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General Information

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Extended Life Expectancy

Regular Maintenance To Keep Your Data Center In Good Health

Housekeeping: It's a dirty word, but when it comes to the data center for small to midsized enterprises, passing the white glove test on a regular basis can mean the difference between useful and extended lifetimes for critical infrastructure, such as flooring, racks, UPSes, and HVAC systems.

Although professional maintenance service companies such as Media Recovery, Sterile Environment Technologies, and Data Clean warn against cutting corners by hiring a janitorial service to perform specialized data center maintenance that requires a certain level of expertise, there are a number of routine tasks that can be carried out by data center or facilities personnel that can significantly reduce maintenance costs while helping to extend the useful life of equipment.

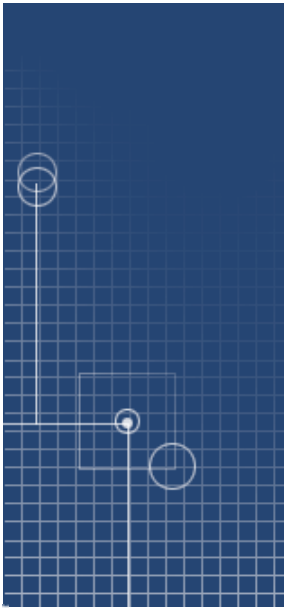
■ Don't Swab The Deck

As easy as picking up a broom or mop may sound, this is one task best left to professionals, especially where there is raised flooring. Rich Hill, president of Data Clean, explains that keeping the data center floor surface clean is critical for maintaining conductive properties. "If the pores of the laminate become compromised, it decreases the conduction properties. Cleaning helps the floor do its job," he says.

Metal surfaces in the subflooring can slough zinc whiskers, leading to the failure of electronic equipment. Due to their small size, zinc whiskers can be easily jettisoned into the air during improper cleaning, causing even more damage.

Innocuous everyday household cleaners and floor treatments, such as wax, can severely damage floors in the data center, so unless your data center personnel have the proper equipment and training, caring for floors should be left to professionals.

To minimize floor cleaning, preventive measures, such as installing tacky step mats at entries, can greatly cut down on tracking dirt into the data



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center.

■ Lightweight Maintenance

Keeping the dust at bay on racks and electronics can be delegated to in-house staff as long as they are properly equipped. Vacuum cleaners should be industrial versions with HEPA filters; all cloths for wiping down surfaces should be antistatic microfiber towels; and cleaning solvents should be approved, such as EnviroTek, a zero-residue cleaner available through Sterile Environment Technologies.

As much as good cleaning techniques can minimize recirculating dust into the air, having clean filters within the HVAC system will also help the data center operate with better efficiency. Because regular HVAC maintenance is imperative to a data center, regardless of size, filters are commonly cleaned and changed by HVAC technicians. However, if your data center is subjected to an inordinate amount of dust (such as those in dry, arid environments, near construction, or in industrial settings) ask your HVAC technician to show in-house personnel how to properly change filters. Bear in mind, though, that some service-level agreements prohibit this.

■ In Case Of Emergency

Overlooking routine maintenance on emergency systems is unfortunately all too common. Dedicating time to regularly check on backup and environmental monitoring systems can mean the difference between minutes and days of downtime in the event of an emergency. Much of the monitoring and some of the maintenance can be performed in-house.

The first line of defense in a simple power outage or fluctuation is the UPS. Most UPS systems have a simple light installed on the panel for quick visual inspection as to the status of the battery. Some even emit a high-pitched chirping sound, much like a home smoke detector, when the unit is no longer functional.

Standalone UPS units designed for individual racks, servers, or workstations contain sealed lead-acid batteries, which have a three- to five-year lifespan. Although changing batteries is a simple process that can be completed in-house, keep in mind that batteries cannot be disposed of through a trash service where they could end up in a landfill and instead must be properly recycled.

Along the same line as UPSes, onsite generators need to be regularly monitored to verify fuel availability. With the dramatic increase in fuel prices, many facilities are falling victim to fuel theft from their emergency generators. Fuel reserves should be regularly checked to ensure the generator will be operational when a need occurs. After such an event, data center personnel can also be responsible for refueling.

A fire extinguisher may hang on the wall for decades but never be used. That doesn't mean it should also be ignored. Larger data centers often install comprehensive automated fire suppression systems, but many smaller enterprises are equipped only with smoke alarms and manual extinguishers.

Similar to monitoring UPSes, in-house personnel can be designated to visually inspect smoke detectors and fire extinguishers. Smoke detectors requiring batteries should have them replaced once a year. Likewise, extinguishers should be monitored to ensure the pressure is at the recommended level, can be accessed easily, and is free from any physical damage such as rust, dents, or leaks. In the event an extinguisher is discharged, even briefly, it should be inspected and recharged by a

professional.

For data centers that want to take on the responsibilities of maintaining as much infrastructure as possible, they should first identify what facets they can perform themselves and what needs to be delegated to professionals. Next, set a schedule as to the frequency that maintenance should be performed. And, finally, only assign tasks to personnel trained or capable of handling the maintenance.

Despite the trend to outsource as much data center maintenance as possible, smaller enterprises often do not have the budget to provide for all routine maintenance to be done by professionals. By taking the time and initiative to perform simpler maintenance tasks, data centers can both save money and ensure a longer useful life of equipment. ■

by Sandra Kay Miller

When To Call In A Pro

While there is plenty of data center maintenance that can be performed in-house, there are also jobs that should be outsourced to professionals.	
Do It Yourself	Call In A Pro
UPS maintenance and battery replacement	Raised and subfloor cleaning and repairs
HVAC filter replacement (unless prohibited by a service-level agreement)	Measuring air quality
Rack and cabinet cleaning	Zinc whisker remediation
Fuel for backup generators	Fire suppression system maintenance

For Data Center Maintenance

Data Clean

www.dataclean.com

Offers a variety of services, including comprehensive cleaning, repair, and maintenance for raised floor systems; cable mining; server door replacement; post construction cleaning; and zinc whisker remediation, along with airborne particle counts and environmental analysis

Media Recovery

www.mediarecovery.com

Provides cleaning services for raised floor, subfloor, equipment, and above ceilings, as well as environmental audits and reporting

Sterile Environment Technologies

www.set3.com

Data center cleaning services include subfloor cleaning, repair, and antistatic sealing; catalog available for tacky step mats, cleaning chemicals, and equipment

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