

Is Heat Exhaustion Plaguing Your Data Center?

Inefficient Airflow is Costing You IT Capacity

Optimizing the cooling system in your data center can reduce your cooling costs by 10 to 30 percent, but accomplishing this are both a challenge and an opportunity. Over the years, the approach to data center thermal management has been to over-cool a data center at considerable expense. As energy costs have risen, many data center professionals have raised the temperature to save costs, without knowing what effect this will have on thermal performance and operations.

To maximize the cooling capacity of your data center, you need to balance the deployment of IT equipment with the thermal management system's capacity to cool the equipment, ensuring that you maximize your data center's capacity while at the same time preventing downtime due to thermal issues. Part of what makes this difficult is that the successful optimization of your data center requires an intimate understanding of something that you cannot see: airflow. The right amount of cold air needs to be delivered to the air intakes of each and every piece of IT equipment, and the hot exhaust from the IT equipment needs to be removed without interfering with cooling. To cool your data center more efficiently and effectively, you need to develop a cooling strategy based on detailed knowledge of your data center's thermal dynamics.

Panduit's Thermal Assessment and Optimization Service identifies opportunities to unlock lost cooling capacity to extend the life of your data center.

Thermal Assessment and Optimization Services

To maximize the efficiency of your cooling system, you must uncover the root causes of the cooling problems plaguing the data center. Without determining this, it can be impossible to choose the appropriate course of action to resolve cooling problems let alone improve your cooling efficiency. Trial and error fixes might make energy efficiency performance worse.

Panduit has years of experience in maximizing the cooling capacity of data centers for maximum energy efficiency and reliability. We assess your data center's thermal management conditions, thoroughly analyze their workings using advanced Computational Fluid Dynamics (CFD) analysis software, and identify solutions that will allow you to optimize your data center for maximum performance and energy efficiency.

How Can This Service Deliver Return-On-Investment (ROI)?

- Helps you to choose the most optimal long-term solution to accommodate the impact of future IT equipment deployments
- Increase energy efficiency by optimizing thermal management issues
- Determines the most optimum solutions with the highest ROI based on a proven analysis methodology
- Identifies optimal strategies specific to your data center
- Identifies the optimum set point temperature for your data center based on ASHRAE 2011 thermal guidelines
- Unlocks lost cooling capacity by balancing airflow to extend the life of your data center

Thermal Assessment and Optimization Service

Our Difference is in the Details

Panduit's attention to detail provides you with recommendations that will allow you to maximize energy efficiency and capacity in your current data center or in a planned facility. The value of Panduit's Thermal Assessment and Optimization Service is in our methodology. We meticulously gather information on your facility and use this to create a highly-accurate virtual model of your data center. This level of detail is crucial to determining the root causes of thermal management problems. Any analysis that does not include this level of detail can overlook critical factors, and often results in responses to cooling challenges that are incomplete or even counter-productive.

A Panduit Thermal Assessment and Optimization Service begins with a thorough on-site collection of data, conducted by one of Panduit's experienced Solutions Architects. Our highly-trained and experienced Computational Fluid Dynamics Analysis Engineers then use this data to accurately analyze the thermal performance of your data center to determine the best solution for optimizing your cooling system for maximize energy efficiency.

Cooling System Analysis

Our Engineers assess the thermal performance and environmental conditions from the level of the room to the row to the rack. We even model what's inside the rack and, where needed, provide recommendations for fine-tuning the airflow to and from specific pieces of IT equipment to eliminate wasteful bypass of cold air and harmful recirculation of hot air.

Thermal Analysis (Current-State and Future-State Scenarios)

Once Panduit's Engineers have created a highly-accurate baseline CFD model of the current thermal conditions inside your data center, they will then use that model to formulate "What If" scenarios to project the results of different remediation scenarios and even future equipment deployments. This allows them to determine your best course of action, based on Panduit's experience and proven methodologies, industry standards, current best practices, and your goals for performance, budget, and energy efficiency.

Comprehensive Report and Presentation

The Thermal Assessment and Optimization Service culminates with the presentation of a report that will clearly explain, in detail, your current thermal management issues and Panduit's recommendations for solving them and safely maximizing your data center's capacity.

Interested in Learning More?

For more information, contact your Panduit Sales Representative or contact us at AdvisoryServices@panduit.com.

Panduit's Thermal Assessment and Optimization Service can **reduce** your operating expenses between 10 to 30 percent and **maximize** IT equipment capacity by employing advanced modeling techniques to **identify** hot spots, improper equipment layout, and other issues that **reduce** cooling efficiency.

