutions

Optimizing technology and performance needs for indoor IT applications. We deliver standard and customized integrated cabinet solutions that meet unique and specific needs, from Knürr® and Liebert rack solutions for computer rooms of all sizes to integrated racks with self-contained cooling, UPS and cable management in a solid, lockable cabinet.

Surge Protection

Defending power, voice and data moving through a network against grid irregularities and dangerous electrical disturbances. Depending on the application, we offer Liebert and PowerSure™ AC Power Protection, Islatrol™ Active Tracking Filters and EdoCo™ data/signal surge protective devices; all of which provide power protection to reduce downtime, saving crucial man-hours and extending equipment life.

Service and Solutions

Delivering assessment, testing and reliability programs backed by the largest global services organization in the industry. We offer engineering, installation, startup services, project management and training together with entire life-cycle management including preventive and predictive maintenance, remote diagnostics, on-site operations management, and energy consumption monitoring.

Liebert® HPC
Wide range of high efficiency freecooling chillers from 40 kW to 1600 kW
• Designed specifically for data center applications compatible with SmartAisle™
• Premium energy efficiency version
• ICOM™ Control featured

Liebert® EFC
Indirect evaporative freecooling unit leveraging on data center know-how. Available from 100 to 350 kW
• Unique control capabilities optimizing water and energy costs
• Substantial reductions and savings in terms of electrical infrastructure

Liebert® AFC
Adiabatic Freecooling Chiller available from 500-1450 kW
• Integrated adiabatic pad system
• High freecooling capacity
• 100% compressor back up
• Available both in multi-scroll and screw versions

Liebert® PDX - Liebert® PCW
• Available from 5-220 kW
• Premium energy efficiency
• Eurot certified performance
• Unique control capabilities with the ICOM™ Control
• Liebert® EconoPhase™ available for the direct expansion system

Vertiv® SmartAisle™
• Cold aisle containment
• Provides highest energy efficiency
• Control compatible with Thermal Management units

Vertiv® Knürr® PTR Power Distribution Rack
Central connection unit for power supplies in individual server racks
• Interface between the low voltage feed and PDU
• Individual plug-in units
• Up to 346 kVA/Rack

NetSure™ Remote Distribution Cabinet
• For smooth power feeding to telecom and datacom equipment
• Includes A+B feeding, current and voltage metering, and Intelligent Load Management options

Vertiv® Knürr® DCD
Passive chilled water heat exchanger
• Cooling capacity up to 35 kW
• “Room-neutral” design
• Usable for third party racks

Vertiv® Knürr® MIR2 / Vertiv® Knürr® DCM Server Rack
Global rack platform for data centers, networks and telecommunications
• Lightweight aluminum frame
• T-slot system
• Simple cable management
• Holds up to 1,500 kg
• Also available with @lock (electronic locking solutions)

Vertiv® Avocent® Universal Management Gateway Appliance
Infrastructure management appliance for IT and facilities
• Real-time data collection and integrated monitoring for the Trellis™ Suite
• Access and control of IT equipment using Keyboard, Video and Mouse switch (KVM), serial, or embedded technology (auto-sensing ports)

Vertiv® Avocent® MergePoint Unity™ Appliance
Secure remote KVM over IP access to servers
• Secure remote access to servers in data centers and branch offices
• Using both in-band and out-of-band tools together allows for a more flexible and complete remote management solution

ASCO® Series 7000 PCS
Paralleling, synchronization and distribution of on-site Emergency Power
• Integrated SCADA touch screen redundant PLCs, control & monitor power distribution to critical loads
• Historical alarm recording, multi-trending and Building Management System communication

NetSure™ DC Power
• Unparalleled reliability and industry-leading efficiency ratings
• Available as distributed systems for use in proximity to telecom or datacom equipment, or as bulk systems used together with NetSure™ Remote Distribution cabinets
• Intelligent Load Management functionality in controller enables individual load current and rack load measurements as well as site consumption mapping

Liebert® Trinergy™ Cube
• Highest average operating efficiency in the industry: 98.5%
• Hot scalability up to 3.4 MW in a single unit and 27 MW in a parallel system
• Unprecedented levels of installation flexibility
• Smart capacity - adaptive performance

Liebert® EXL 800 kW
• Three-level double conversion efficiency of up to 97% plus intelligent paralleling
• Intelligent ECO mode (VFD) efficiency above 99%
• Enhanced energy density and compact footprint
• Parallel system configuration up to 8 units with both centralized and distributed parallel capabilities

Liebert® NXL
• UPS for critical high power applications
• Provides greater power capacity along with superior reliability
• Meets power requirements and energy efficiency in high availability data centers

Liebert® CROSS
• Ensures redundant power for critical loads, switching between two independent power sources
• Solid-state transfer switch available as 2/3/4P versions with full Power Factor (PF) range to guarantee compatibility with all load types
• Extremely reliable and flexible architecture

Liebert® CRV
Row-based high efficiency cooling units available from 10-60 kW in DX and CW versions
• Full airflow and cooling capacity modulation to match server load and save energy
• Best footprint capacity with the highest efficiency
• Six different control modes for greater flexibility

Vertiv® Avocent® ACS8000 Advanced Console Server
Secure remote serial over IP access to console devices
• Remotely connect to servers, blades and routers
• Built in redundancy and configurable pin-outs for serial ports

Vertiv® Avocent® DSView™ Management Software
Centralized data center management
• Remote access and management of all physical and virtual data center assets
• Secure, out-of-band, centralized management of all connected IT and network devices in dispersed data centers

Vertiv® Avocent® Rack Power Manager
Detailed power and environmental information and control
• Full power monitoring by outlet, rack, PDU, row of racks, custom groups or entire data centers
• Monitors/measures IT energy consumption and determines data center costs/trends

Vertiv® Avocent®
A visual infrastructure planning and management product
• Increases accuracy and reduces time required to complete infrastructure audits
• Decreases installation and decommissioning errors
• Reduces time to provision and install equipment
• Enables upfront analysis on impact of changes before committing resources

The Trellis™ platform
The Trellis platform unifies facilities and IT infrastructure with real-time data and insights like no other solution on the market
• Manages critical infrastructure in real-time by operating equipment at the optimal threshold and improving energy efficiency
• Increases operational efficiency across the business
• Single platform reduces administrative costs and provides faster ROI
• Defers/eliminates capital expenditures by operating equipment at the optimal threshold without compromising availability

Liebert® TVSS
• Easily connected to UPS, to distribution panels, or at facility service entrances
• Surge Protective Devices (SPD) designed to protect sensitive equipment from damaging transient voltage surges

Alber Battery Monitoring
• Monitors batteries and prevents premature battery failure
• Internal DC resistance test method eliminates uncertainty
• Much like a battery ultrasound, the user can assess the battery's true condition

Vertiv® Knürr® Synergy™
Supports monitoring in any control room with consoles, monitoring walls, and mobile charts
• Standards compliance and ergonomics
• Manual height selection; also available in the basic version
• Modular construction

SERVICE

Vertiv™ supports entire critical infrastructures with the largest global service organization and an extensive service offering, enhancing network availability and ensuring total peace of mind 24/7.

Our approach to servicing critical infrastructure covers all aspects of availability and performance: from single power and thermal management equipment to entire mission-critical systems.

The most comprehensive insurance for business protection can be obtained with a service program from Vertiv which includes access to Vertiv LIFE™ Services.

Vertiv LIFE Services provides remote diagnostics and preventive monitoring service for UPS and thermal management equipment.

Vertiv LIFE Services delivers increased uptime and operational efficiency by enabling continuous monitoring of your equipment, expert data analysis and field engineering expertise.

Through the data transferred from your equipment via Vertiv LIFE Services, our remote service experts gain the real-time insight and information needed to quickly identify, diagnose, and resolve any irregularities that may arise in operation, ultimately taking responsibility for your critical assets 24/7.

