

ENERGYLOK®

Cooling Science Seminar

Unlock the science of data center airflow management and learn the latest trends in cooling efficiency.



Realize Your Potential

With limited time and resources, data center managers can struggle to stay on top of the latest airflow management (AFM) trends and easily fall behind in implementing best practices. Since cooling consumes almost half of a data center's energy, it's an issue that can't be ignored. In fact, the average data center already has almost 4 times more cooling capacity than IT load.* This is because cooling problems are often misdiagnosed as a lack of capacity, when the true problem is poor airflow management. This leads to attempts to resolve problems by simply throwing more cold air at them. This strategy is like trying to cool a house by adding another air conditioner, but leaving the windows open. There is great potential for improvement.

Knowledge is Power

As the saying goes, knowledge is power. While most data centers have a solid cooling infrastructure in place, many simply struggle with learning and implementing methods to optimize the airflow and get the most out of their current cooling system. Effective AFM is the key to optimizing a data center's cooling. AFM will not only help a data center run more efficiently, but can also improve a data center's PUE and significantly reduce operating and capital expenditures.

Understanding AFM starts with education. That's where the experts of Upsite Technologies come in. With over a decade of research and in-field experience, Upsite wrote the book on AFM best practices. And now we're ready to share our knowledge with you.



AFM Knowledge, Delivered Straight to Your Data Center

Upsite Technologies developed the EnergyLok Cooling Science Seminar to help customers understand the dynamics of airflow and thermal management. This unique education service delivers Upsite's industry-leading knowledge and experience directly to your data center, empowering your data center team to implement airflow management best practices quickly, resulting in a faster ROI.

Upsite's EnergyLok Cooling Science Seminar is a two-day combination of classroom and hands-on training that helps you better understand the science behind AFM and data center cooling. The number of participants is limited to 10 for best learning outcome.

Identify the Opportunity

Learn the latest in data center best practices that immediately impact your bottom line, including how to:

- Increase cooling capacity to allow for installation of more IT equipment
- Identify isolated airflow issues negatively affecting IT reliability
- Optimize cooling airflow
- Eliminate hot and/or cold spots
- Improve energy efficiency
- Reduce bypass air leakage
- Increase cooling unit set points safely within ASHRAE limits
- Defer capital expenditures on cooling equipment
- Use the tools required for airflow management

*Based on Upsite's research of 45 data centers around the world, 2011, the average data center has 3.9 times the amount of cooling capacity to IT load.

Learn how to spot hidden opportunities
of improvement on your site.

No Expensive Travel Required: We Come to You.

Most industry training seminars require you to visit a hotel or company's campus at a very high cost per person involving tuition, travel, and lodging expenses.

Upsite's EnergyLok Cooling Science Seminar takes place at your site, offering unique advantages:

- 1. Cost Effective:** Being very cost-effective per attendee, eliminating travel and lodging costs—as well as time out of the office—for your employees.
- 2. Customized:** Our customized seminar specifically tailors its curriculum for your site conditions to help your company and employees immediately apply the lessons learned.
- 3. Hands-On:** Day 2 of the seminar applies classroom training from Day 1 to your actual data center, with a hands-on explanation of management metrics and tool use.
- 4. Collaborative:** When more employees are involved in the education process, it increases the likelihood of successful implementation. On-site education allows personnel from multiple departments to attend, including IT, Facilities, Finance, and Senior Management.

Trust the Experts

Upsite Technologies is the global leader in data center airflow management and was founded by Uptime Institute creator Ken Brill in 2001. Our mission is to lead the charge in airflow management, optimizing data center cooling for centers all over the world. Our products and services empower data center managers to take control of airflow and thermal management and work to increase cooling capacity while providing the best environment for IT equipment.

Contact us to learn more about **EnergyLok Cooling Science Seminar**.

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Sample Seminar Agenda

Day One

- 8:30 Kickoff meeting
- 9:15 Tour computer room
- 10:00 Computer room cooling and AFM science fundamentals
- 12:30 Lunch
- 1:30 Computer room cooling science practice
- 4:30 Break for day

Day Two

- 8:30 Computer room cooling management
- 10:30 Tool use and data collection (in computer room)
- 12:30 Lunch
- 1:30 Review data collection
- 4:00 Q&A, go-forward plan, seminar concludes

Subtopics discussed

- PUE—calculations, importance, and limitations
- Cabinet circulation patterns
- ASHRAE TC 9.9 recommendations
- Cooling unit performance characteristics—sensible vs latent cooling
- Calculation and use of cooling capacity factor (CCF)
- Containment strategies
- Relative humidity considerations
- Cooling unit sensor calibration
- Cooling set point consideration
- Protocol for cooling optimization (The 4Rs)
- Identifying and releasing stranded capacity
- Raised floor open area management
- Fluid mechanics of raised floor cooling distribution
- Advantages and disadvantages of hot and cold aisle containment
- Management Metrics