Don't Build an Elephant
TO KILL AN ANT

By Johnny Hill

When you've been in the field for more than 90 years, like SureWest Communications, you're bound to pick up a few things. You pick up about 250,000 Northern California customers and a reputation as a trail blazer in the fiber-to-the-premises world. Perhaps most importantly, you pick up some best practices. What follows are 11 insights the company has learned in the field.

SureWest Communications is one of the nation's leading integrated communications providers. Serving the Northern California region since 1914, the company offers advanced digital and high-definition video, high-speed Internet, local and long distance telephone, and PCS wireless services.

Recently, SureWest Communications Vice President of Network Operations Scott Barber and Network Services

Equipment Engineer Larry Jenkins weighed in on some valuable lessons, 11 Best Practices, they've learned working together in the FTTH field.

Best Practice #1. Define What Success Means to You

Metrics for success differ from firm to firm. Be sure the team understands what "the end zone" looks like.

"For me, success is getting a flow going. Getting a process together where we don't even have to think about supply or material problems," said Jenkins. "We can just start building and really get into the production mode."

From a construction standpoint, Barber has a slightly different take on success. "We measure our cost metrics from a cost-per-home-passed perspective. Part of our success in lowering that metric is being able to serve as many homes as we possibly can per deployment. So density is a big concern of ours. We've shifted our costs to more of a success-based capital model; we spend it as the customers come instead of spending it upfront and hoping that one day the customers will come."

Barber continues, "When we talk about success-based capital, the more we can engineer that into our thinking and our design, the better. In a couple of areas we are utilizing what we call success-based taps. Instead of putting a terminal or a fiber tap location at every pole, we go back and splice that in when we actually have a customer that needs to be served from that pole."

Best Practice #2. Capacity Is King

While location is the bottom line in real estate, capacity can make or break a communications provider.

"SureWest is building an active point-to-point fiber system, so we literally design fibers to serve every single home we pass. We don't know if we'll win the first home or the fifth home…or the first five homes and miss the next 20 homes. So you have to know that you have enough fiber in the field to serve – if, in fact, you want every customer in that neighborhood," Barber said.

It's not unusual for SureWest Communications to achieve 40 percent penetration in new neighborhoods. "We just can't tell you which 40 percent we're going to serve," Barber said. "If you bring 100 percent of those fibers all the way back, you've got a lot of unused fiber cable chewing up real estate in the cabinet that can be utilized for something else."

Best Practice #3. Don't Build an Elephant to Kill an Ant

Barber noted that all too often, vendors try to "build an elephant to kill an ant." He emphasizes the importance of simplicity.

"Larry (Jenkins) has been able to simplify things by eliminating a lot of unnecessary materials that vendors were building into their products," Barber said. "This helped reduce expenses and bring overall costs down. Obviously, this requires some time and effort up front to work in the design stage. But once you have the flow of product happening on its own, the costs come down substantially."

Best Practice #4. Flexibility Is Key

Rigidity has no place in business. And it's important to find partners who are as flexible and adaptable as you are. "We're not asking those companies to stop doing what they're doing for the RBOC," Barber explained. "We're just asking for them to have the flexibility to do the customization necessary to develop products that fit our needs."

"Local municipalities aren't terribly fond of having these cabinets in their residential neighborhoods. As attractive as Larry (Jenkins) designed them, you don't want to put one of them right in front of Grandma Jones' house."

Flexibility can be a two-way street, of course. "We're perfectly willing to work with our vendors to develop products," Barber said. "In the end, if those products work for the vendor with other companies, that's great. Their success is our success as well."

Best Practice #5. Creating Something From Scratch Isn't Necessarily Cost-Prohibitive

When people hear "custom-made", they often hear "cost-prohibitive". SureWest Communications found that simply was not the case. "It was the opposite for us. We were able to cut costs as much as 60 percent," Jenkins said. "If we were to compare the original product to the modular expandable cabinet, we saved money in the first phase. And by the time the modular cabinet made it to the third phase, we saved about three times."

Best Practice #6. Learn From Your Past Missteps

Jenkins admits that there have been missteps along the way. The key is not only admitting to them, it's learning from them as well. He cites early in the process when they tried to shoehorn an existing CO product into an outside plant cabinet.

"Initially we tried to work with an off-the-shelf remote terminal (RT) cabinet of a large vendor who wouldn't make changes to help us solve a few of our problems without charging a huge amount of money. When we transitioned from splice-only to patch-and-splice, it was very difficult to install the new equipment in those cabinets. We ended up with some damaged fiber. And we continued to struggle with it, until we decided it was time to find something completely different."

SureWest Communications went back to the drawing board and enlisted the help of Clearfield, Inc., formerly APA Cables & Networks. "We decided to start from scratch and develop a completely new RT cabinet. We relied on Clearfield's engineering staff to help develop fiber panels and fiber management that made the most sense for our situation," Jenkins said.

Together, they addressed all of the problems that came with the original cabinet layout, and wound up with a fiber management design that was very easy to work with. "I've gotten compliments from the guys in the field that work with these cabinets on a daily basis. That's a big thing. Usually if something isn't working out very well, you don't hear about it unless you corner someone and ask," Jenkins said.

Best Practice #7. Make Silk Purses Out of Pigtails

Previously, SureWest Communications subscribed to a success-based splicing approach. When a new customer signed on, they would hard-splice a feeder onto a distribution cable connected directly to a new subscriber's home. With fiber pigtails spliced onto the outside plant cable, however, the possibility of damaged fiber was significant. "Over time, we ended up with quite a fiber management mess," Jenkins reported.

"Plus, the operational expense was significantly elevated every time SureWest had to roll a splicer," said Clearfield's CEO, Cheri Beranek Podzimek.

The solution: a more modular approach. "While field techs are still doing splicing, they now are doing it to pre-terminated tails inside a fiber management platform that allows them to interconnect and make changes a lot easier," Podzimek said.

Now, once the splice is done on a cabinet, it's done. "When you turn up the service, you just lay in a patch. It's much less disruptive. It's quicker and less trouble for the customer," Jenkins said.

Best Practice #8. Grandma Is Always Watching

Hiding in plain sight can be a real challenge. So, SureWest Communications strives to minimize the number of units they place in the field. "From an outside plant construction perspective, we have about 140 units in targeted areas around the Sacramento area, for example," Barber said. "That will probably double over the next couple of years. Local municipalities aren't terribly fond of having these cabinets in their residential neighborhoods. As attractive as Larry (Jenkins) designed them, you don't want to put one of them right in front of Grandma Jones' house. So by being able to terminate more of these fibers in the cabinets, we can serve a greater area. We also have the necessary modularity to minimize the number of cabinets we place in the field. Of course, we try to place them more strategically in industrial areas or heavy utility locations."

"Anything we can do to minimize the number of cabinets and demonstrate that we're sensitive to concerns about aesthetics, the better off we are in getting the necessary approvals from the local municipalities," said Barber.

SureWest Communications also has a Quick Graffiti Program. If a cabinet is defaced in any way, it is repainted within 24 hours. "We do things like this (program) just to prove that we're good neighbors," he said.

Best Practice #9. Adapt for the Future

Anticipating future capacity needs is critical for growth. For this reason, SureWest Communications has deployed a cross-connect cabinet that has the ability to scale from 12 to 864 ports without cost penalty.

"In some areas, we're looking at doing a 2-to-1 concentration in the field to get the biggest advantage out of our fiber build and our equipment. When you're not the incumbent in these areas, you have to concentrate your equipment usage by extending it out to the cross-connect cabinets and then back-filling your equipment ports in a more cost-effective way," Jenkins said.

"We're reutilizing backbone fiber that we already had in place, and adding distribution fiber out of the

backbone fiber on a business campus. So it's helping our bottom line in getting fiber out there to the customers, and making it as efficient as possible to utilize that fiber."

Barber added, "It prevents you from bringing all of those distribution fibers back and terminating them, even when you know you're not going to use them all. You don't know which ones you're not going to use, so it allows you to more efficiently build the outside plant."

Best Practice #10. Embrace Change

The world of FTTH is changing minute-by-minute. That means companies have to anticipate and embrace new technology. SureWest Communications began fiber-to-the-curb deployment in 1998, PON deployment in 2000, and active point-to-point deployment in 2002. Today they serve more than 100,000 homes passed with fiber and roughly another 100,000 with copper.

"While we've selected alternative electronics vendors over the years based upon the environment and application, fiber management solutions from Clearfield have been our standard," Jenkins explained.

Best Practice #11. Reward Good Thinking

SureWest Communications understands that innovation needs to be coaxed along at times. "We have an internal recognition program by which employees can submit ideas for expense savings or revenue opportunities," Barber said. "A committee reviews the concepts, and if we implement an idea or are interested in doing so, we have a sliding scale of reward up to $3,500, depending on the level of benefit to the company. At the end-of-the-year annual awards banquet, we take all those ideas and any others that were submitted, and select an Innovation Award for the year." Larry Jenkins, with the support of Clearfield as the product design partner, is a multiple winner.

Don't be Afraid to Try New Things

Barber takes a page from Nike's "Just Do It" motto. He advises, "You just have to get started. You can't be scared of it. FTTH can be done. It can be effective. And it can have a substantial return on investment, especially when you're working with vendors who want to see you be successful."

"My advice to companies is: don't waffle. Don't get into paralysis by analysis. Just get started."

Johnny Hill is Vice President of Engineering and Product Management, Clearfield, Inc. Clearfield, Inc., formerly APA Cables & Networks. Clearfield provides a complete line of fiber and copper assemblies for controlled and outside plant environments. For more information, visit www.clearfieldconnection.com.
Scott Barber is Vice President of Network Operations for SureWest.
Larry Jenkins is Network Services Equipment Engineer for SureWest. For more information, visit www.surewest.com.