

ENSURING HEALTHCARE DELIVERY WITH IT INFRASTRUCTURE SOLUTIONS



A Vertiv Case Study



ABOUT THE ORGANIZATION

Since its inception in 1953, this South Florida-based healthcare system has been a leader in providing high-quality healthcare services to South Florida. Today, it is one of the largest public healthcare systems in the nation and highly regarded for exceptional patient- and family-centered care. The provider's patient, physician, and employee satisfaction rates are some of the most admired in the country.

The facility offers a wide range of healthcare services and is home to several specialized institutes for the treatment of conditions including cancer, cardiac and vascular diseases, and neuroscience-related conditions. The hospital also houses a rehabilitation center. The new three-story bed tower expansion includes:

- 96 patient rooms
- Bariatric rooms
- VIP rooms
- IMCU rooms
- Isolation rooms
- Nurses stations
- Patient and staff support areas

Background

To accommodate greater demand for healthcare services, a major healthcare facility located in South Florida launched a vertical expansion of an existing bed tower, adding three stories and 75,000 square feet, including 96 patient rooms, imaging suites, and nurses' stations. As a long-time partner to the hospital and provider of the IT infrastructure for its data center, Vertiv was the obvious choice to provide cooling solutions for the imaging suites as well as the network closets on the new floors. The Vertiv team worked with the architecture and engineering firm to specify solutions tailored to both applications to ensure 100% uptime of the hospital's revenue-generating imaging equipment and its critical IT networks while extending the life of UPS batteries, maximizing energy efficiency, and ensuring a comfortable environment for both patients and staff.

Case Summary

Location: Pembroke Pines, Florida.

Critical Needs: Everyone in a hospital—from the patients and providers to the administrators and owners—pays the price when cooling solutions fail. Most importantly, hospitals and their staff and patients rely on 100% reliability of medical equipment and hospital information systems. While these systems cannot be compromised, patients and providers must also be kept comfortable and cooling costs must be controlled. Ultimately, facilities and IT staff need the ability to easily spec and order power and cooling equipment that is reliable, space-efficient, and intelligent with remote monitoring capabilities, all at the lowest total cost of ownership.

Vertiv Solutions: The Vertiv team provided Liebert® DataMate™ precision environmental cooling systems to deliver reliable, flexible, cost-efficient temperature and humidity control for the sensitive IT and cooling equipment.

Results:

- Enhanced reliability and increased protection for critical imaging and IT equipment
- Prevented over cooling, improving energy efficiency by as much as 20%
- Optimized the environment for equipment and people, improving patient care and patient and provider satisfaction
- Trained internal staff to operate and maintain their cooling systems to optimize availability and reliability long-term
- Provided peace of mind, convenience, and additional protection through a hassle-free extended warranty covering parts and services on all equipment

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"We've trusted the Vertiv name for power solutions, thermal management, and critical infrastructure maintenance in our data centers for more than a decade. With the hospital's expansion, where system availability and cost efficiency were both equally critical concerns, it just made sense to turn to Vertiv to protect both our imaging equipment and our data, and, ultimately, our reputation for world-class patient care."

-Director of IT

Solutions

Precision Cooling for Imaging Suites

Expensive revenue-generating imaging equipment in a hospital, including CAT scans and MRIs, needs to be available 24/7. If equipment goes down, scans need to be rescheduled, putting patient care at risk, delaying diagnoses, and leading to patient dissatisfaction.

While reliability is priority one, energy efficiency and patient/staff comfort are concerns as well. Because of significant heat variances ranging from 10% when imaging equipment is idling to 100% when scanning—it is a challenge to maintain the appropriate temperature and humidity at all times to protect the equipment and accommodate the people sharing space with that equipment.

Drawing on its experience implementing precision cooling solutions in thousands of imaging suites in hospitals and imaging centers around the country, the Vertiv team implemented its space-saving, and energy-efficient Liebert® DataMate™ cooling system.

The DataMate, with its slim, compact design was the perfect choice for the imaging suites at the hospital. Designed specifically for the cooling requirements of sensitive electronic equipment—80% of the capacity dedicated to the removal of dry “sensible” heat and 20% for control of humidity—its perfect for ensuring the right amount of temperature and humidity control. The energy-efficient design using a two-speed fan to automatically vary air flow helps reduce the risk of overcooling, which can lead to cold, uncomfortable patients and staff, while also optimizing energy efficiency up to 20%. Finally, the quiet operation of the DataMate helps to reduce noise levels in controlled spaces, further improving the patient and provider experience.

Cooling for Network Closets

When it came to cooling for the network closets, the local Vertiv office, Air & Power Solutions worked closely with the engineers to specify cooling solutions that could work within the space constraints of the network closets while still ensuring 100% reliability of critical IT equipment and the supporting infrastructure including the UPS, batteries and PDUs.

To manage heat output from the equipment, Vertiv specified a 3-ton chilled water unit with condensate pumps that connect to the hospital's existing chilled water loop for quick, easy installation. Like the imaging suites, the network closets also rely on DataMates as part of the precision cooling solution. In these environments, the DataMates' space-saving features are critical, while the cooling equipment's high-reliability and cooling capacity are essential to protecting the IT network and, specifically, extending the life of UPS batteries.

End-User Training and Extended Warranty

Post installation, the Vertiv team worked with the hospital's IT and facilities staff to provide training to ensure proper operation and maintenance of the equipment for optimized performance throughout the life of the equipment.

To further protect the hospital's investment in its infrastructure and reduce the maintenance burden on the already over-extended staff, Vertiv provided an extended hassle-free warranty for all equipment purchased, delivering protection to ensure the cooling solutions will work as intended and designed.

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

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