In the Field...Better Cable Terminations

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Some things get lost because of the details and smallness. A few weekends ago I was on a job to help terminate drops else face the ladies at my wife's "girl thing." So, I opted for the job site that we've been working on to transition their network from "converged" to: two-drops to-the-classroom.

What are the insignificant details to many are often the most frustrating to those troubleshooting any network. Still the common pitfalls seem to come back to a decision about cost. Cabling be it Cat 3, 5, 5E, 6, or 6A still requires a degree of attention as does the hardware used on both ends of the wire.

A few years back, **Fluke** purchased Harris-Dracon. This was a great match and made sense then and today. The Fluke Network products along with the Harris-Dracon line compliment one another as do quality, performance and price.

The school we've been working at had numerous drops installed. Sometime prior, I ordered a couple of 66/110 replacement blades for my **D14S impact tools**. The D14S has the rubber grip, which reduces impact recoil and hand fatigue. Since, I no longer do cabling- that's for my younger guys to do, I got a bit behind in some basic maintenance: changing of the blades.

The last thing a guy wants to do is show up on a job site with other guys (this is a guy thing ladies) with something new, bright and shiny. The new blades from Fluke are the **EverSharp™ blades** and they are so. After doing just one day's worth of terminations using the new blade- I'm confident in saying that the $27 bucks per blade was well spent. These blades do the job the first time, every time and it's a feel about the blade. The wires cut every time using the EverSharp™ blades in all my impact tools.

Of course it wasn't news to some of the younger guys- but it's still worth noting. Remember to change your blades and don't settle for knock-off products. One of my friends doing work for a L-enterprise franchise used the run-of-the-mill supply house tools and blades. It took us a couple of hours to determine that his impact tool wasn't properly cutting and terminating the wires on the 66-blocks and 110 patch panels. All the terminations were removed and re-done using a Harris-Dracon(now Fluke) impact tool.

Remembering many of the previous practices of my competitors including independent "data guys" (contractors) terminating customer cables:

> Don't use pressure terminations (snap and click) as was a practice by too many electricians getting into cabling in the 1980's and 90's. Instead, field terminations are done best by using impact tools (punch down tool).
> Don't allow your IT or other buddies to do field crimps- remove any field-crimped patch cords. These are the worst and the biggest waste of time.

Why? Primarily three things:

First, the crimps don't hold up as well as factory made patch cables;

Second- duplex mismatches are very common: 568A on one end, 568B on another end or flopping of pairs;

Third- no matter how large or small the site: cables coming out of the wall without a faceplate is a sure sign of shoddy work- the ends (field made crimps) just don't hold up as well, there's very little strain relief on field crimps, and what kind of cable management system leaves out faceplates? Just buy factory made patch cords. Field-crimped patch cords do not hold up. If they insist on doing it- take away their Starbucks coffee privileges and revoke their VPN access, and if they're contractors- have a chat with them. These little details are all land mines when it comes to troubleshooting converged VoIP networks. Also, replace any 'knock off' inserts (Cat5, Cat5E, Cat6) with quality inserts. Check the specifications from the factory, and beware of imported JUNK.

How To Tell?

INSERTS: Look at the gold- is it green? Oooops! It's junk or you have a water/moisture/humidity problem. Less gold plating is often the case for the greening of the contacts. For those cable drops with intermittent and unusal issues: remove the wall plate and look at the suspect problem. Apply pulling on the cable jacket away from the insert then twist a little. Does the cable jacket come off? If so, replace the cable. Or do your scanner results go whacko? Then, replace the insert. Ask for a couple of samples from your contractor while they are installing. Know who the manufacturer is supposed to be and verify your samples. Look at the products- side by side at first glance they may appear the same and I'd challenge even the guys doing the work everyday to "dare to compare" and chances are you will not notice a physical difference, while there are some such as the wiring schematic maybe missing, the size of the insert tab (used to insert and remove from the faceplate) is a bit smaller and then look at the notches for each wire- are they solid or lose? The real test is to scan them.

PATCH CORDS: look at them!

BAD WIRE: I don't see bad wire coming in like we did in the early to mid-1990's. What's important to note is that there is still a lot of this BAD WIRING installed in buildings. Most of this junk was cheap and questionable imports and you can tell by pulling the cable sheath off of the jacket with your hand easily. That is the first test. The second test is visual- the cable jacket appears "milky white." Don't use this wiring- it should be recycled. The third test is price and performance. Examine the cost and then look at the cable specifications- what's the rated bandwidth? Take a peek at the number of twists, read the imprint on the cable jacket and lastly- for those wanting performance- stop using non-plenum wiring. Visual examination, a little physical challenge and some rational number crunching should reveal what you paid for.

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