

# White Paper: Why Certify Data Centre Structured Cabling

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In our data centric world of today, data centres are being rapidly deployed right around the world. The infrastructure being deployed includes copper and fiber cabling, and it is the foundation of the network. Deploying infrastructure is an expensive exercise, the network equipment like switches, routers and servers will be replaced many times during the life of the cabling infrastructure. Technology is forever evolving; newer technologies are being developed to allow more data to be transferred over our infrastructure. This paper identifies the specific benefits afforded by cable certification and how to ensure your cabling infrastructure can support your network today and tomorrow.

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## Introduction

Data Centres continue to grow and expand right across the globe as our appetite for data increases daily. Cloud Computing, BYOD, Mobility and our desire for “need the information now” has meant we are seeing an evolution in networking technologies. Not only in the devices that make up the network fabric, but also at the physical layer, the foundation of our network. We have 10GB Ethernet, we have 40GB and 100GB Ethernet over fibre, 25GB and 40GB Ethernet are coming for use over copper balanced twisted pair cabling. NBase-T is on the horizon, allowing the re-use of existing copper cabling at higher data rates

Poor data cabling has been known to cause as much as half of all network failures. Certifying the data cabling within a data centre reduces these failures, offering tangible benefits in operating and installation costs.

- **Certifying is less costly than repair**

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 USD\$14,500 and USD\$6,500,000, depending on the industry. The Gartner Group estimated that an hour of downtime costs a less bone-chilling USD\$42,000 per hour, on average.

- **Product warranties only go so far**

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 often outside the scope of a hardware warranty, so the network owner and the installer must negotiate remediation. The only way to assure that best practises are followed and that installer workmanship meets standards is by Certification Testing. Certification Testing gives the network owner protection against unanticipated costs, and provides an OEM manufacturer confidence in their warranty offer.

- **Certification or re-certification will help future proof an installation**

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. Cat 6 can support 10GB Ethernet over short distances; NBase-T will allow 2.5GB Ethernet over Cat 5e cabling and 5GB Ethernet over Cat 6 cabling, for a 100m channel.

- **Is what has been installed real or fake?**

Unfortunately today, where costs can be an issue, the use of no-name or “fake” products is on the rise. Often, these “fake” products masquerade as well-known brands. Fake cables are most often Copper Clad Aluminium (CCA) whereas structured cabling standards require 100% copper cable to be used. Fake jacks offer less than the rated performance. Certification can detect the use of sub-standard products in an installation.

- **The need for speed**

A new data cabling installation is expensive and with faster technologies offering higher bandwidths becoming available, Data Centre Operators want to be able to offer the best possible service to their clients. Poor cabling performance is a silent bandwidth thief. Copper cabling with high Near End Cross Talk (NEXT) or high Return Loss (RL) can create a high level of re-transmission errors. Fibre optic cabling with high reflectance at the connectors and higher than desired attenuation can reduce the bandwidth capability of a fibre network.

- **Reducing waste is good policy**

The economic case for extending the life of cabling infrastructure is clear, but it may not be the worst case. In many countries the Electrical Code requires the removal of abandoned cable that is not identified for future use. Without certification the cost of legacy cable may well include the cost of cable removal, the cost of cable recycling and/or the environmental impact of disposal.

## Conclusion

With the technologies that are being deployed within data centres today and the absolute reliance on the cabling infrastructure to deliver these new higher bandwidth solutions, can you really afford not to certify or re-certify your cabling infrastructure?

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