

## Fiber Optic Services And Products



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### **FTTD: NOW THAT IT IS COST EFFECTIVE, WHY NO SIGNIFICANT ACCELERATION?**

#### **EXECUTIVE SUMMARY**

FTTD networks have not shown accelerated growth, in spite of the recent change in reality. This change is that current prices support implementation of FTTD networks at a cost lower than the cost of a traditional UTP network.

One of the reasons for this lack of acceleration is the significant interests arrayed against FTTD: the UTP component industry and its installers. Both will suffer severely if the network designer chooses FTTD.

A second reason is a change in reality: the FOLS cost model shows that the cost changes that have occurred during the last few years now favor FTTD. The market and typical network decision makers are not aware of these changes.

A third reason is the need for decision makers to verify the assumptions on which they are basing their decisions. Many assumptions, or myths, are no longer true.

In summary, if network decision makers become smart enough to evaluate their assumptions and information for accuracy, then FTTD can experience accelerated growth. Otherwise, the future of FTTD will be limited.

#### **INTRODUCTION**

The FOLS cost comparison model developed by the FOLS and Pearson Technologies ([www.fols.com](http://www.fols.com)) shows that some fiber to the desk networks will have an initial installed cost that is lower than that of traditional, hierarchical star, horizontal UTP, vertical fiber networks. The factors that enable this result are not recent: I began following this subject 14 years ago, after hearing a 1992 talk presented by D Arcy Roche, of AMP and Netronix.

Now that we can show this reality in a quantitative manner, why is FTTD not exploding? In this issue, I will present some of my thoughts and observations by others with significant experience in fiber optic

communications. It is my hope that this issue will help fiber sales personnel become more successful in selling the FTTD concept.

### **WHO GAINS FROM FTTD? THE NETWORK DESIGNER AND THE PURE FIBER PRODUCT COMPANY**

The network designer who chooses FTTD over a traditional network architecture gains by achieving a low initial installed cost and low lifecycle cost, also known as cost of ownership. There are additional advantages of FTTD but I will address those in other issues.

The fiber product manufacturers gain through increased sales and profits.

### **WHO LOSES FROM FTTD? EVERYBODY ELSE!**

That is right. Manufacturers of UTP cable, UTP connectors, UTP switches, and UTP installers all lose. Once fiber enters the UTP business space, it is there to stay and will freeze out future business for multiple generations of UTP products.

### **MORE WILL LOSE THAN WILL GAIN BY FTTD!**

FTTD networks will cause many companies to lose business and only a few to gain business.

The basic premise behind FTTD is elimination of, or in the worst case, a significant reduction in, the number of cabling upgrades. This premise is a direct result of two characteristics of fiber transmission: transmission distance and bandwidth that are significantly higher than those characteristics of UTP, or even coax!

These characteristics have a simple consequence: install now and go away for a long time. In other words, once fiber to the desk products are installed, the fiber companies must find new customers, as the old customers will not need upgrades for 10-20 years.

But this consequence is exactly the opposite of what the UTP industry wants: install now, install again in 3 years, install again in another 3-5 years, and install again in another 3-5 years, ad nauseum.

Who gains? Only two groups gain. The pure fiber companies, like Corning, OFS, 3M, Transition Networks, benefit from FTTD. The end user gains, through reduced initial installed cost and reduced life cycle cost.

### **THE BIG BOYS LOSE AND THE LITTLE GUYS GAIN!**

If you compare the size and number of companies involved in manufacturer of UTP products to the size and number of companies involved in FTTD products, you will find a larger number of UTP companies than pure fiber<sup>[1]</sup> companies. In addition, you will find that companies involved in UTP products are, in general, larger than those involved in fiber products.

In most cases, those large companies involved in both have a UTP business that is larger than their fiber optic business. If they support their fiber business for maximum growth, their UTP business, profits and share price, will suffer.

Who are the companies involved in UTP or in both? Cisco, TYCO/AMP, Leviton, Krone, Berk-Tek, Panduit Corporation, Comscope, CDT, Nexans, Draka, Belden, General Cable. What companies are involved in FTTD? Corning, OFS, 3M, Transition Networks, and a few, relatively small companies.

While it may be easy to see how UTP cable and connector manufacturers lose, it is somewhat harder to see how switch manufacturers lose. They lose through a reduction in the number of switch ports and chassis required in a FTTD network.

One of the advantages of FTTD is location of all electronics in a single location. With such equipment centralization, it makes little difference into which switch a cable is plugged. In a traditional UTP network, a cable must be plugged into a switch located in a telecommunication room on the same floor as the node.

The FTTD, or centralized, architecture allows for increased port utilization. In other words, FTTD results in a reduction in the number of switch ports and chassis required. Little wonder that some switch manufacturers do not support FTTD. In fact, some price their fiber versions high enough to discourage use of FTTD. No mystery here.

### **IS THERE SOMETHING WRONG?**

No. This is business. Businesses are run in the best interest of the stockholders. Those best interests include continuation of profits and continuation of customer relationships. Continuation of business and profits is good. Creation of customers that come back for additional business sooner rather than later is good.

By these definitions of good business, use of FTTD is bad. Use of FTTD eliminates, or significantly reduces, the number of upgrades.

### **FTTD IS NOT IN THE BEST INTEREST OF UTP BUSINESS**

My impression is that one of the main reasons for a low level of FTTD implementation is: it is not in the best interest of a large number of relatively large companies to allow FTTD into their business space.

### **IS THERE HOPE FOR ACCELERATED GROWTH OF FTTD?**

Yes, but only under three conditions.

Condition 1: the end user or the network designer must perform his own quantitative cost comparison.

The FOLS cost comparison model will be of immense help in this comparison, as it allows all cost factors to be inputs. While the model shows that many scenarios will have a FTTD cost that is lower than that of the UTP network, it also shows that some scenarios do not favor FTTD.

The key word in this condition is quantitative. No qualitative statement will provide the true answer. It is true that a fiber optic NIC is more expensive than a UTP NIC. But the difference is irrelevant. The

decision to use, or not use, FTTD should be based on total installed cost, not the cost of one of the many components in the network.

To reject FTTD based on the cost of the fiber optic conversion products would be like rejecting a car because the tires are too expensive. Such a rejection is not logical, nor does such a rejection represent the way good business decisions are made.

Condition 2: the network designer must check every statement and fact presented by the UTP proponent. By this statement, I am not implying anything negative about ethics.<sup>[2]</sup>

The UTP proponent does not want fiber into his business space. The UTP proponent will use all possible arguments against the use of FTTD.

The network designer must check these statements because reality has changed. While it may have been true that FTTD networks were too expensive to justify, this conclusion is no longer true. The FOLS cost model demonstrates this new reality.

In addition, most UTP proponents, also known in some circles as copperheads<sup>[3]</sup>, ignore the three significant cost factors that favor FTTD and do not favor UTP: elimination of the need for telecommunication rooms (TRs) on each floor of a building, elimination of TR support costs and increased port utilization.<sup>[4]</sup>

In a recent exchange with a UTP proponent, I presented these factors. The proponent response was a comparison of the relative costs of UTP switches and fiber switches. Either he missed the importance of these three cost factors or deliberately ignored them.

Some of you may ask: should the network designer check the statements made by the fiber proponent? Yes, if he wishes to. However, if the network designer has met Condition 1, he has, in effect, checked the statements of the fiber proponent.

Condition 3: the network designer must reject universal statements, such as fiber is too expensive to use.

The FOLS model also shows that no single statement is true: while it is true that many scenarios favor FTTD, not all do. Neither the FOLS, nor Pearson Technologies, has made any statement like FTTD is always the lowest cost solution. Both recognize the reality that different conditions exist in different networks.

In summary, FTTD use can accelerate if the decision maker becomes increasingly intelligent and increasingly independent in his decision making process.

Respectfully submitted for your consideration,



Eric R. Pearson, CPC, CFOS

### **Pearson Technologies Web Sites**

<http://www.ptnowire.com>

<http://www.FTTDnow.info>

<http://www.fiberopticlawsuits.info>

<http://www.sfoi.info>

[Contact Pearson Technologies Inc.](#)

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<sup>[1]</sup> Pure fiber companies sell only fiber products, not fiber and UTP products.

<sup>[2]</sup> However, given our recent history with WorldCom, ENRON and the many companies that needed to restate their profits, it would be easy to make a case based on ethics.

<sup>[3]</sup> In some cases, a fitting term.

<sup>[4]</sup> You may read the strategy of misdirection through use of  $\geq$ partial truth $\leq$  in this statement.