Category 6 Standards Timeline

Final published Category 6 standards are presently over one year away (expected by September 2001). Both the TIA TR42.1.2 and ISO/IEC SC25/WG3 committees have had to postpone full efforts on Category 6 until after the completion of Category 5e standards.

The Need to Test Cat 6 Now

Many cabling and connecting hardware vendors, however, are already offering products intended to comply with the anticipated Category 6 standards. Some of these manufacturers are offering warranty programs that guarantee extended performance. Some building owners and tenants are beginning to specify Category 6 to assure the longest possible life cycle for infrastructure investments. As a practical matter, Category 6 is already a market phenomenon despite the absence of published standards.

Test Results Based on Draft Standards

Any installer offering to meet this demand for Category 6 performance prior to the publication of final standards is confronted by the challenges of: 1) how to select the appropriate cabling and connecting hardware that is most likely to ultimately comply with final standards; and 2) how to test the installed cabling to verify performance claims. Necessarily, any Category 6 testing at this point must be to draft specifications or manufacturer-specific limits.

Category 6 Testing Risk

The risk in this approach, however, is that the final category 6 limits could be somewhat different from those in any draft version of the specification. So test results verifying compliance with a draft version of the specification may not be valid when the final Category 6 standards are published. This risk is made worse by the typical practice of just saving summary pass/fail results that contain data on just one point (usually at a single frequency) for each measurement. Using just this summary data, it is difficult to determine if subsequent changes in the test limits would alter the overall pass/fail result.

Saved Plots Can Be Re-Evaluated

If, however, the appropriate test probes are used and sufficient plot data is saved from cable certification testing, it is possible to re-evaluate measurements against different or modified limits without actually re-testing the cabling. This capability saves money and improves the usefulness of test results gathered prior to the formal ratification of Category 6 standards. ScopeData Pro software will include the capability to re-classify saved test results against modified limits in order to provide this form of analysis.

Diagnostic Value of Plot Data

Test plots contain a wealth of information about cabling performance. Plot data can be processed to show which parts of a tested cable run have the worst performance and how far from the ends connectors are. Plot data taken when cabling is first installed can be used as a baseline for comparison with subsequent tests run to troubleshoot an operating network.
Figure 2: Saved test plots can be processed to display information useful for troubleshooting. The figure above plots the intensity of unwanted coupling vs. distance along the cable run – essentially a map of fault sources vs. distance. This data is very helpful for troubleshooting or baselining cabling performance.

Saving Plots Used to be Difficult
Previous generation cabling testers lacked adequate memory to store full plot data for multiple tests. Some of these testers, like the WireScope 155, have the capability to store plots to an attached PC if it is connected while the testing is under way, but this requirement is inconvenient for many contractors.

New Technology Facilitates Test Plot Storage
The WireScope 350 simplifies plot storage by supporting removable Compact Flash memory cards. These cards, which are about the size of a matchbook, can be plugged into a slot at the bottom of the WireScope 350. Full plot data for all tests can be saved to these cards and later transferred to a PC for analysis and report generation. Compact flash memory cards are the leading standard removable storage devices used in digital cameras and consequently are widely available and rapidly decreasing in price. At present, Compact Flash cards cost approximately 20 cents per saved test record with plots – and these cards can be re-used many hundreds of times. Certainly, it costs considerably less to save test plot data than to re-test.

Enhancing Test Reports With Plot Data
With the advent of inexpensive technology that allows full test plot storage and analysis, many contractors and network managers will want access to this very useful information. New generation test result reporting software such as ScopeData Pro has been developed to provide access both online and in printed form to this graphic format information.

Figure 3: Sample test report with plots printed from ScopeData Pro software.

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