

# **Fiber Internet Center**

## **White Paper**

**Learn the secret for landing a Fiber Internet connection to your business within California at very little cost !**

### **NOW FIBER IS AFFORDABLE**

IT professionals know that the fastest Internet connection available today is a fiber optic connection. In the recent past, a fiber optic Internet connection was very expensive and only affordable by large companies and the federal government. This is no longer true!

There is a Non-Re-occurring Charge (NRC) to bring Fiber to you business. In the past this cost to bring a fiber connection direct to your business was between \$20,000 to \$150,000. That's for just the install.

The Fiber Internet Center's utilizes a planned hybrid network of both dark and dim fiber that provides a low cost of entry for a business to get Gigabit Fiber speeds delivered to the door. As a result, your connection to the Fiber Internet Center network is amortized with the existing paths and other laterals. Today, this cost is as low as \$2,500 to \$3,500 for installation!

The Monthly Re-Occurring Charge (MRC) in the past also used to be very expensive. Fiber clients needed to commit to at least \$10,000 per month of service charges and fiber connection fees, or the fiber service providers found that the business was not cost justified.

Today, the Monthly Re-occurring Charge (MRC) is usage commitment based. With committed information rates (CIRs) as low as 5 megabits. On the Fiber Internet Center Network the costs for the fiber and the usage is now as low as \$1,595 per month ! This includes both the fiber local loop fee and customer premise equipment (CPE) bundled with the service charges. Your packets leave your office and travel in the street at one or more Gigabits per second. But that's not all – with fiber you are able to burst above your CIR traffic rate ! No telco topology circuits of yesterday. This is not your grandfather's network. Fiber Internet Center's network is pure fiber and all Ethernet.

### **Advantages of Fiber**

#### **SPEED**

Fiber connections have many advantages. The first advantage is speed. With a fiber connection, you are able to support speeds from 1Mbps to 1Gbps depending on the

equipment you have installed at each end. With this kind of speed, data can be sent out or received quickly with minimal delay. Data center nightly backups that take eight to ten hours using a T-1 line, can be completed in less than an hour with a 100Mbps fiber Internet connection. Now you can set up a video conference while performing a network backup, a video download or a laptop OS update all at the same time.

## CAPACITY

The next advantage is flexibility. Fiber can provide capacity to allow your Internet traffic to burst from 1Mbps to 100Mbps or more as your network demands require. The newest high speed fiber connections now are being expanded to 10GE connections(10Gbps). The same fiber optic connection can support all these speeds without the need to install new facilities. The only changes required are the router interfaces capable of supporting 100Mbps, 1Gbps or 10GE speeds.

## FIBER vs. COPPER

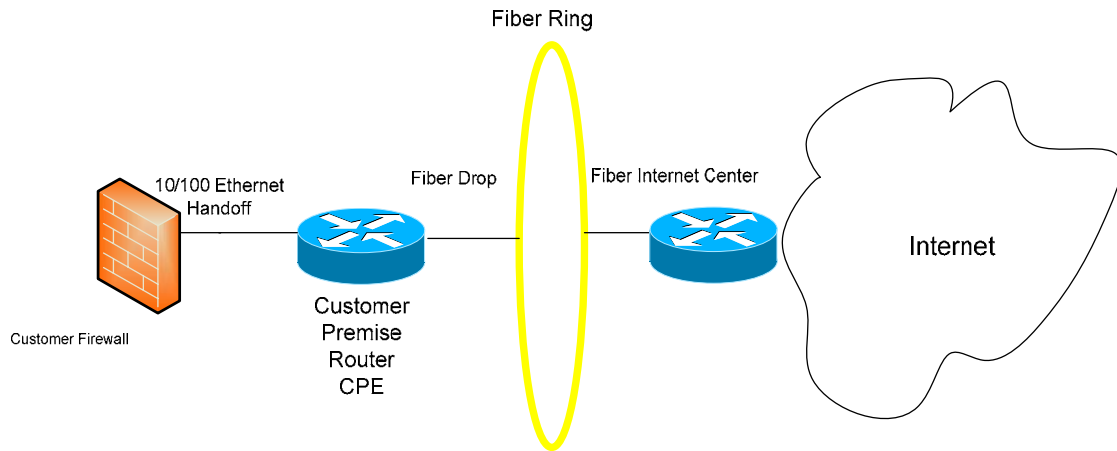
Fiber is the most reliable transport medium for connecting to the Internet. Unlike copper-based internet solutions such as Business DSL, Bonded Copper T-1's, or Coax Cable modem data services, fiber internet connections are not affected by the elements which can include rain, wind, heat, cold or electrical interference. This is why fiber optic internet solutions are the most reliable in the industry. Fiber optic internet connections are generally also buried in rigid conduits that run underground along well marked paths. Fiber networks are installed with longer runs with minimal splice points insuring fewer points of failure compared to copper-based telco solutions. Since fiber equipment is also more advanced, it can be fixed remotely rather than requiring a truck roll, as with with copper-based networks.

With copper T1's topology, bonding doesn't work well. At Fiber Internet Center, we know of no router that bonds T1's and provides an acceptable level of service. It's simply not possible for today's routers to properly isolate a T1 with packet loss from affecting the entire connection. Beyond the weather, packet loss can occur due to AC power cables being moved around, change in building electrical grounds and other electrical effects. The packet loss of one T1 drags down the performance of the entire bonded group. Manual intervention is always required on both ends to discover then remove the poor performing T1. Why bother with bonding copper T-1 lines? For the average price of two T1's your business can have a high speed fiber optic connection !

## FIBER FOR FUTURE APPLICATIONS

Finally, fiber optic networks are ready for the future, today! As companies start to deploy not only more data but voice (voip) and video applications, networks that are built with fiber will be ready to absorb those bandwidth requirements with the minimum of network upgrades. Fiber insures that disruptions to your network are minimized as new applications get added to your company's growing list of mandatory network services.

A typical Fiber Internet Center customer installation:



A fiber drop is pulled to the clients building location from the “existing” Fiber Internet Center fiber backbone ring and connected to a customer premises router provided by the Fiber Internet Center. From the CPE router a 10/100 ethernet cable handoff is extended to the clients server room where it is connected to the clients router/firewall. A path is now established to the Fiber Internet Center NOC which provides transit to the Internet, to connect a customer’s multiple offices, or additional internet providers (you do not need to buy Internet from FIC).

### PRO-ACTIVE MONITORING

From the CPE router, the Fiber Internet Center is able to pro-actively manage and monitor a client’s fiber connection by pinging the router port every five minutes. FIC doesn’t wait for your phone call, FIC takes action for you. The FIC NOC is also able to monitor a client’s traffic bandwidth usage which is reported to the client via a special web page tool.

### FITS YOU BUSINESS NEEDS

Fiber services can be custom tailored to meet a client’s requirements. Some clients only need 5Mbps for normal traffic with the ability to burst up to 100Mbps for short times during the month. Other clients need a connection that will give them 20 Mbps of bandwidth and on occasion the need to burst to 50Mbps. Both clients can get a custom tailored fiber service to meet their unique requirements and only charge them for the internet bandwidth they actually use.

## SUMMARY

This white paper discusses how a fiber optic internet connection is now affordable by most small/medium businesses or anyone who has more than one T-1 connection today. Fiber Internet service is fast, flexible, reliable and ready to support all the new applications coming in the future. The upgrade to a fiber internet connection is easy and can be done with via a 10/100 ethernet cable handoff. No special fiber optic capable router/firewall equipment is needed or required to upgrade to a fiber internet service. The management and monitoring tools available also offer today's IT management the highest level of network awareness necessary to manage today's business critical corporate applications.