

SIX QUICK TIPS

Forgotten Maintenance

Routine Upkeep Can Make Your Data Center More Efficient & Prevent Disasters

A DATA CENTER'S CLEANLINESS should be a key concern for data center managers because it can mean the difference between efficiency and wasted time and energy. And although most data center admins probably perform some maintenance on their servers and server room, there is likely some cleaning, such as on and under raised floor tiles, that is missed along the way. To help with regular upkeep, read on for tips from some industry experts about maintaining your data center.

✓ Subfloor Cleaning

According to Kevin Vickery, vice president of sales at ProSource Mission Critical Services (www.team-prosource.com), "Regularly scheduled subfloor cleanings help to prevent dust accumulation inside server components, leading to better reliability." For example, the concrete pad and plenum under raised flooring can accumulate dirt and dust that falls through holes in the data center's flooring. The cool air that circulates underneath the data center floor can carry away that debris and push it into the data center hardware, where the cooling is typically aimed. "Subfloor encapsulation of the concrete pad under the raised floor helps reduce dust in the data center that can lead to server component failures," Vickery says.

Deposited dust can get into circuitry and clog system fans or foul up electronic equipment. Dust in fans can be a particularly dangerous problem for data centers because the reduced airflow can cause servers to overheat, which can lead to repairs that cause downtime in the data center. In fact, says Bill Montgomery, CFO at Premier Solutions (www.premiersolutionsco.com), "Keeping the center free of particulates is extremely vital to the server's health and performance." Just a few other hazards of particulates in your airflow include an increased fire risk and the possibility that fire suppressants will falsely identify the dust as smoke and release the fire suppressant onto your data center. Employees that are allergic to dust can also be affected by the environment, and a particulate-filled data center can negatively affect the health of IT staff and employees that regularly work inside the data center. In short, an unmaintained subfloor can create environmental, health, and safety hazards.

✓ Tile Cleaning

Many data centers feature raised floor tiles that are designed to remove static electricity. "Regularly scheduled raised floor cleanings help to protect and prolong the life of the raised

floor tiles so that they continue to dissipate static electricity that can cause server failure," Vickery says. The biggest problem that can arise is when dirt or debris on the tile prevents the floor from properly dissipating static electricity, so a person may continue to build up static while moving

and shock computer components when working on the equipment.

You'll also want to be careful that you don't use cleaners or materials that will chip or remove laminate from the tile because the deterioration could also reduce the antistatic effectiveness of the tile. "Sticky floor mats

should be installed to reduce the traffic of debris in the room," says Michael Petrino, vice president of PTS Data Center Solutions (www.ptsdcs.com). "These can be disposable or a reusable mat that needs to be cleaned."

✓ Hardware Cleaning

Hardware cleaning is probably the least likely type of maintenance to be forgotten, but it's important to remember that, as outlined above, your valuable equipment is likely where dust and dirt will settle if it's been blown through the cooling system. It's best to wipe down or vacuum the equipment, if possible, to rid it of the dust. Additionally, it's inadvisable to use chemical cleaning agents on the equipment, because the chemical concentrations may be detected by environmental monitoring systems, and liquid may set off any leak detection systems your data center has in place.

✓ Check & Recheck

It's helpful to monitor your systems to make sure nothing seems to be lagging behind. "You can only manage what you can measure," Petrino says. "So in this case, it is a matter of monitoring and data logging." To that end, Petrino recommends implementing a comprehensive monitoring system that includes room temperature and humidity; support infrastructure such as UPSes, cooling, power distribution, and generators; servers; and network equipment. You can also invest in data center maintenance management software, which typically includes contracts, drawings, maintenance procedures, and history. ■

Most Practical Tip:

✓ Enlist Help

If you feel that your IT staff wouldn't have enough time or would be unable to effectively maintain the data center, you should hire a data center cleaning company to implement a preventive maintenance program. "Lean on your cleaning company for conventional methods of controlling the environment," says Bill Montgomery, CFO at Premier Solutions (www.premiersolutionsco.com). "Most provide the simple, yet valuable, products in cooling efficiency that will keep your HVAC in balance and not overwork the equipment." You can even set up a cooling maintenance SLA that will guarantee at least one annual onsite visit.

Additionally, says Kevin Vickery, vice president of sales at ProSource Mission Critical Services (www.team-prosource.com), "Only hire data center cleaning professionals that specialize in cleaning data centers because they have the knowledge, expertise, trained staff, and the proper equipment, as well as the processes, to safely and effectively clean your data center." A traditional cleaning staff may use harsh chemicals on floors and be unfamiliar with the proper ways to maintain the expensive, delicate equipment in your data center. "The cost of prevention by providing a preventive maintenance cleaning program is a fraction of the cost of downtime for any data center," Vickery says.

Easiest Tip To Overlook:

✓ Don't Forget UPS Systems

When it comes to ongoing maintenance, it's important to create a schedule and stick to it for important systems such as UPSes. "Always keep [up with] the annual preventive maintenance of UPSes," says Premier Solutions' Bill Montgomery. "We find very often that the maintenance has lapsed, and the end user is unable to receive software updates, check battery life, status logs of the system, and must have the UPS recertified before a maintenance agreement can be reinstated." An annual onsite data center optimization, preferably performed by a power and cooling expert or service provider, can serve as a health check for your data center. "Your IT center is a dynamic environment and the change in climate needs to be recognized," he says.

BONUS TIPS:

✓ Learn best practices from pros.

ProSource Mission Critical Services' Kevin Vickery recommends gleaning info from the Association of Data Center Cleaning Professionals (www.ADCCP.org), which is a non-profit trade association that was created in 2011 to educate and protect data centers by developing industry standards for vendor services. It can also help to provide you with best practices, such as recommended equipment and chemicals, and connect you with vendors to help you find a certified provider. Any member of the ADCCP must adhere to the minimum cleaning standards set by the group.

✓ Track airflow and seal leaks.

Perform a check of the raised floor to find holes and openings in server cabinets to prevent bypass airflow, which can lower efficiency due to decreased under floor static pressure. The end result of bypass airflow will be hot spot areas in your IT equipment, so you'll want to seal up those holes in the raised flooring. Another benefit of sealing up the holes is that you'll help to reduce the amount of dust and dirt that falls under the tiles, so you'll spend less time cleaning the under-floor environment.

