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Spic & Span In The Data Center

Keeping Your Servers & Equipment Clean

Data centers are often portrayed by Hollywood as sterile, antiseptic rooms that show nary a speck of dust. Servers are glittering boxes whose shimmering lights evoke a spacecraft headed for the frigid wastes of Mars. Try as they might to ignore it, data center managers and system administrators are well aware of the build up of dirt and grime on their systems. Prudent cleaning of servers, workstations, monitors, and KVMs not only helps these devices look better but also function better.

Cautionary Tales

According to Bill Montgomery of Premier Solutions, roughly 20% of his clients take advantage of his equipment cleaning service as opposed to data center cleaning. Many of his customers like to perform their own cleaning, while some don't have any cleaning done on their systems.

One of the main reasons companies avoid cleaning their systems is fear, says Montgomery. Applications that run in data centers tend to be vital business systems that can't incur any downtime. IT managers fear that either hiring a cleaning service or performing the cleaning in-house would involve unnecessary risk.

Inappropriate cleaning can cause problems, according to Montgomery. Poorly trained personnel using the wrong techniques and tools can seriously damage a server or workstation or disable a KVM. In Montgomery's experience, there's no serious danger when cleaning is conducted in a deliberate, careful, and uninterrupted manner by trained personnel.

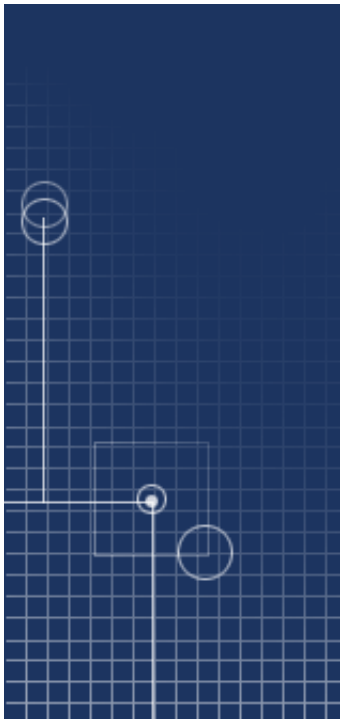
When the opposite occurs, havoc is sure to follow. Horror stories abound of servers that failed after static electricity damaged circuit boards, internal vacuuming loosened internal components, and liquid cleaners damaged keyboards.

Imposing Order

Despite the many risks involved in cleaning data center end nodes, many companies do undertake the task on a regular basis. There are two general reasons for conducting periodic cleaning: keeping the equipment operating properly and instilling a sense of order and cleanliness.

A sociology theory known as the "broken window" syndrome illustrates the value of keeping up the appearance of your data center. When a window in a neighborhood is broken and left unrepaired, it signals a lack of care and respect. Eventually, more broken windows will be left unrepaired, trash will accumulate, and the neighborhood will turn into a slum.

This theory also has its place in the data center. The idea is that if servers are kept clean, keyboards cleared of debris, and monitors wiped of fingerprints and food, IT staff members



will take better care of their systems.

Let The Professionals Do It

If you're unsure about your staff's ability to safely conduct periodic cleaning, there are many companies available that can keep your equipment clean. Because companies such as Premier Solutions use trained personnel who perform these tasks on a daily basis, they know how to use the tools and supplies properly.

Montgomery recommends that companies perform routine cleaning on a semi-annual basis. If your equipment is building up debris despite a semiannual cleaning cycle, you'll want to bring it to the attention of your facilities manager, as well as your IT staff. Proper air filtration in the data center should be limiting the amount of airborne contaminants, and IT personnel should be prohibited from introducing food debris.

Cleaning Tools

Proper cleaning requires the appropriate tools and materials. One of the most important tools is a vacuum that utilizes a HEPA (high-efficiency particulate air) filter. This helps to prevent the recirculation of dust into your data center environment. According to Premier Solutions, some of the best on the market are those from Nilfisk (http://www.pa.nilfisk-advance.com/). For cleaning wipes, Montgomery believes there's no better source than 3M (http://www.3m.com/). He recommends using a two-wipe system with one wipe holding the cleaning solution, and the second being a microfiber wipe for finishing off the display.

Cleaning Procedures

Cleaning servers and workstations should be limited to front bezels and rear fan exhausts, Montgomery says. Cleaning these should be done with a vacuum equipped with a soft crevice tool with the vacuum set at a low power setting. The aim is to remove any dust or debris that has built up. This will help improve the efficiency of your system's fans. Vacuum slowly and methodically, being sure not to insert the tool too deeply into the openings, as you want to avoid damaging any fans. Resist the urge to wipe down your servers and workstations with cleaning cloths. Even with the best wipes, this simply introduces more dust into the air, which invariably gets drawn into your server's air intakes.

Cleaning displays should be done as a two-step procedure: Wipe down the CRT or LCD with a wet cloth and then dry with an accompanying dry wipe. Care should be taken not to exert too much pressure on an LCD screen, as it may crack.

Keyboards usually suffer from debris that has become embedded between the keys, as well as dirt buildup on the keys themselves. Vacuuming the keyboard should remove most of the dust and debris, while using the same cleaning procedure as described for displays should help remove dirt buildup on the keys. These procedures also apply to console devices, storage arrays, switches, and other end node equipment.

No Scrubbing Bubbles

Keeping your data center equipment clean is an often overlooked, yet important, task. Clean equipment will operate more efficiently, use less energy, and last longer. Cleaning the end node components of your system isn't an onerous task, just one that requires a suitable level of caution, the appropriate tools, and a modicum of common sense. ■

by Chris Jackson