8 WAYS TO REDUCE

POWER CONSUMPTION

With today's skyrocketing utility bills and higher energy consumption, you can't afford not to keep a close eye on power usage and current levels in high-density data centers. Below are eight tips that can help you reduce power consumption and leave you feeling cool and green.

1. Server virtualization

Today's servers leave a lot of processing power unused. Plus, each machine requires cooling in addition to the energy required to power it. Consolidating multiple servers into one machine reduces the power consumption to that of one machine's requirements. It's easy to see how server virtualization makes a significant impact.

2. Efficient power supplies

Data centers run all the time out of necessity; they are the lifeline of today's business environment. But often times, desktop PCs are built without the most efficient power supply. You can swap out inefficient power supplies for those that

are much more efficient. Desktops power supplies are available that are 80 PLUS certified, which adheres to the Energy Start 4.0 standard released in 2007.

The 80 PLUS certification requires that a compliant power supply operate at 80% efficiency at 20, 50, and 100% of load rating. Standard power supplies only operated between 50 and 60% efficiency. Desktop machines equipped with 80 PLUS certified power supply require 16 watts less power, which translates into 85 kilowatts per year saved per desktop PC.

3. Automated lighting

Server rooms only need lighting during times when staff must physically interact with them. At all other times the lights can be out. Automating this process so that the lights only turn on when people enter the server room eliminates those power consumption costs. Keeping the lights off also eliminates the heat generated by those lights, thereby reducing the strain on the HVAC system and internal server cooling mechanisms that keep the machines cool.

Automated lighting can also be used in individual offices. Triggering office lights with motion detectors will enable you to automatically turn off lighting when people are not in their offices.

4. Server room/data center power consumption education

Many of today's PDUs have the intelligence to monitor and track power consumption of the devices plugged into them. This enables you to see what pieces of equipment are using the most power and when. If some servers are not essential and do not need to be running all the time, you can schedule them to power down during downtime and then to power back up when they need to be running.

5. Intelligent cooling

Instead of cooling an entire communications closet or small server room for just one cabinet or rack, consider a self-contained cooling system. It reduces power consumption because it only cools the equipment that needs to be cooled—not the entire room or closet. Depending on the ambient air temperature, the air conditioner may run only a few times an hour for a few minutes as opposed to cooling the room all day long.

6. Intelligent desktop power strips

Power strips are now available that can sense when a PC or laptop goes into sleep mode. They then turn off peripheral equipment such as monitors and printers as well. That may not seem like much, but when you consider how much power is

saved over time and multiply that by the number of employees using those devices, the savings add up pretty quickly.

7. Liquid Cooling

If you have a data center, you may want to consider liquid cooling. The technology has existed for many years—going back to old mainframes—and has proven to be much more efficient than traditional methods for cooling data centers, like hot aisle/cold aisle. It costs less to pump liquid than to cool air. For more advantages on liquid cooling, check out this article published in Data Center Knowledge.

8. Blanking panels and cable management

Be sure to use blanking panels and good cable management techniques in your data center cabinets. These may seem like small details but they aid in cooling efficiency, thus reducing the power necessary to cool the equipment. You want to be sure that cool air is getting to the places that it needs to.

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