

Data Center Environment Assessment Service

Nilzon Villanueva
Channel Services Manager

Overview

- **What is DCEA?**
 - A data center audit which focuses on:
 - Maximizing efficiency and uptime of a data center.
 - Optimizing the utilization of power and cooling infrastructure
 - Removal of heat from “sensitive heat” generating computer equipment
 - Quality and capacity of power serving the data center.
 - An assessment service which includes data collection, inspection, measurement, analysis, reporting and recommendation.

Customer Challenges

- IT computing demand growth
- Increase in data center's heat density
- Concern on availability and potential risks
- Aging data center
- Dynamic changes within the data center
- Experiencing power and cooling problems
- Data center audit compliance



Load Trends and Their Applications

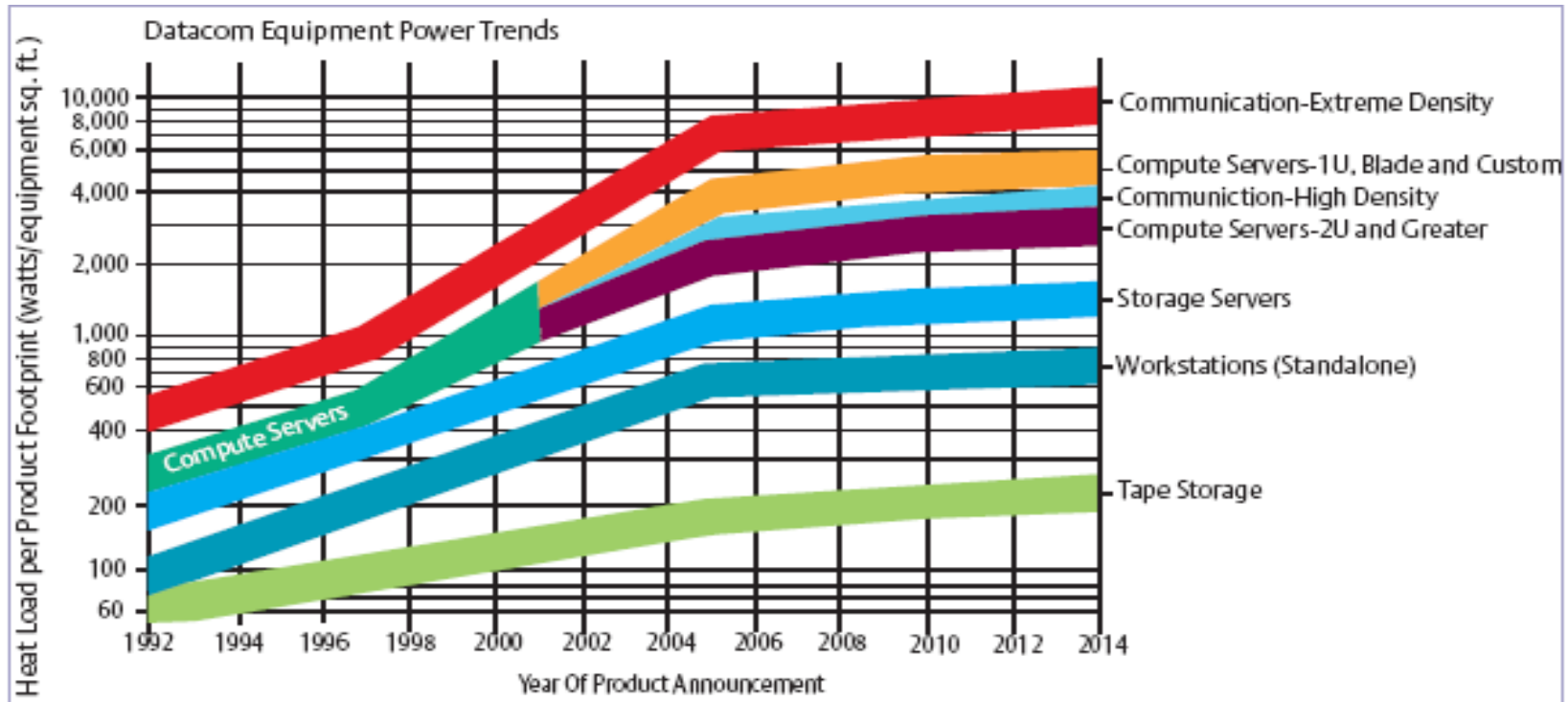
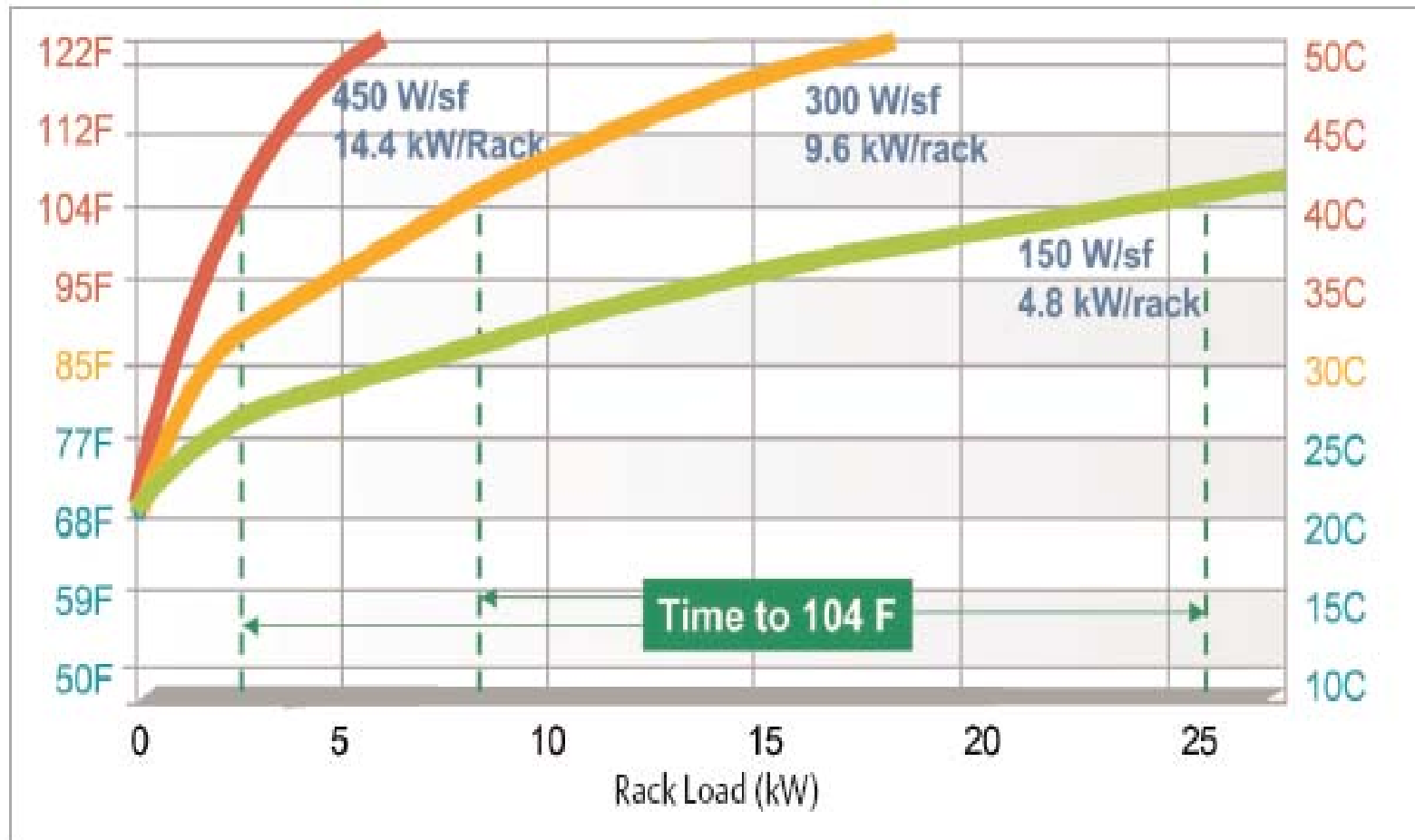


Figure 1. Equipment densities are rising even faster than once predicted.
© 2005 ASHRAE TC 9.9 Datacom Equipment Power Trends & Cooling Applications

No Cooling During Power Outage



Data Center Environment Assessment

Aging Data Center and Dynamic Changes



Value Proposition

- **Carry out the first step to optimize data center efficiency**
 - Determine unwanted hot spots
 - Know the health and integrity of power supplying your critical equipment
- **Maximize your critical systems availability**
 - Analyze where your data center is vulnerable to disruptions or costly failures from power loss or overheating
- **Reduce your operating cost**

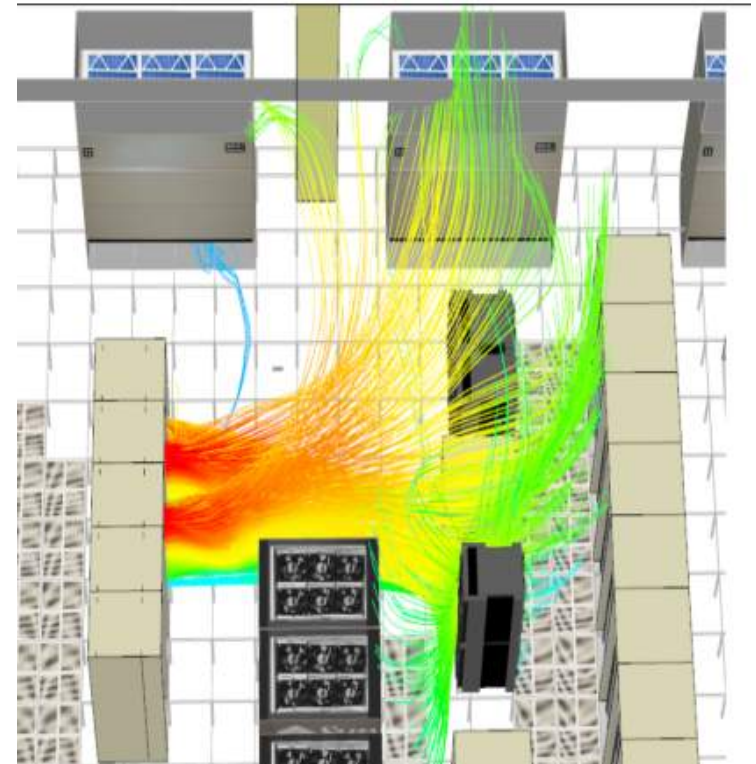


Scope of DCEA

- Thermal Assessment
- Electrical Assessment
- Floor Plan and Equipment List
- Computational Fluid Dynamics (CFD) Report
- Findings Report and Recommendation

Thermal Assessment

- Air, Temperature and Humidity measurements
- Determine data center's performance in doing equipment heat removal
- Identify hot spots
- Determine causes of hot spots and recommend how to reduce or eliminate them
- CFD – computational fluid dynamics



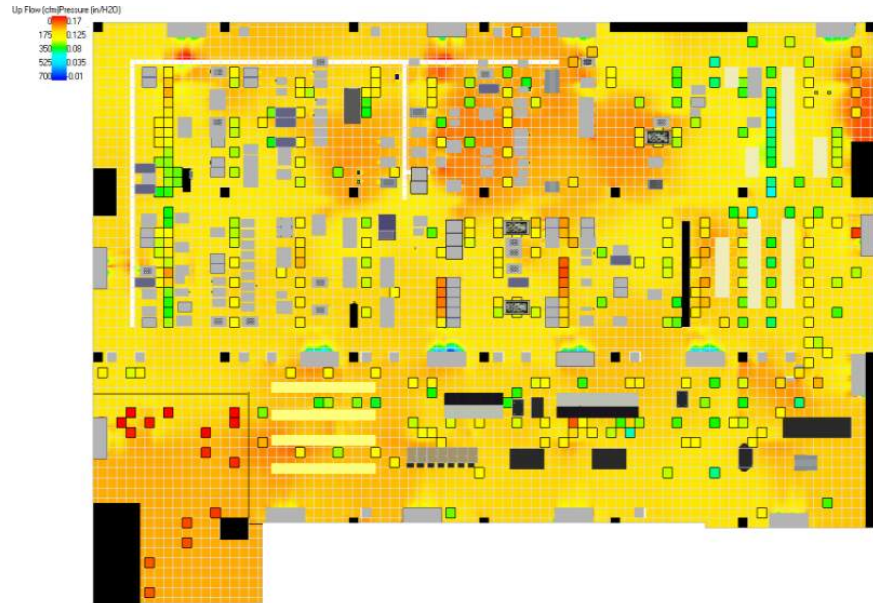
Electrical Assessment

- Determine capacity and integrity of electrical system supplying the data center
- Perform single point of failure analysis
- One line drawing verification and update
- Perform harmonic snapshot of the facility
- Make recommendation to maximize system availability



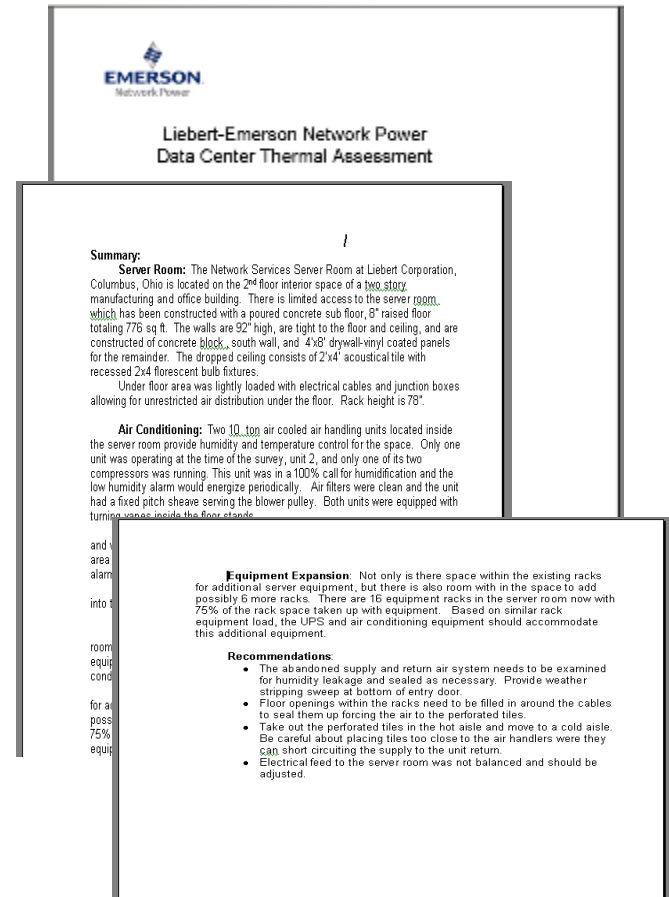
Floor Plan and Equipment List

- Log and update current floor plan
- Inventory record of facility power infrastructure equipment
- Inventory record of all air and rack equipment



Findings and Recommendation Report

- Detailed report that depicts true picture of data center
- Improvement recommendation report to eliminate “hot spots”, improve airflow and reduce heat in data center
- Improvement recommendation report to maximize system availability both now and in the future



Benefits of DCEA

- Establishes a baseline on your data center's health
- Identifies sources of downtime
 - Hot spots
 - Electrical capacity and integrity
- It provides solutions and recommendations to your power and cooling infrastructure
- Identifies single point of failure analysis
- Increases system availability
- Reduces operating cost
- Can be used for data center capacity planning
- Protects capital investment



Frequently Asked Questions (FAQ)

1. The Assessment requires a considerable investment, why?

Reply: Knowing the potential shortcomings of a data center's cooling and power infrastructure can translate to costs savings in terms of reduced downtime, better energy efficiency, better utilization of existing equipment and smarter specification of additional equipment required for growth and change within the data center.

2. Do you have to shutdown my data center while you conduct this assessment?

Reply: No. We are as unobtrusive as possible when conducting the assessment. If possible, we will try to shut down the air conditioning for a short time to inspect it – but not in a way that will affect data center availability.

3. My equipment is not all from Emerson (Liebert)

Reply: This does not affect our ability to conduct the assessment

Frequently Asked Questions (FAQ)

4. I have a local engineer who can also do this, why do I have to get you?

Reply: The Liebert Data Center Assessment is a more specialized service that can actually be used as a follow-up to initial surveys performed by your local engineering firm. Our reporting features in-depth airflow analysis with 3D software modeling, various levels of power system testing and other assessment tools. If required, we also have the capability, through our Professional Assessment Services, to perform further studies to identify other specific power problems.

Frequently Asked Questions (FAQ)

5. Your competitor says they can do all this with their own assessment service. Why should I let Emerson/Liebert do it?

Reply: Emerson/Liebert is the leader in business-critical power and cooling protection. We have 40 years of experience in protecting data centers. Chances are, much of your data center cooling and power equipment is manufactured by Emerson/Liebert – we have over a 70% share of the precision cooling market, protecting 100% of the Fortune 500. Our competitor is a relative newcomer to the data center cooling market.

The Emerson Data Center Assessment is performed by factory-trained experts with years of experience working with mission-critical cooling and power systems. Competitor's assessment is performed by "Professional Services Engineers" – but do they really have the experience and knowledge that you know you will get from Emerson/Liebert?



For More Information

**Email : Nilzon.Villanueva@emerson.com
Or go to the *Services Section* of
www.emersonnetworkpower-partner.com**

