

Hot and cold air—keep ‘em separated

Air-flow management = less energy consumption

In today's electronic reality, computers are integral to business. Energy use is up. Server rooms and data centers are hot commodities. With air-flow management strategies, you can have the best of both worlds: uptime reliability and energy efficiency.

WHAT IS IT?

Air-flow management is the most common way to increase a data center's energy efficiency. Arranging equipment a certain way and using simple dividers can keep hot air from the servers separate from the chilled air being vented into the room. And, these two best practices pay off. They can decrease cooling energy costs as much as 50 percent.

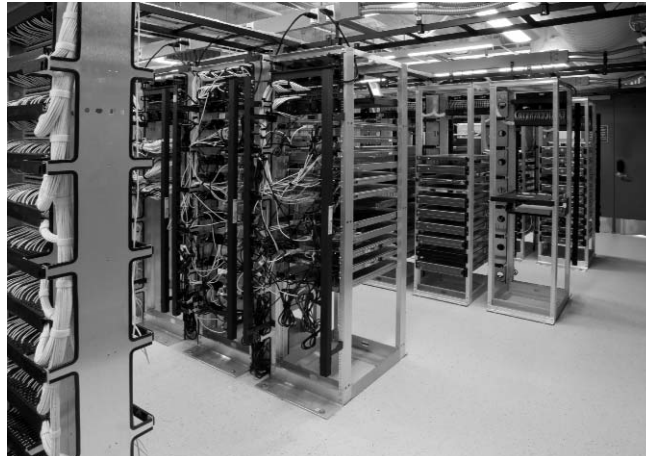
Equipment layout: Hot and cold aisles

If your servers are currently situated every which direction, you need to do some rearranging. That setup wastes energy. Instead, arrange your server racks so that the server outlets face each other—creating a hot aisle—and server inlets face each other—creating a cold aisle. Leave a walk space in-between server rows so that you can still access the servers.

Congratulations! You just created separate hot and cold aisles. Now, your servers can properly suck cool air in from the front and push warm air out the back. Going one step further, you can have a heating and cooling contractor reposition air vents so that they pump chilled air into the cold aisle.

Fill in the gaps

Now, that you've done all this heavy lifting, your efforts would be for naught without installing **blanking panels** on your server racks. Blanking panels are narrow steel or plastic sheets that fill in any open space in your server cabinet. They come in different sizes and prevent hot and cold air from mixing.



If your looking for a high-ROI, low-risk IT project, consider implementing hot and cold aisle isolation in your server room.

For even deeper energy savings, you can install **brush grommets** on your raised floor to conceal the holes created by power and network data cables. The grommets look like a narrow box with a bristle-brush opening. Your cables will be able to pass through your raised floor while the grommet will prevent air from escaping.

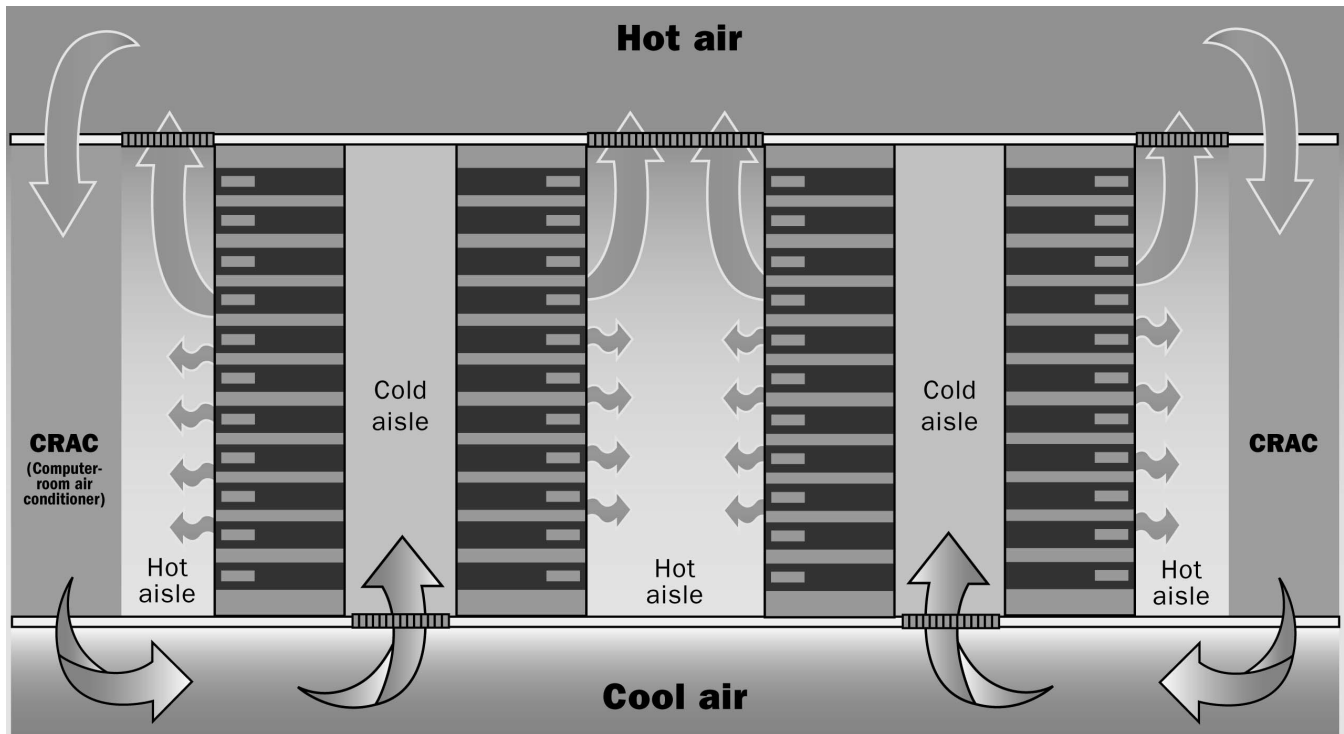
Hot/cold aisle isolation or containment

Next up, creating a physical barrier that further separates hot and cold air in your data center. Creating a system approach to air-flow management will improve the reliability of your data center while delivering energy efficiency.

Creating this system may minimize or even eliminate hotspots and provide a more reliable cooling solution for your computer equipment—empowering you to increase your data center's set point temperature to maximize energy savings. For every five degrees you increase your set point temperature, you will see a savings around 7.5 percent on your data centers cooling costs.

For more information,
call 800.762.7077 or visit focusonenergy.com.

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Above is a typical server room layout with cold and hot aisle isolation.

If your data center is growing, air-flow management can help you address your additional load. By implementing this system, the load on your air conditioner's compressor will be reduced allowing you to add additional computing load without adding additional cooling.

ADVANTAGES

Air-flow management for IT applications is easy to implement, can have an aggressive payback, and reaps almost immediate results. Your energy costs are bound to go down and that means extra money that can be reallocated, perhaps even boosting your IT budget to implement other projects.

Low-hanging fruit

You already know that keeping servers cool keeps them happy. Now, cooling your server room or data center doesn't have to cost a fortune. There are new tools in your energy-efficiency toolbox. Focus on Energy can introduce you to low-cost resources and larger-scale IT efficiencies. Either way, your organization will save energy and money.

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