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cabling

Just the Tip of the Infrastructure

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Cabling problems are common in all buildings and data centers. In performing cabling assessments for more than 15 years for many property management companies and major organizations (as well as acting as an expert witness on several multimillion-dollar lawsuits related to cabling infrastructure problems), I can safely say that your building has cabling problems.

From Wacker Drive to Kansas City to Beverly Hills, I have never walked through a building without finding major problems resulting from a lack of management of the inside wiring and cabling facilities. These problems are going to cost you and your organization a lot of money – maybe even the sustainability of your business.

Huge Insurance Risk Second-Round Funding

Some years ago, most property management firms and large organizations didn't care about cabling problems. They were too busy with more important things, like what type of espresso machine they should be installing in the lunchroom. They would let maintenance go until something drastic happened: overhead cabling troughs would get maxed out; tenants (in properties) would move, leaving abandoned cable under floor cable troughs so that raceways got maxed out; a new application would have to be installed, and dead (abandoned) cable would need to be removed to make room for the new network media.

Today, there are some new rules pertaining to maintaining inside wiring within an organization. Managers in charge have to understand that there is huge liability now if cabling is messed up.

The insurance companies have finally perked up and are pushing the issue of cabling infrastructure. National electrical codes are specifying that abandoned cable must be eliminated and that cable ducts must be free of dead cable.

In liability cases, if a fire spreads due to cabling conduits not being properly fire stopped (covered with a flame-retardant material so the pathway, or riser system, cannot act as a "chimney" for smoke and other toxic fumes to travel through the building), the insurance company can claim that your organization's building was not up to code. No payment. Claim dismissed.

Let's say that the fire caused millions of dollars of damage. Your organization needs the money to restore its capabilities – quickly. The insurance company can wiggle out of paying the claim because they can show that the cabling was not up to the national electrical code as well as the municipality's building code.

Is Your Facility Management Awake?

A fast way to find out if the people responsible for cabling within your facility are "on top of the job" is to ask them if they know about the TWINS in the building.

What are the TWINS? It's a fast view of the health of your cabling, which is the lifeline of your business. TWINS stands for Total pair, Working pair, In-service pair, Non-working pair, and Spare pair.

An example of using TWINS would be to evaluate the amount of spare capacity you have coming to the building. You might think you have a lot of spare capacity because you know you have a 5,000-pair cable coming into the building and you are only using 2,000 of that 5,000.

Here is a quick example of how that assumption can be grossly misleading:

Total Pair: 5,000 – Working Pair: 2,200

In-Service Pair: 2,000 – Non-Working Pair: 3,000 – Spare Pair: 200

(Determine non-working pairs through testing.)

All of a sudden, you realize that you don't have the extra capacity you thought you had. You thought you had more than enough for that new telemarketing department you were going to move into the building that needed 500 pair for their incoming lines. Now it's a crisis. Don't think that the phone company is going to come rescue you.

I have actually seen a building that could not be leased up because they ran out of cable to the building. The phone company diverted "spare cable" to another building being built, and the existing building could not lease up the last 20 percent of the office space. For those who are curious about how long it took for them to run more cable to that building, it was a priority order and it took 18 months. If you or your telecom manager really know the TWINS formula for cabling, you may save yourself a crisis or two. Try asking about this TWINS check with your facilities manager.

Data Centers Are Centers for Potential Disaster

So many organizations have built data centers and call centers on the cheap. The newer centers are sometimes more susceptible to cabling problems because the people in charge didn't spend enough money to do a proper job of insulation, fire stopping, compartmentalizing, and creating a redundant approach.

There are many areas for improvement that are often overlooked because the people in charge may not know what a good data center should be. A great example of the right job is the Chicago E-911 center. Another is AT&T's 10 S. Canal facility, where they have four jet aircraft engines as power back-ups if ComEd fails.

I used to take my students through both because I wanted to show them what "the right way" looked like. These were great field trips for those professionals who were jaded and thought they had seen it all. They were impressed and shocked at the level of reliability and redundancy, but jet aircraft engines can chew up a lot of fuel and are not cheap. Neither is filling up their 330,000-gallon tank (a big price difference compared to a PC surge protector).

Fiber-optic cable and copper cables running through cable trays with the proper loading and strapping gave a real-life example, rather than just talking about a quality standard. No overfilled trays, no spaghetti cable messes or other problems that I saw in so many other buildings – just a perfect design.

Pay Now or Pay Dearly Later

So many organizations have gotten by with substandard design and maintenance on cabling and data centers that they might read this with a "so what" attitude.

Those are the companies that will eventually go out of business or be acquired by their competitors when they hit their first major outage and can't get their data center working, or when they have a fire, a bad design, or disaster and find out they can't collect the insurance because the insurance company sends out some person to review the problem before writing a check for $10 million.

Some of you know-it-alls say that will never happen and insurance companies will always pay out. Sorry to burst your bubble. I know this happens because I was that person, and the check wasn't written.

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