



Selecting a Structured Cabling Vendor

—A Balanced Scorecard for the Best Value

When selecting a cabling vendor, one of the most difficult tasks is sorting through the vendor-provided data and getting to the information most critical to you and your network. In that stack of marketing materials, you should immediately look not only for test reports, but also details of the vendor's contractor training program, available support services and warranty claims. If you can easily get that information from a vendor, you're off to a good start. But now the homework begins - is the documentation worth the paper (or web page) it is printed on? Here are a few things you should look for.

When the vendor selection process starts, many companies look first and solely to independent test reports. Test results can be promoted as either worst case or typical. It is important to know which type of results are represented by the report, as worst case and typical should never be compared as equivalent values. If all vendors under consideration are reporting worst-case results, it is then important to look at the test parameters and performance margins (headroom) to determine which will provide a better system. The same holds true for typical results. Although typical reports will provide more variable performance data, it is more important to compare solutions on an even playing field. That said, if a company has not provided the report (either worst case or typical) you need for a fair comparison, ask for it. Most vendors should be able to provide both typical and worst case data.

Once you have established the type of report, it is critical to remember that seemingly similar results may not have been gained under “apples to apples” test criteria. While independent testing goes a long way to ensure validity of performance claims and can offer a degree of structure to the testing parameters, it leaves some holes. For instance, channels can provide different results based on test unit launch cords, lengths and other variables. A 100m channel can consist of an 80m cable with two 10m patch cords or a 90m channel with two 5m patch cords. You cannot compare different independent channel reports of different constructions (number of connectors, length of cords, horizontal cables, etc). Used as the sole means of evaluating a vendor, independent test results may not provide a clear indication of repeatable system performance.

When companies submit channels to an independent test lab, the components and channels are often handpicked and supplied as pre-terminated channels. The lab then runs tests based ONLY on these channels and will provide affirmation that the system performs as expected. Regardless of whether they are tested to worst-case or typical, pre-terminated or factory-terminated channels offer “best case” termination performance. Unless the testing procedure mimics typical field installations, such as testing components procured from distributor inventory and terminated on site, performance values in independent test reports may not be representative of actual field performance.

Because of the potential variability between test channels and actual field installations, most test results are provided back to the company with a statement of limitations. Statements of limitations predominantly follow these lines: “At the client’s request, the purpose of this report is to provide electrical performance data on the test sample. It is not valid to use this report for any other purpose.” While independent testing is helpful in validating system performance, selecting a cabling vendor based solely on a comparison of independent test data may not be wise.

Some end user companies take the route of performing their own “bake-offs” rather than relying upon independent test reports. A contractor may be selected to install and test multiple channels from multiple vendors in real-life conditions and compare the results. This allows a company to evaluate product based on their own channel configuration and testing. Unless you are buying pre-terminated links, the manufacturer will not be installing the product. Technicians and installers will have a large influence over the stability and testing of the channel.

A user-developed and monitored test bed environment is also a good place to test for other issues, such as the effects of re-terminations on system performance. If a connection has to be re-terminated and/or re-mated, will it still perform as expected? Does this change the test results greatly? Any cost savings gained from a lower performing cabling system or using a contractor who hasn’t been properly trained or certified can quickly vanish if replacement connectors are required due to termination errors. The test bed environment also allows you to explore termination times, ease of product use and overall

product quality. This will provide far more insight into selecting the right system, and is reasonably easy to set up. Most quality suppliers will be happy to provide assistance for such efforts

Whether using independent test results or performing in-house tests, it becomes clear that installation quality is paramount to final system performance. It is critical to examine the installer training and certification programs provided by the manufacturer. Some contractor certifications are open to almost anyone and may only require a two-hour class in terminations. The better programs will include training on the entire channel for both copper and fiber and cover everything from design, cable installation, terminations, to testing.

Training programs certified by independent organizations such as BICSI provide an additional layer of quality assurance. Such certifications ensure that the training has been reviewed and the practices taught are sound. Typically, a body such as BICSI will award credits towards their own certifications based on approved vendor classes. The more credits awarded, the better and more thorough the training. The best training will also be supported by ISO 9001. An ISO – certified training program will not only offer a higher level of quality, but also assure global consistency of the program. All of the emphasis on training boils down to one question: Will the installers certified by a vendor provide a consistent high quality, end-to-end installation?

Another consideration in selecting the right cabling vendor should be their offering of value-added support services. These services can include things like design assistance, contractor referrals, installation audits, continuing education, and other programs that are beneficial to your company. While many services are complimentary, some may be fee-based. Costs and service values should be closely explored for the best deal, but such programs and services allow you to form a business partnership with the vendor rather than just purchasing components. If the company has developed and funded these programs, it was most likely due to a need in the end user community. This tells you that the company listens and responds in order to better take care of their customers. This level of support can be critical to your project's success.

Finally, you will want to look at the variety of warranties they provide as well as what is covered within the warranty. Upon examination, most warranties vary greatly. Some only offer coverage for components (usually referred to as a product warranty). Product warranties may provide adequate coverage for your needs, however, be sure that any product replaced is new and not refurbished. In some cases where defective product may be an issue, a manufacturer will consider covering a portion of the labor required to have defective product removed and new product installed. This is a question to ask the manufacturer - how their product warranty supports product replacement. You will want to determine whether the cabling vendor or the installer holds the warranty. While there are countless examples of stable installer companies, some are smaller, less robust organizations and have difficulty supporting

SELECTING A STRUCTURED CABLING VENDOR

customers after the installation is completed. By and large, cabling manufacturers will provide more stability and you should seek warranties in which the manufacturer issues the warranty direct to the customer.

Some warranties go above and beyond that of a product warranty. Other warranties can be referred to as performance warranties, applications warranties and system warranties, to name a few. Performance warranties represent a guaranteed performance of the cabling after it has been installed and tested. Applications assurance basically states that any applications that are designed to operate over the cabling system will be supported for the life of the warranty.

You should select a warranty with a suitable period of coverage that provides direct manufacturer support as the single source of problem remediation. This support should not be limited by time constraints, beyond the full warranty term and there should be NO fine print that will present a problem in the future. You should also insist on 100% field-testing of all links/channels to provide the necessary documentation to support your infrastructure - this should be required in all performance, applications and system warranties. If every installed link or channel is not tested upon installation, this leaves the door open for finger-pointing in the future should there be a problem. Finally, the manufacturer should review these test results to ensure that their product has been installed to provide optimal signal performance across the entire specified frequency range and will support the customer for the duration of the warranty. It is far easier to identify and fix problems early on rather than later when the system is in production and network downtime occurs.

In summary, several factors including those discussed herein, should be evaluated when selecting the right cabling partner. After all, when you purchase an automobile you look at more than the sticker on the window. You should do the same for your cabling infrastructure to assure that your applications and electronics will run smoothly over time. By selecting a partner rather than a parts supplier, you can be assured that in the end, the necessary support will be there for you.

Worldwide Headquarters North America

Watertown, CT USA
Phone (1) 860 945 4200 US
Phone (1) 888 425 6165

Regional Headquarters EMEA

Europe/Middle East/Africa
Surrey, England
Phone (44) 0 1932 571771

Regional Headquarters Asia/Pacific

Shanghai, P.R. China
Phone (86) 21 5385 0303

Regional Headquarters Latin America

Bogota, Colombia
Phone (571) 657 1950