

Cable Certification: Six Reasons It Is More Important Than Ever

Economic turmoil is shining a bright light on the value of services used by IT departments. Among them are the services used to deploy and maintain enterprise network infrastructure. Infrastructure includes copper and fiber cabling, and it is the foundation of the network. This paper identifies the specific benefits afforded by cable certification and how much it pays back to the network owner.

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Cable Certification: Six Reasons It Is More Important Than Ever

A souring economy is causing retooling of IT budgets. Cash conservation is an “A” priority for everyone, including managers who must make tough decisions to reduce operating expense and capital outlays. Yet in this process, IT managers should not forget that a healthy network infrastructure is inextricably linked to productivity, service efficiency and expanded services.

A tempting option to reduce IT out-of-pocket expense may be to defer maintenance. While no company defers truly critical maintenance, there are tasks that might be postponed because they exist in a gray area that may be seen as “optional.” Navigating these decisions is not easy but it would be a grave mistake to suspend testing of the foundation of every network: its copper and fiber cabling.

Background

The most thorough testing for network cabling is certification. Certification proves that a cabling system adheres to rigorous standards for performance and installation workmanship. Cable certification requires trained technicians and specialized test equipment. This is an expensive endeavor that can be postponed, right? **Wrong.**

Cabling has been known to cause as many as half of all network failures. By certifying the cable network, failures are reduced. This is a crucial benefit that is magnified six ways in financially challenging times:

1. Certifying is less expensive than repair
2. Product warranties are limited
3. Certification and recertification futureproof the infrastructure
4. Uncertified cabling = stranded capital
5. Reducing waste is good policy

1. Certifying is Less Expensive than Repair

Certifying copper and fiber cabling prevents problems. Certification is insurance against future problems. Without it repairs must be made on a live network or worse, on a network suffering an outage.

Network downtime extracts a painful price in lost revenue, lost productivity, diminished customer service and competitive disadvantage. The Contingency Planning Group performed a study that estimated the cost of an hour of enterprise network downtime between \$14,500 and \$6,500,000, depending on the industry. The Gartner Group estimated that an hour of downtime costs a less bone-chilling \$42,000 per hour, on average.

If an enterprise is challenged to improve its annual uptime from 99.9% to 99.99%, it needs to reduce downtime by eight hours. Using the Gartner Group’s conservative estimate of downtime cost, this saves an enterprise \$336,000 annually. **How do you get there?**

There are many causes of downtime. A Gartner/Dataquest study pointed the finger at human error and application failure 80% of the time. But if the network represents just 20% of the cause, it accounts for \$67,000 of the exposure.

Contrast this to the cost of certification. A network with 600 Cat 6 copper lines undergoes certification testing. A realistic assumption is that 5% of the links fail the initial test and must be repaired and retested. Using a modern cable certifier the entire process will take approximately 11 man-hours. At a commercial rate of \$65 per hour, the expense is less than \$750.

\$750 for insurance to achieve \$67,000 in savings: even more if the network supports a high-value business operation such as credit card, retail or brokerage transactions. The case is certification is self-evident.

2. Product Warranties Are Limited

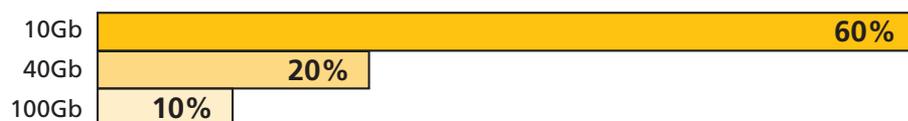
A network owner may be tempted to roll the dice in tough times and use a manufacturer's warranty as a security blanket. This is understandable because most cable and connector manufacturers offer good warranties and they stand behind their products. These manufacturers cannot, though, warranty final installation.

The quality of a cable installation lies largely in the hands of the installers. If installation craftsmanship is poor, even excellent products fail. The failures and the attendant hardships are outside the scope of a hardware warranty, so the network owner and the installer must negotiate remediation.

The only way to assure that installer workmanship meets standards is by certification testing. The only way to assure that best practices are followed is by certification testing. Certification gives the network owner protection against unanticipated costs. When the economics winds blow ill, protection is welcome.

3. Certification and Recertification Will Futureproof the Infrastructure

You might believe that a cable build-out "does what it does" when installed, and never does more. This could be short-sighted. A recertified cabling plant may prove to support higher-speed traffic that is deployed years after the cable is first installed. How important is support for higher speeds? According to a survey of datacenters by the research firm BSRIA, multigigabit technology is now commonplace:



What are the implications of this? Category 6 copper cable was designed to support 1-Gigabit per second data rate. Recent field certification tests indicate that a good deal of the Cat 6 cable used in datacenters complies with the 10GBASE-T standard and can support 10-Gigabit service over short to moderate distances. If you recertify the Cat 6 cable in your datacenter you may find an efficient path to a 10X throughput, avoiding some or all of the cost of replacing cable. Moreover, when demand for IT services rebounds the recertified cable plant is poised to support new equipment and expanded services.

4. Uncertified Cabling = Stranded Capital

It is a fact: recessions churn building tenancy. When a new occupant enters a building the state of its cabling presents a series of questions. How old is it? Does it work? What was it used for? When? A new tenant may view the mass of copper and/or fiber as a mystery, not an asset.

Certifying 200 lines of cabling will cost less than \$500 at most commercial rates. Installing 200 new lines of new Cat 6 cable will cost \$5,000-\$10,000. The choice for the landlord is easy.

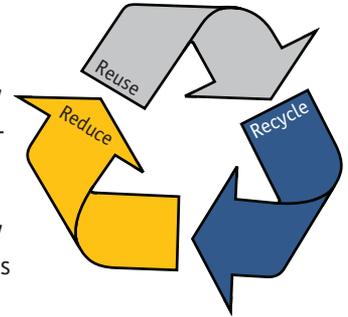
Certification is life extension for a cable plant. It is capital saved for building owners and tenants. Lack of certification turns legacy cabling into stranded capital: money spent that cannot be recovered.

5. Reducing Waste is Good Policy

The economic case for extending the life of cables is made in Section 4, but it may not be the worst case. The widely adopted National Electrical Code (NEC 2002) requires the removal of abandoned cable that is not identified for future use. Without certification the cost legacy cable may well include the cost of cable removal, the cost of cable recycling and/or the environmental impact of disposal.

It is sound business policy to maximize use of existing copper and fiber cable. When properly maintained it has a long lifespan. With limited budgets demanding greater efficiency it makes sense to use certification to implement the three canons of environmental management:

Reduce, Reuse and Recycle.



6. Buyer Beware

An unsettling trend in the cable industry relates to “no-name” Cat 5, 6, and 6A product. This cable is often made outside the United States and is less expensive than comparable product from major manufactures. Unfortunately, much of this inexpensive cable is made from inferior materials using questionable manufacturing processes.

In 2008 the Communications Cable & Connectivity Association tested nine brands of no-name cables, all of which were rated for use in risers or plenum spaces. Not one met the physical requirements defined in TIA 568-B.2. Only five meet the electrical test requirements defined in TIA 568-B.2 and one met the safety requirements defined by UL 1666 and NFPA 262. How is such poor cable reaching the market? It can because safety agencies perform random tests at the point of manufacture, not in the field. The chasm in the quality process leaves end users exposed to safety and performance risks that are entirely avoidable.

To ensure that there are no costs or risks hidden in inexpensive Cat 5, 6, and 6A cable, enterprises and cable installers should certify cable in accordance with industry standards.

Conclusion

Cabling that is certified has far more value than cabling that is uncertified. The amount of the additional value depends on application and the enterprise. Consider the pitfalls of uncertified cabling. Consider the trade-off between testing and “hoping for the best”. Hope is rarely a good strategy, and in a challenging economy, it is a dangerous one.

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