



THE NEW WORLD OF IT INFRASTRUCTURE SOLUTIONS

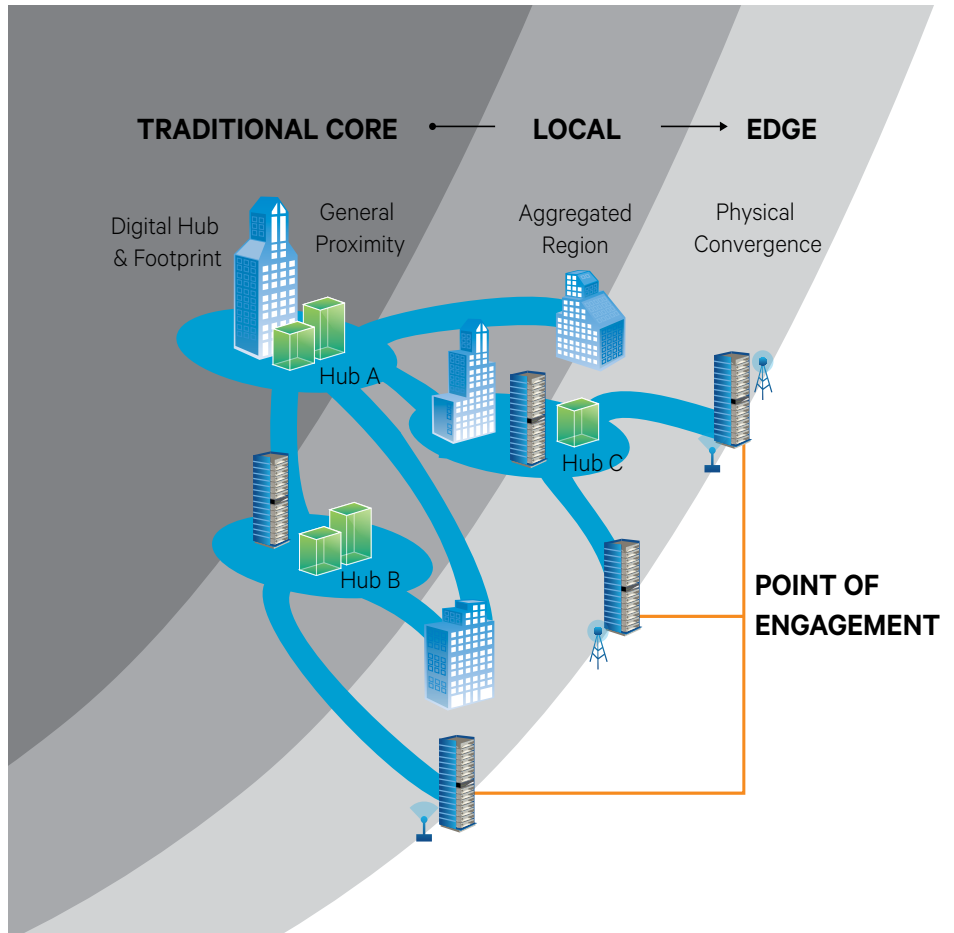
Enabling an IT Infrastructure
as Dynamic as Your Business



An Explosion of New IT Requirements

The age of big data is causing an explosion of new IT deployments, as well as changing the geographical distribution and types of locations where these systems are deployed.

This new generation of business requirements is creating new challenges for the IT organization. This IT infrastructure, which can now be located just about anywhere, needs to be deployed faster than ever to support business applications in industries such as banking, healthcare, education, manufacturing and retail, as well as many others. Now more than ever, IT infrastructure needs to be reliable, flexible, secure and operationally economical.



The number of network-related interactions today is staggering:



23,140,000

devices connected to the Internet



Every minute users watch

4,146,600 YouTube videos



280 million

unique users watched 15 million hours of FIFA World Cup multimedia content



3.6 Zettabytes

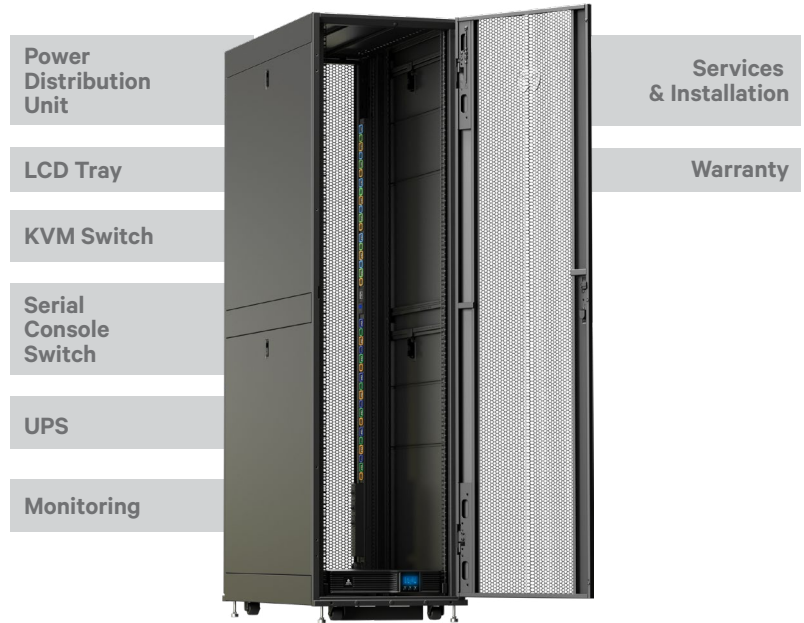
consumed every day just in the US — 5.1 trillion hard drives worth of data

IT Infrastructure — Anytime, Anywhere






Enabling an IT Infrastructure As Dynamic As Your Business

IT managers are realizing the value of using a single manufacturer for integrated and complementary solutions. This approach results in improved availability, quicker deployments, increased staff efficiency, better security and reduced cost whenever and wherever needed. IT infrastructure solutions from Vertiv™ deliver purposefully designed and meaningfully integrated hardware, software, and services that enable your IT Infrastructure to be as dynamic as your business.

Integrated Racks



Our solutions enable your IT infrastructure to be:

				
Resilient and Highly Available	Rapidly Deployable and Scalable	Intelligent and Self-Optimizing	Secure and Safe	Economical and Efficient
<p>So you can rely on your IT infrastructure when the business needs it</p>	<p>In order to minimize cost and effort to deploy new business applications</p>	<p>In order to spend less time on operational issues, more time on strategy</p>	<p>To control access to data and ensure operational safety</p>	<p>To help predict and manage your budget in a dynamic world</p>

RACKS AND ACCESSORIES

OVERVIEW

- Industry-standard rack enclosure systems save time and money on configuration and integration
- A wide range of rack styles, sizes and options to meet every site need
- Compact LCD Consoles provide local rack access

Your rack cabling systems are the lifelines of your IT operations. Optimized cable management can enhance your operations:

- Reduced signal interference
- Improved maintenance and serviceability
- Cooler performance
- A roadmap for growth

Read the white paper for more information:

[Applying Proper Cable Management In IT Racks: A Guide For Planning, Deployment And Growth](#)



Infrastructure management products that deliver protection and secure access to critical IT systems.

Vertiv™ delivers data center racks, server rack cabinets, and enclosure solutions. They safeguard and support IT and networking equipment in computer rooms of all sizes, with rack enclosures that contain precision cooling, uninterruptible power, rack PDUs, and wiring management in a sturdy, lockable cabinet.

You need an access point that gives you simplicity, efficiency and ease of use. The Avocent® Console Server Family is here to help make your job easier. We offer you quick and easy access to multiple IT devices, making software upgrades, troubleshooting and system monitoring more convenient and less time consuming.



Vertiv VR Rack

The Vertiv VR rack system supports a wide variety of equipment including servers, storage, switches, routers, PDUs, UPSs, console port servers and KVM switches. The Vertiv VR is delivered ready for high density environments to serve your mission critical needs — even as they evolve and change. This rack gives you the flexibility you need with easy installation.



Vertiv DCE™ Rack

The DCE Rack System has been designed to meet the flexibility, ease of installation, and delivery requirements needed by today's data centers. Choose from either the pre-configured rack selections or choose from our numerous factory installed accessories and configurations to customize your rack the way you need it, when you need it.



Avocent® Local Rack Access Consoles

The Avocent LRA KVM Family provides the simplicity, efficiency and ease of use to make it the perfect data center access point. The LRA line enables ease of access to multiple IT devices making software upgrades, troubleshooting and system monitoring convenient and less time-consuming.

RACK POWER DISTRIBUTION

Rack-based power distribution that puts you in control.

Vertiv™’s next generation of rack PDUs provides the industry’s highest availability and most intelligent power metering and distribution. Reliable and efficient power distribution units provide basic distribution, remote monitoring and control at the receptacle level. Simplified energy management, modular design and cost savings ensure that your data center — and your business — can operate at peak velocity and resiliency.



MPX™ Adaptive Rack PDU

MPX is the most responsive and adaptive rack PDU available. This modular approach allows you to purchase only what you need, when you need it. Respond to rack equipment changes and dynamic capacities with hot-swappable modular output power, hot-swappable modular communications and modular input power. Rated up to 55°C/131°F for harsh rack environments.



Vertiv Geist™ Monitored Rack PDUs

The Vertiv Geist Monitored Rack PDU family delivers reliable power distribution with the ability to monitor input power to plus or minus 1 percent accuracy and provide environmental monitoring capabilities.



Vertiv Geist Switched Rack PDUs

Vertiv Switched rack PDUs (rPDU) provide a comprehensive view of critical IT equipment power usage, both at the rack and via remote access with the added ability to remotely turn on, turn off, or reboot power at each outlet. Switched rPDUs are available in a variety of electrical and receptacle configurations. Every unit is 100% tested for reliability and functionality.

OVERVIEW

- Flexible rack power distribution for a wide variety of IT applications
- High reliability for maximum availability and uptime
- Multiple monitoring options for high-level visibility

Vertiv intelligent rack PDUs can be managed both locally and remotely. Metering of all electrical information down to the outlet, phase, bank or rack PDU level as well as integration with environmental sensors makes these rack PDUs the backbone of rack level power consumption and environmental information.



UNINTERRUPTIBLE POWER SUPPLIES

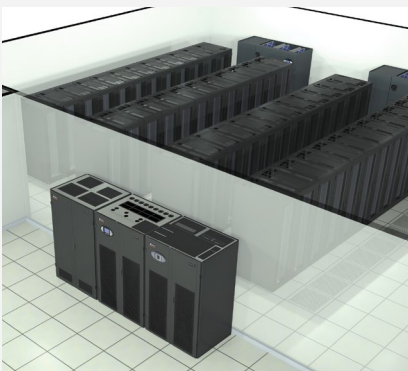
OVERVIEW

- Protect against downtime and data loss due to power problems
- Flexible monitoring and communication capabilities for high level visibility
- High efficiency operation for increased energy savings



Your computing performance depends on resilient, deployable, intelligent, economical POWER at the network edge.

1. Improve Resiliency
2. Deploy Rapidly
3. Utilize Intelligent Control
4. Manage Cost



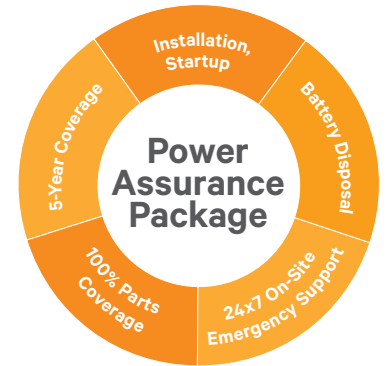
A complete line of UPS that will give you the security of knowing your IT systems are fully protected from any power problems.

Vertiv™ offers Liebert® uninterruptible power supplies for every size IT application from desktop to enterprise data center — with capacities from 350VA to 1200kVA.

Vertiv offers a broad selection of UPS with models including desktop and workstation UPS, rack-mount, network and large facility UPS.

Power Assurance Package: Offers lifecycle power management for network edge UPS systems to eliminate the worry surrounding power performance, installation, disposal, emergency parts, labor, travel and maintenance. It helps reduce IT responsibilities to save time and money.

- 5 year protection plan
- Installation, startup
- Old UPS/battery disposal
- Parts, labor, travel



The bottom line is power protection you can always rely on, no matter what the situation.

- **Desktop UPS** — for workstation and point of sale applications, desktops and servers.



Liebert PSP™ UPS (350-650VA)

Economical, full featured UPS that delivers cost-effective power protection in a compact package. The UPS provides battery-backed outlets and a surge protection-only outlet.



Liebert PSA™ UPS (500-1500VA)

Economical line-interactive UPS that offers full-featured power protection for small office computers and electronic equipment.

UNINTERRUPTIBLE POWER SUPPLIES

- **Rack-based UPS** for server, network switching and routing applications.



Liebert® PSI™5 UPS (1000-3000VA)

This compact, line-interactive UPS system is designed especially for IT applications such as network closets and small data centers.



Liebert GXT4™ UPS (500-10,000VA)

Recommended to protect mission-critical equipment, Liebert GXT4 is a true on-line UPS that delivers continuous, high-quality AC power with no break when transferring to battery.

- **Modular Row-based UPS** — modular configurations available for completely redundant system controls, battery modules and monitoring. Options available for small to mid-size data centers.



Liebert APS™ UPS (5-20kVA)

The Liebert APS UPS is a modular power protection solution for 5–20kVA applications. The UPS can be free-standing or rackmounted, and provides mission-critical availability while reducing costs and maintaining flexibility for the future.

- **Room and site-based UPS** — with best in class availability, and efficiency for protection of sensitive electronics in large data centers and hosting facilities.



Liebert APM™ UPS (15-90kVA/kW)

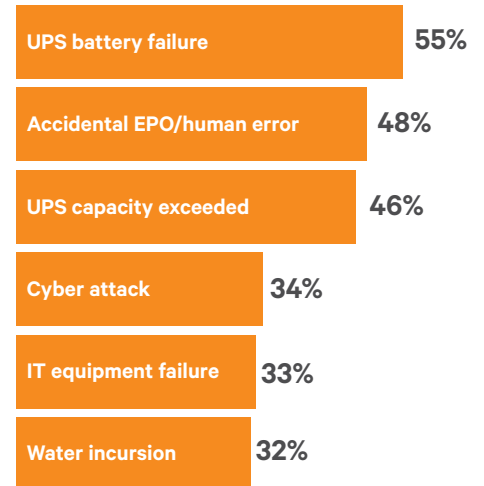
The row-based Liebert APM is a transformer-free, on-line UPS that provides modular hardware scalability and N+1 redundancy.



Liebert EXM™ UPS (10-250kVA/kW)

The Liebert EXM UPS promises efficient and economical operation with a flexible power system that is optimized to meet the unique demands of midsize IT applications.

Six Most Common Causes of Data Center Downtime



Source: 2013 study of data center outages, Ponemon Institute

IT MANAGEMENT

OVERVIEW

- Secure in-band/out-of-band access and management of systems through serial, KVM and service processor ports.
- Centralized management of IT systems and infrastructure through a single interface.
- Standardizes infrastructure management and offers scalability to meet growing business needs.

Avocent® DSView™

DSView management software delivers the complete data center control necessary for the 24/7 data center.



Learn more about Avocent Access and Control Solutions at: VertivCo.com/AvocentKVM

Remote Management and Access Solutions

Remote management solutions provide IT professionals with centralized, secure access and control of multi-vendor systems and from any location at any time.



Avocent Universal Management Gateway

The Avocent Universal Management Gateway is the first converged data center appliance that enables true, real-time, integrated monitoring, access and control across IT and facilities systems in a secure and centralized manner.



Avocent MergePoint Unity™ KVM over IP Switch and Serial Console Switch

The Avocent MergePoint Unity switch enables remote access to KVM, USB and Serial connections, and provides IT administrators a complete remote management solution to access and control servers, networking equipment and other connected devices.



Avocent ACS Advanced Console Server

The Avocent ACS provides the out-of-band performance and reliability necessary to remotely manage IT assets such as servers, routers, switches and serial power devices even during network outages.

Control Room Solutions

Control Room solutions enable users with instant, high-definition access to critical systems from extended distance. Avocent products are designed to deliver an “at the box” experience for demanding high-resolution and no latency applications in the broadcast, industrial, government, health care and finance industries.



The Avocent Matrix High Performance KVM is a solution for environments where security and quality are paramount. The Matrix solution is a self contained high performance switching system, that supports both digital and analog video input, as well as switching of USB devices, audio and microphone.



The Avocent HMX High Performance KVM delivers industry-leading image quality and flexibility. Avocent HMX is a digital system that utilizes standard IP network switching for extension.

INTEGRATED SOLUTIONS

Data center Infrastructure solutions combine rapid deployment, energy savings and proven design.

All data centers, regardless of size, have distinct operational and business objectives. Until now, balancing data center best practices for capacity, space utilization, availability and efficiency has been difficult without making sacrifices. That's why Vertiv™ developed the Smart Solutions family of data center infrastructure offerings.



SmartCabinet™ Intelligent integrated infrastructure in a single rack

The SmartCabinet for branches from Vertiv is a turn-key solution that contains all supporting infrastructure needed to properly deploy IT at the branch.

Capacity: 1.5-16kW
Rack size: 13U, 24U, 42U vs. 48U
Type: Single rack

Floor: Primarily non-raised
Key Applications: Computer rooms; network closets; data centers

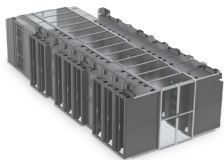


SmartRow™ Intelligent integrated infrastructure in a self-contained line-up

SmartRow solves a problem all too common to IT management, addressing IT needs without building new data center space. Think of SmartRow as a data center in a row – a simple, fully integrated row-based infrastructure.

Capacity: 20-36kW, 3-10 racks
Type: Self-contained
Floor: Primarily non-raised

Key Applications: Small data centers; remote sites; disaster recovery

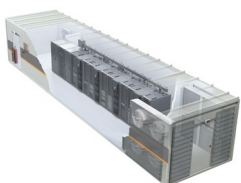


SmartAisle™ Intelligent integrated infrastructure using row-based building blocks

The SmartAisle offering optimizes infrastructure deployment and management with an intelligent row-based system that integrates data center racks, power, row cooling, aisle containment, monitoring and control technologies for spaces with up to 40 racks.

Capacity: Most cost effective up to 400kW
Type: Open
Floor: Raised, non-raised

Key Applications: Small and medium data centers; high-density zones in all data centers; new or retrofit



SmartMod™ Intelligent integrated infrastructure in a rapid deployment enclosure

The SmartMod enclosure is pre-engineered from the ground up to provide a complete power and cooling infrastructure, along with configuration flexibility that typical data center containers cannot provide.

Capacity: 30-675kW, 6-28 racks
Type: Self-contained
Floor: N/A

Key Applications: Supplemental data center capacity; remote data centers; disaster recovery

OVERVIEW

- Rapidly deploy a comprehensive data center infrastructure solution.
- Keep infrastructure on pace with equipment changes, with systems that operate together and can be quickly reconfigured.
- Reduce energy consumption compared to a data center with conventional design, perform less maintenance and reduce the costs of adding new equipment.

“Using the SmartRow system we did not have to sacrifice availability and we gained efficiency, so we found that the SmartRow system gave us the best of both worlds. SmartRow saved Pasco County significant dollars. We are able to utilize an average room, we did not have to build a special computer room to install this. That saved us money in raised floor, that saved us money in fire suppression, and that saved us money in room cooling.”

—TODD BAYLEY, TECHNICAL ARCHITECT-NETWORK INFORMATION TECHNOLOGY DEPARTMENT, PASCO COUNTY, FL
 PASCO COUNTY CASE STUDY. CH-00021.

SOFTWARE

OVERVIEW

Vertiv software provides a flexible portfolio to simplify and streamline data center operations. Whether you need a full-scale data center infrastructure management (DCIM) solution or a simple UPS management tool, Vertiv provides flexible options for your unique requirements.

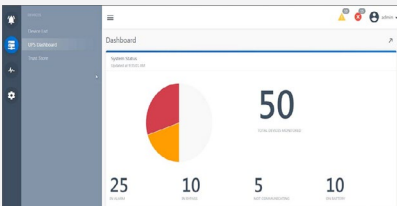
Vertiv™ Intelligence securely connects your equipment to the cloud and checks all of the remote locations through the vIntelligence mobile app and portal.

Trellis™ Enterprise is a full data center infrastructure management (DCIM) solution.

Vertiv™ Environet provides extensive facilities management tools and high-level management of IT Assets.

Avocent® DSView™ manages your Avocent hardware via secured web-browser enabled sessions of infrastructure controls.

Trellis™ Power Insight is a web-based, complimentary software solution for managing Vertiv UPSs.



Visibility into your data center is often not as easy as it should be. Making the most of hardware investments in a disparate and constantly changing environment can be challenging. In today's data center, teams are tasked with

- Improving uptime
- Understanding device health
- Staying connected and receiving immediate notifications
- Collecting accurate data
- Tracking equipment and assets
- Planning for expansion
- Improving efficiency
- Ensuring SLAs
- Reporting on key metrics and improvements

Performing all these jobs manually is time consuming, tedious, requires several resources and increases the risk of human error.

Vertiv provides multiple software solutions for managing, monitoring and aggregating data through a single interface. Each solution provides a selection of valuable features to make your day-to-day more efficient and allows you to

- Mitigate downtime risks
- Improve efficiency
- Do more with less
- Proactively monitor device and asset health
- Implement preventative maintenance
- Make decisions fast
- Increase visibility to then, now and future events
- Have confidence in data accuracy
- Manage many devices through a single interface

GLOBAL SERVICE CAPABILITIES

Vertiv™ understands that it is critical to ensure all equipment is properly installed and performing as designed. Whether you are commissioning a new facility, maintaining existing systems, or assessing the performance of your data center infrastructure, we have critical expertise for critical infrastructure. By giving you insight into technology and operating trends, we help you effectively manage risk, reduce costs, increase utilization, and make better decisions.



PROJECT

When launching new facilities or powering up new equipment you want to do it right — right from the start.

- Commissioning
- Startup services
- Acceptance testing
- DCIM services
- Engineering services
- Project management
- Code compliance
- Equipment rental



MAINTENANCE

Regular service protects your investment and ensures business critical infrastructure operates efficiently, safely and reliably.

- Preventive and corrective maintenance
- Remote services and monitoring
- Battery, capacitor, and fan replacements
- Repair services
- Spare parts
- Emergency response and disaster recovery



PERFORMANCE

Identifying opportunities to optimize the performance of aging infrastructure allows you to lower costs and maximize availability.

- Engineering services
- Assessment services
- Life-extension services
- Safety and compliance services
- Equipment upgrades

OVERVIEW

- Complete lifecycle approach from project launch to ongoing maintenance and performance optimization.
- Flexible and scalable partner that designs innovative service programs to meet customer objectives and budgets.
- Global organization providing consistent service delivery in all regions of the world by knowledgeable, local specialists.



FOR SERVICE SUPPORT, CALL 1-800-543-2378.



VertivCo.com | Vertiv Headquarters, 1050 Dearborn Drive, Columbus, OH, 43085, USA

© 2018 Vertiv Co. All rights reserved. Vertiv and the Vertiv logo are trademarks or registered trademarks of Vertiv Co. All other names and logos referred to are trade names, trademarks or registered trademarks of their respective owners. While every precaution has been taken to ensure accuracy and completeness herein, Vertiv Co. assumes no responsibility, and disclaims all liability, for damages resulting from use of this information or for any errors or omissions. Specifications are subject to change without notice.