



Vertiv

Gearing for the Future of Healthcare

The healthcare industry is undergoing transformation. Wearables, mobile apps and the so-called Internet of Medical Things are beginning to redefine the idea of patient care, delivering personalized services with just a few taps. As the patient becomes more empowered to make better choices when it comes to their health, there is growing challenge within the hospital infrastructure to support these new technologies.

WHAT IS HAPPENING?



Patient Empowerment

Ease and convenience brought by new technologies have led to a more empowered patient, increasing quality of healthcare and higher satisfaction overall.



Internet of Medical Things

Wearables, mobile apps and other online tools are increasingly being part of the bigger picture of patient care.



Data Security and Sovereignty

As more personal student information is stored online, data security and protection become imperative

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INFRASTRUCTURE SCENARIO



Next-Level Patient Care

What is Happening?

- Technology is now a vital part of patient care
- Wearables, Internet of Medical Things and other technologies are being utilized to deliver the highest level of care
- Patients can now access everything -- from medical information to doctor's appointments - using their phones adding to the ease and convenience

What does this mean for you?

- With growing reliance on IT, pressure is increasing on the data center
- Legacy infrastructure is not enough to support the uptick in density brought by big data
- IT managers must invest in new methods and technologies to support the critical infrastructure

What does this mean for your infrastructure?

- Scalable, highly efficient power solutions to provide 24 x 7 availability
- Next-generation cooling technologies to eliminate hotspots
- Intelligent monitoring to reduce risk of data center outages



The Growing Importance of Edge Computing

What is Happening?

- Wearable tech, IoT apps and other technologies are putting the power in the hands of patients
- Now they can access health information regardless of time and location; make doctors' appointments and schedule lab tests
- Patients are now able to make more intelligent decisions when it comes to their health thanks to technology

What does this mean for you?

- Wearables are pushing compute and storage closer to users and away from the core data center
- This requires a fresh approach to infrastructure in order to store and manage the data from various wearables and apps

What does this mean for your infrastructure?

- Robust IT system is critical to empowering technologies at the edge
- Flexibility, speed and remote management are key considerations



Visibility at the Healthcare Facility

- Monitoring is a critical aspect in managing the data center infrastructure
- IT managers are responsible for visibility of what's going on in the data center, to ensure security and continuity of the hospital's IT system

Healthcare Challenge: Predictive VS Reactive Monitoring

- Existing monitoring platforms offer a reactive solution rather than predictive
- IT managers only react to incidents after it occurs: risk of downtime
- A predictive monitoring solution enables the planning of specific points of defense in any future eventuality.



Protection: Critical Healthcare Operations

- Backup power offers protection of operations during power outages and disasters.
- Hourly cost of downtime for the healthcare industry is estimated at \$640,000
- Ensuring the reliability of the hospital's back up power system is essential with the proliferation of highly critical loads in this environment

Healthcare Challenge: Uninterruptible Power

- Power systems need to undergo regular testing in order to comply with regulations
 - BUT... Hospitals cannot afford to shutdown during testing
 - Need transfer switches for:
 - Efficient testing without interruption to the hospital's operations
 - Ensure seamless switching to emergency power in case of outage

VERTIV SOLUTIONS

Power Protection

Liebert® EXL

- On-line UPS protection
- Transformer-free topology with up to 97% efficiency in double conversion mode.
- 10.4" color touchscreen for easier use
- Configurations include Single Module, 1+N Distributed Bypass Multi-Module, Reserve Bus.
- Optional matching battery cabinets, available with Albér Battery Monitoring tools.
- LIFE Services for remote monitoring and proactive service delivery.
- ENERGY STAR® Qualified



Thermal Management

Liebert® PEX+

- With ultra-high efficiency, reliability, flexibility and low cost whole life
- Modular design, optimized airflow inside the cabinet, easy dismantling and easy handling
- Removable handling structure, 100% positive maintenance, saving room floor space
- Copeland Scroll™ efficient scroll compressor for refrigerants
- Ultra-efficient EC fan, adjustable air volume depending on the room load
- Large modular V-type evaporator, the dispenser nozzle and sophisticated design to ensure energy saving



Monitoring

RDU-M

- Offers a user-friendly GUI to set up and manage data center infrastructure appliances
- Real-time monitoring on environmental, power, cooling, and security in data center
- Video surveillance supports video recording/backup/replaying/picturecapturing/voice transmission/timed recording and recording action triggered by alarm
- Room access control management
- Relay actions triggered by alarm or events
- Alarm notification by Email, SMS
- Report and analysis on data center/device operation; PUE statistics



SmartCabinet™

Self-contained, pre-configured, pre-engineered and factory tested infrastructure solutions for data centers and telecom networks.

- Fully integrated
- Dust protection and noise insulation
- Highly Efficient
- User-friendly interfaceFast deployment
- Central Management



SmartRow™ 2

Intelligent, Integrated Converged Infrastructure Solution

Vertiv™ SmartRow™ 2 brings an innovative approach to efficiently integrate and manage distinct systems namely, Power and Distribution system, Thermal Management, System Security, Comprehensive Interface, Cable Management, and other pertinent aspects.

- Efficient Cooling Architecture
- Demand-Driven Deployment
- Intelligent Monitoring and Management System
- Accessibility, Management & Secure



Avocent® SV 240D KVM Switch

The Avocent® SV240D desktop KVM switch helps bring order to the desktop.

- Access from two to four computers using a single keyboard, monitor and mouse
- Mobile High-Definition Link (available on 4-port HDMI models) enables viewing of media from mobile devices on connected HDMI monitors
- Support for DVI-I, HDMI 1.4 and DP1.2 in single and dual head models supporting high resolutions up to UHD 4K
- Mouse and keyboard switching via emulation assures zero delay in switching time between connected sources
- Three USB 3.0 ports on the front of the 240 KVMs enable easy connectivity to external USB devices, quick data transfer and high speed charging of mobile devices



Avocent® DSView™ Management Software

Avocent DSView software is the single-rack view needed for all your servers, embedded technologies, network equipment and power devices

- Flexibly manage operations from any location
- Single point of data center infrastructure management
- Activity logging for full operational accountability
- Zone granularity access control
- Consistent appliance firmware management
- Flexibly restore and reimage devices from virtual media
- Architected business continuity
- Secured via site authentication and web certificates



Vertiv Data Center Planner

- Instantly know the current state of the data center and anticipate the effect of change to efficiently manage routine services; cut the time to provision, install and decommission equipment and reduce downtime.
- Rely on up-to-date, comprehensive data about devices and equipment locations, current capacities and power usage to confidently implement installs and changes without compromising availability.
- Anticipate capacity needs and reduce unplanned escalations or outages.

VERTIV END-TO-END CRITICAL INFRASTRUCTURE



HOSPITAL GROUP IN SOUTHEAST ASIA

Overview

Equipped the latest in power protection to address issues of downtime and unwarranted outages

Vertiv Solution

- Liebert® NX
- Leak Detection Systems



AGED CARE PROVIDER

Overview

Supported the customer's massive upgrade of its IT systems by installing the latest power protection systems and racks.

Vertiv Solution

- Liebert® UPS
- Knurr Racks



POMONA VALLEY HOSPITAL MEDICAL CENTER

Overview

Nationally recognized as a Top 100 Hospital, Pomona Valley Hospital Medical Center is a 436-bed acute-care teaching hospital that serves Eastern Los Angeles and Western San Bernardino counties.

Vertiv Solution

- Liebert® XD
- Liebert® XDP
- Liebert® XDV



BAYCARE HEALTH SYSTEM

Overview

BayCare Health System operates nine hospitals in the Tampa Bay area. Like other leading health providers, its doctors and administrators require access to the latest medical information.

Vertiv Solution

- Liebert® Auto Transfer Switch
- Knurr Racks
- Liebert® DS
- Liebert® FDC
- Liebert® PPC

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