

# Keep Your Data Center Out of the ER

Learn how a critical systems analysis maximizes your data center mechanical service health.

Healthcare organizations have too much at stake to risk data center downtime or data loss. Serving as the hub of critical information—from patient health records to hospital budget information to financial transactions—it comes as no surprise that the data center is one of the most important areas for a healthcare organization.

Yet, such scenarios do happen with inadequate mechanical system maintenance, and the results can be devastating. Data center mechanical systems' failures in a healthcare facility can lead to a negative ripple effect including, electronic health record (EHR) data loss during emergency response care, which could result in possible Health Insurance Portability and Accountability Act (HIPAA) violations or lawsuits if patient care is disrupted. These types of impacts for a healthcare facility could mean additional costs and long-term damage to a hospital's reputation of patient care and service.

For example, the total cost for an unplanned data center outage for an American hospital averages \$918,000.<sup>1</sup>

Luckily, there are predictive and preventive steps hospitals and healthcare organizations can take to protect their data and the well-being of their patients.

## Critical systems analysis

A critical systems analysis can be conducted to assess the condition of data center mechanical systems and identify signs of trouble, such as pending failure or gross inefficiencies. This is critical for healthcare organizations because any data center downtime can directly or indirectly affect a patient's experience and impact critical hospital functions such as increased wait times for diagnostic testing and radiation treatments.

A critical systems analysis also provides insight into how a healthcare organization's data center mechanical systems perform and how that performance impacts their overall goals. For this reason, a truly comprehensive critical system analysis must start from the top down.

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# A critical systems analysis can help healthcare organizations generate greater savings.

A hospital's goals include improving patient comfort and achieving operational and financial targets, but its KPIs might include measuring occupancy rates, patient satisfaction, energy efficiency, operating costs, and total operating margins. The analysis then identifies and prioritizes those elements of their data center mechanical systems that are most critical to impacting these indicators and their organization's success. From there, systems are tested and performance is measured. A systems performance assessment is delivered, and proactive services are aligned around key facility goals and KPIs.

A strategic maintenance program can keep healthcare data centers healthy and help them achieve larger business goals in several ways.

- **Prevents failures before they occur.** Failure of any data center mechanical systems' component can create a disaster. When an HVAC unit at an off-site data center for a hospital in California crashed, its back-up unit quickly overheated and failed.<sup>2</sup> As a result, its EHR system was down for a week, causing postponement of scheduled procedures, such as radiation treatments, and week-long delays in patients receiving their test results. This could have been avoided with a critical systems analysis. The analysis tells a healthcare organization in advance, where future problems may occur. This could ensure problems are addressed before they cause failures, potentially saving a healthcare organization hundreds of thousands of dollars, or more. The analysis also examines the backup

system's integrity and capabilities, to ensure it is ready and able to take over if necessary.

- **Extends the value of data center mechanical system equipment.** A healthcare organization's mechanical system has an associated lifecycle and will only last so long. With a critical systems analysis, that lifecycle can be measured and a longevity plan can be developed and implemented. This allows healthcare organizations to get more out of their financial investment in their data center mechanical systems' equipment. Such analysis allows for a created maintenance and repair strategy based on urgency and budget. In short, the threat of data center downtime is eliminated with proper analysis, maintenance and strategic management.
- **Reduces energy costs.** By conducting a critical systems analysis, healthcare organizations can identify where energy waste is occurring in their data center. And the payoff can be significant. A typical data center has about 100 to 200 times the energy use intensity of a commercial office building. According to the U.S. Department of Energy, energy use in data centers can be reduced by about 80%.<sup>3</sup> A critical systems analysis identifies the energy efficiency of the data center mechanical systems' equipment, allowing for implementation of proper efficiency measures to reduce energy costs. Such cost savings can then be reinvested in areas that better

support organizations' healthcare mission. For example, if a hospital's mission is to advance neurophysiology, it may have more funds to invest in autonomic testing equipment, electroencephalography (EEG) systems, or time critical diagnoses (TCD) systems.

## Conclusion

For healthcare organizations, the use of EHR systems and reliance on data to access patient records and improve care will only continue to increase. By conducting a critical systems analysis and implementing the recommended proactive facility improvement strategy, healthcare organizations can generate greater savings and prevent unexpected downtime and data loss—all while providing superior patient care and experience.

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