Top Ten Considerations for running an efficient data center

1. Make sure your data center is sealed to prevent humidification problems. All cracks and holes in the walls and floors should be sealed; doors should be tight fitting; and ceiling tiles should have a vapor barrier, and all tiles should be in place.

2. If you have raised access flooring, seal around all cable openings, and close all open floor tiles. This will help prevent cooling and static pressure losses.

3. Avoid short-cycling your air-conditioners. Air-conditioning that is oversized for the critical load, or cool air mixing with return air, can lead to short-cycling. An assessment of the heat-load and air flow in the room could lead to relocation of units, or possibly installing a system to cycle the units on and off.

4. High density loads should be cooled with high-density air-conditioning solutions. These systems are capable of handling the high concentration of loads, such as blade servers, and are more efficient than attempting to cool these loads with traditional systems.

5. Try to keep office space, desks, out of the data center. By code, if there is a desk (or desks) in the data center they are considered occupants. The code requires at least 20 CFM of outside air per occupant to help prevent “sick building syndrome.” The more outside air you have coming into the data center the more problems you have with humidity control, and therefore use more energy.

6. Make better use of your data centers existing servers. For reliability reasons, servers in data centers are usually found running one or maybe two programs per machine, but this is beginning to change with virtualization technologies. Look into ways you can better use today’s equipment.

7. Conduct proper, and routine, Preventative Maintenance (PM) on all critical equipment. By conducting regular PM’s potential problems are found and corrected before they become outages, and equipment runs much more efficiently.

8. Ensure your organization has documented Standard Operating Procedures (SOPs) and Methods of Procedures (MOPs) for maintaining your equipment, safety procedures, as well as disaster preparedness. Human error is one of the leading causes of outages in a data center.

9. There are many power management software tools on the market that monitor power consumption on servers and automatically put them on standby mode when they are not needed – it is said this can reduce 80 percent of power consumption on servers.

10. Use blanking plates for empty spaces inside server racks.

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