



## Case Study

# TOWERSTREAM



Towerstream, established in 2000, is a leading fixed WiMAX service provider in the U.S. that delivers high-speed Internet access to businesses in markets including New York City, Boston, Los Angeles, Chicago and Philadelphia. Because of its rapid growth into new markets, Towerstream realized it needed a reliable backhaul solution that could be deployed quickly to support its developing WiMAX broadband networks in eleven metropolitan areas.



Towerstream owns its entire network and is not dependent on the local exchange carrier network of phone wires or cable, offering a faster installation seamlessly and securely. The company guarantees 99.99 percent uptime, enabling IT Managers to put what was once their top business concern – connectivity – at the bottom of their list.

*"Deploying BridgeWave's systems proved to be the most cost effective and these savings are seen at every level. BridgeWave helps make it possible for us to provide our customers with exceptional WiMAX-based services."*

*Arthur Giftakis  
Vice President of Engineering  
and Operations  
Towerstream*

With its rapidly developing footprint in some of the busiest urban markets, Towerstream needed a fixed WiMAX backhaul option that would enable seamless growth. The company weighed many different backhaul options to fulfill these needs, seeking a solution with the ability to scale rapidly to meet evolving customer bandwidth needs. It also needed to offer unparalleled reliability and performance, while remaining cost effective.

## THE CHALLENGE

To support Towerstream's growth, the company determined it needed to deploy a backhaul solution that performed well with distances typically found in urban areas. Initially the company looked into utilizing fiber to provide connectivity, but found it would be the most difficult and expensive option, particularly due to digging installation trenches for miles of fiber. The extensive cost coupled with the complicated, weeks-long process of obtaining the appropriate permits from city agencies to dig up streets and sidewalks — and the subsequent traffic chaos that ensues — made fiber an unworkable option.

In addition, many of the buildings in Towerstream's network are in dense urban areas requiring backhaul solutions that provide direct connectivity to buildings, eliminating intermediary switching points. While fiber could achieve this, based on the distances Towerstream was assessing, it was less than ideal cost wise.

Towerstream was looking for a reliable solution that would address the following issues:

- Provide high-capacity WiMAX backhaul to support Voice over Internet Protocol (VoIP), data services, video and other IP-based services
- Ability to scale capacity rapidly to ensure easy upgrades to meet evolving bandwidth needs and support future growth
- Deploy quickly for immediate provisioning of services to generate revenues
- Ensure reliability and interference-free performance but also remain cost effective



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## THE SOLUTION

Towerstream evaluated its backhaul options and decided upon BridgeWave's high-speed GigE links. The company's solutions proved to be highly scalable and offered full-rate gigabit speeds.

*"As we looked for a reliable backhaul provider, it was a clear decision to go with BridgeWave because of its ease of deployment and gigabit speeds," said Arthur Giftakis.*

Towerstream's operations in its largest metropolitan markets depend on BridgeWave's 80 GHz products, for reliable carrier-class backhaul to provide high-capacity WiMAX connectivity to support Voice over Internet Protocol (VoIP), data services, video and other IP-based services. They purchased multiple BridgeWave 80GHz links for several areas including New York City and Boston.

Installation was straightforward and Towerstream found commissioning a new link was much faster than provisioning fiber. Since then, Towerstream has found BridgeWave installations to be effortless, enabling the company to create a system for quick deployment in new areas, such as the recently launched Philadelphia service. Moreover, they do not have to burden their engineers with deployment tasks, enabling them to focus on other high-value projects. By getting networks in new markets up and running quickly, Towerstream not only provisions service faster, but also begins collecting revenues on those services faster.

## BENEFITS

Since the first installations, Towerstream has relied on BridgeWave to ensure a strong, reliable high-capacity WiMAX backbone.

BridgeWave's 80 GHz links enable Towerstream to achieve gigabit WiMAX backhaul speeds while still providing "four-nines" reliability. With the use of BridgeWave's links versus fiber, Towerstream has seen latency and packet loss actually decrease since links provide direct connectivity between buildings, eliminating intermediary switching points. BridgeWave's 80 GHz links provide full-rate gigabit connectivity with low latency, yielding fiber-like performance without the delays associated with installing fiber.

Another advantage to using BridgeWave's equipment is the speed in which the links can be deployed. With BridgeWave's ease of deployment over fiber, Towerstream can quickly move into markets and very quickly provision its leading fixed WiMAX services.

Additional benefits that Towerstream has realized include a competitive advantage over other providers/suppliers – BridgeWave links come equipped with a security package that gives true AES encryption, offering built-in 256-bit AES data encryption. Moreover, the narrow beamwidth of the BridgeWave links create "virtual pipes" for mission-critical applications, making signal interception near impossible, something Towerstream found to be advantageous to its business.



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Towerstream now looks to BridgeWave to enable its reliable, high-capacity WiMAX backbone at gigabit speeds, using BridgeWave's 80 GHz links for several metropolitan areas including New York City and Boston. Plus, because of BridgeWave's ability to scale rapidly, Towerstream can also easily upgrade to meet evolving bandwidth needs and support future growth.

*"Our end-users enjoy Towerstream's ability to offer true gigabit speeds on a wireless connection," said Arthur Giftakis.*

**CUSTOMER:** Towerstream, <http://www.towerstream.com/>

**INDUSTRY:** Business Internet Service Provider

**CHALLENGES:**

- Provide high-capacity WiMAX connectivity to support Voice over Internet Protocol (VoIP), data services and other IP-based services
- Ability to scale rapidly to ensure easy upgrades to meet evolving bandwidth needs and support future growth
- Deploy quickly with minimal maintenance
- Ensure reliability and performance but also remain cost effective

**SOLUTION:** BridgeWave 80 GHz links

**BENEFITS:**

- Provides full-rate gigabit connectivity with low latency
- High-capacity WiMAX backbone to support Voice over Internet Protocol (VoIP), data services and other IP-based services
- Provides direct connectivity between buildings, eliminating intermediary switching points
- Rapid deployment enables fast provisioning of WiMax services leading to quicker revenue generation

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