



Whitepaper

Wireless Gigabit+ Networks:

Install 60GHz wireless PTP/PTMP at a fraction of the cost of fiber

Worldwide, more and more homes and businesses are requiring faster internet service with increased bandwidth and lower latency to meet consumer needs. Internet users are now exhausting bandwidth more often as new technologies are discovered and implemented. Fiber is great for those who can get it and are willing to wait for it but delays in receiving service can easily be avoided.

IgniteNet™ compares the time and cost of fiber installation with those of the latest hybrid-fiber wireless technologies. Fiber-like wireless network connections are speedy, reliable and significantly more affordable. One service provider reported a fiber installation quote of 4 years and \$4M, while IgniteNet's MetroLinq™ solutions provide the same service in as little as a few days and \$400k!"

Fiber is no longer the only way to achieve Gbps+ speeds. Those needing fiber speeds are able to install gigabit capacity PTP/PTMP links quickly, even while waiting for costly fiber to be installed.

The astronomical cost and time to install fiber networks is creating aggravation among SI's, MSP's, ISP's, and WISP's. Installation of a wired fiber network requires significant man hours and is a major expense for small businesses. For example, to deploy 1km of linear fiber could take months, even years and a minimum of \$85,000, destroying lawns, irrigations systems, sidewalks and highways. In most cases, the ROI for these fiber installations can only be expected long-term. Service providers should expect to earn a profit well into the future, only after absorbing the expense of installation and deployment.

To build an all-fiber network infrastructure not only requires a major financial investment but also considerable time to implement. The time to access fiber can be incredibly long for most businesses and homes, causing a long and arduous wait for most markets. But not everyone actually qualifies for fiber service. Customers who do qualify, must often wait months for the service to be installed. In one instance, a fiber customer was approved for service but waited 32 months for fiber to be installed, with nothing but apologies and false install dates from the vendor.

This complicated plight of legal, commercial, and infrastructure can take substantial time to work through. Fiber installation is most often problematic – especially when hundreds of miles of fiber need to be installed in crowded cities and neighborhoods. Before teams can even begin to lay fiber-optic cable, there are many complicated, costly regulatory factors that come into play. Once a "Fiberhood" finally qualifies for fiber service, there is significant design, engineering and staking work to be done and before digging trenches for fiber. Existing underground utilities need to be confirmed and marked. Moreover, state or local government may require approval for the right to build the network in public rights-of-ways and easements in particular jurisdictions. Securing the rights to construct on private property and easements may oftentimes extend installation timelines as well.

There are also some limitations on the speed of fiber service through the higher rate of latency inherent in fiber-optic communication (command received and reply sent) over longer distances. And with internet connectivity, most

Attract New Customers • Increase Business Profits • Lower Network Installation Costs

customers would agree that there's no such thing as "too fast".

If you are waiting on fiber-optic installation, don't!

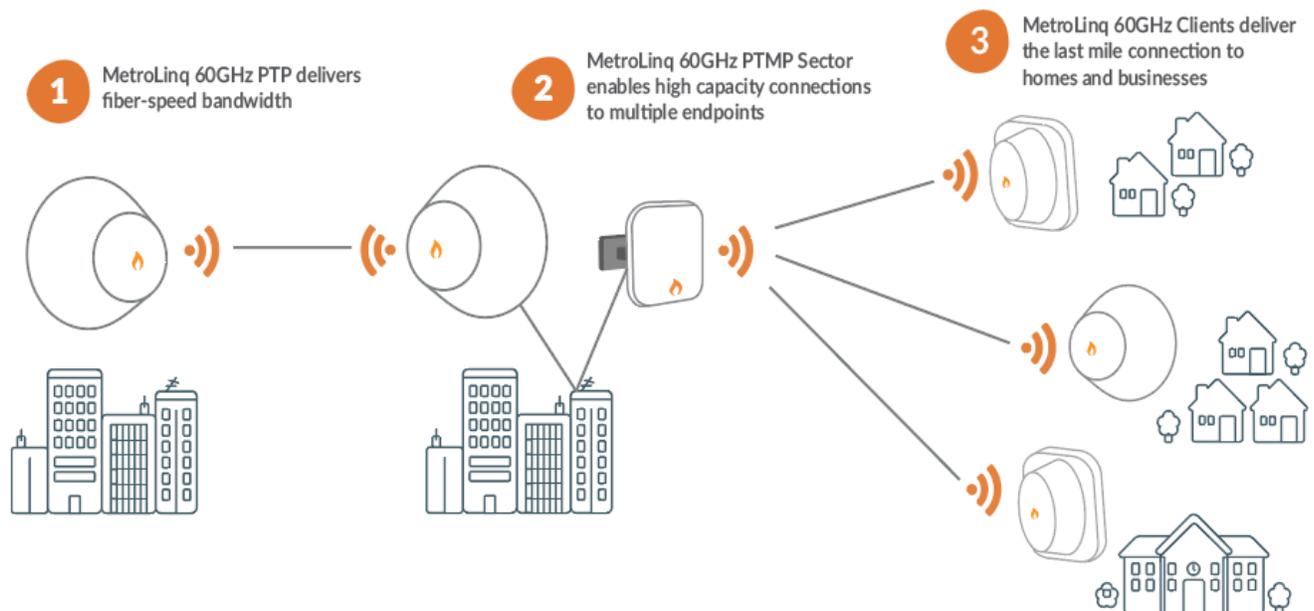
A more and more common form of data transfer is taking over the fiber market. Millimeter wave communications, a process also known as fixed wireless, is the use of wireless devices or systems connecting two fixed locations through a point-to-point (PTP) or point-to-multi-point (PTMP) network model. These "hybrid-fiber" solutions do not require an entirely new infrastructure installation before service is active, nor does it require a massive effort to deploy.

Wireless millimeter wave backhaul solutions are capable of delivering high bandwidth, carrier-grade service to most homes and businesses. Millimeter wave technology is suitable for all gigabit capacities over a single link and may be scaled up to multiple gigabits using aggregated link techniques. Hybrid-fiber wireless solutions offer a versatile backhaul option for both short and long-haul deployments. At distances up to approximately one mile, these networks offer a much superior cost-per-bit ratio than standard fiber, without compromising throughput or latency.

Hundreds of municipalities, cities, and counties across the nation are actively taking steps to create their own fiber-like networks. And the arrival of gigabit+ internet speeds is a reality through these new fixed wireless alternatives. Unlike fiber, hybrid-fiber wireless solutions can be set up much more quickly and are immediately proving more cost efficient.

Faster installation, lower deployment costs, avoidance of costly regulatory delays are making it possible for far more businesses and consumers to start enjoying the benefits of a fiber connection.

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	60GHz Millimeter Wave	Fiber-optic Line
Capacity	<ul style="list-style-type: none"> • 1 <u>Gbps+</u> currently • >40Gbps within the next few years 	<ul style="list-style-type: none"> • Unlimited
Time to Install	<ul style="list-style-type: none"> • Days or weeks, depending on network size 	<ul style="list-style-type: none"> • Months or years, depending on location and distance
Regulations	<ul style="list-style-type: none"> • None • Unlicensed band 	<ul style="list-style-type: none"> • Requires permits and approvals
Cost per Subscriber	<ul style="list-style-type: none"> • \$300 - \$500 	<ul style="list-style-type: none"> • \$1,500 - \$2,500+
Business Impact	<ul style="list-style-type: none"> • Opens new business markets • Immediate profits • Reduces customer churn 	<ul style="list-style-type: none"> • High installation costs = less profit • Not available in all areas

The increasing demand for faster connections, encouraged by video streaming, live content, cloud technologies, and pending 5G technologies, is placing a much heavier strain on bandwidth. MetroLinq™ 60GHz wireless networking solutions make it possible for far more homes and businesses to start enjoying the benefits of a fiber connection more quickly. Designing, implementing, and maintaining fiber-like wireless networks around the world are becoming an increasingly popular option given the sizable delays and costs of standard fiber. Scalable, with superior performance, make the MetroLinq the most cost effective solution for residential and business environments, both large and small. And with an automatic failover to 5GHz, reliability is never an issue.

MetroLinq is the first affordable gigabit wireless radio to operate in the unlicensed 60GHz band. MetroLinq delivers high-capacity connections using bandwidth without the noise and instability that is common in other unlicensed bands. 93% of all unlicensed spectrum lives in the 60GHz band and this provides a vast amount of spectrum in which to operate to deliver seamless internet connections. The MetroLinq includes a second built-in 5GHz radio, configured as a backup to the 60GHz, providing automatic failover during adverse conditions. 60GHz PTP/PTMP links are able to extend further without affecting link availability and provides integrated redundancy without any additional hardware or complexity. Better yet, MetroLinq firmware is easily upgradeable to reflect multi-gigabit speeds in the future with a simple hardware upgrade. There is a long, healthy roadmap of 60GHz options that include connections of >40Gbps within the next few years.

MetroLinq allows wide area deployments in just days, compared to months or years using traditional fiber/wire-line technologies. Better yet, using PTP/PTMP technology allows service providers to build out and cover installation costs for customers who actually want the internet connection, compared to building out to ALL homes and businesses in an area. Conventional fiber requires the connection first but customer demand is not guaranteed.

MetroLinq offers unprecedented performance – combining both the benefits of unlicensed band operation with virtually no interference. It's a perfect combination!

“We have the new MetroLinq™ radios up and running at slightly over a mile. Working perfectly – this is HUGE in feeding our high-density areas with the backhaul to feed the AP’s!”

~ Kent, Prairie Hills Wireless

Features of MetroLinq™ products include:

- Disruptive pricing
- Lowest cost gigabit connection
- Interference-free and unlicensed band
- Dual radio for failover
- Cloud-manageable
- Future-proof with easy firmware upgrades



Business Benefits of Hybrid-fiber Wireless Technology



Significantly Lower Deployment Costs

An obvious, immediate benefit to deploying hybrid-fiber wireless networks is the decreased upfront financial investment. Diminish deployment and installation costs and leverage customer billing sooner.



Reduce Customer Churn

Delivering fiber-like speeds will ultimately help businesses quickly attract and retain new customers, and provides the ability for SMB's to break into additional markets/verticals. 60GHz millimeter wave connections are point-to-point which meets or exceeds the reliability of standard fiber optic networks.



Avoid Time-consuming Regulatory Delays

Enjoy profits more quickly by lowering installation/equipment costs. Unlike waiting and paying for standard fiber installation, fixed wireless connections are easy to set-up, driving profits immediately upon deployment.



Easily & Affordably Manage Networks

Monitor, manage, and provision your MetroLinq products for all of your enterprise, metro and rural clients on one platform from anywhere in the world. IgniteNet's Cloud Controller will handle all server maintenance, failover, upgrades and backups.



Increase Small Business Impact

Build local support for small business by offering fiber-like services wirelessly. FTTH and enterprise service providers will position themselves competitively by delivering reliable gigabit services.

Build your gigabit+ wireless networks TODAY!

Learn more about IgniteNet's Hybrid-fiber Wireless solutions to install PTP/PTMP networks with fiber-like speeds, low-latency with amazing throughput by visiting www.ignitenet.com or find a reseller near you at www.ignitenet.com/how-to-buy.