CASE STUDY
Coworking Space Achieves 2-54X Boost in Wi-Fi Performance

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Highlights:

🏢 Procolo

📍 **Location:** Los Angeles, CA

2-54X
performance improvement

- One of the first coworking spaces in Los Angeles

- Determined to provide a best-in-class Wi-Fi experience

- Bandwidth was significantly underutilized even with 1Gbps and 20 access points

- After installing *Warp*Gateway™ they saw an average 2X improvement in overall performance, and as much as a 54X improvement for some use cases.

Challenge: *Deliver The Best Possible Business Wi-Fi Experience* ⓘ

Fast, always available Wi-Fi is vital for employee productivity and customer satisfaction in most businesses today. For a coworking space like Procolo, this is especially true. Procolo hosts a wide range of tenants from fintech startups to creative agencies that can't function without it. Wi-Fi network performance isn't only a requirement for satisfying existing tenants, it's also a core differentiator for attracting new ones.

In pursuit of delivering a best-in-class Wi-Fi experience, Procolo initially fought with their local ISP to dedicate more capacity to their 15,000 square foot space. This ultimately led them to purchase a 1Gbps package and deploy a total of 20 access points. This should have been more than adequate to provide a best-in-class Wi-Fi experience for over 100 simultaneous users during peak hours. Unfortunately, the performance improvements Procolo expected weren't achieved, because their upgrades failed to address the real issue driving the underutilization of their additional bandwidth – jitter.

RF interference, fading, and channel access conflict driven by a sudden increase in users create jitter that network protocols such as TCP treat as congestion, slowing traffic to prevent data loss until throughput collapses, even when plenty of bandwidth is available. In addition, local Wi-Fi jitter can cause throughput to collapse over the entire network path back to the application server. As a result, connections drop, videos pause and applications stall. Hotels, restaurants, cafes and other small businesses, as well as larger firms with branch offices struggle with this.

Solution: *WarpGateway™* ✓

Once Procolo learned about *Warp*Gateway™, they decided to give it a try. *Warp*Gateway™ leverages Badu Networks' patented *Warp*Engine™ technology to deliver up to 54X improvement in upload and download speeds on existing Wi-Fi networks for all types of traffic – encrypted, unencrypted or compressed. It achieves this by eliminating throughput collapse due to jitter caused by RF interference, fading, and other factors.
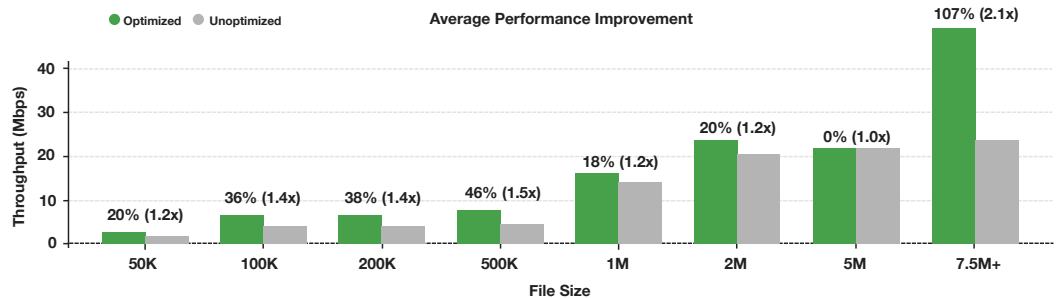
Internet — *Warp*Gateway™ — Gateway (WAN) — Wi-Fi Router/AP — Users
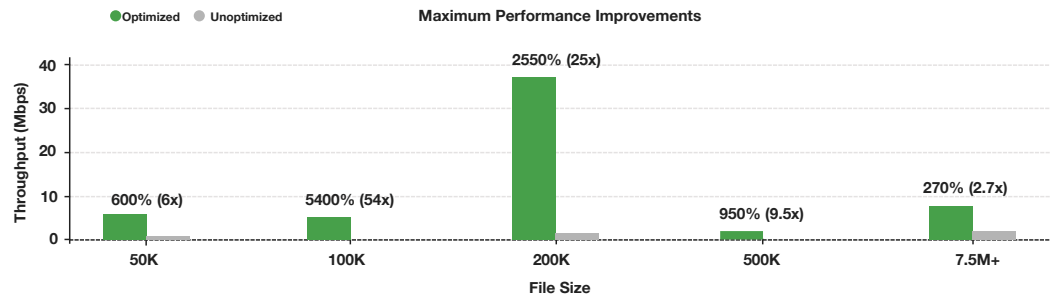
Results: 2-54X Improvement in Performance

- Increased tenant productivity and satisfaction by delivering an even faster and more reliable Wi-Fi experience

- Enabled the coworking space to avoid wasting additional money on ISP bandwidth upgrades and more on-premises routers and access points

- Gained a major competitive edge over other coworking spaces in the area

Improvement Data:

The graph below highlights the average performance improvement:

2X performance improvement

Average Performance Improvement

● Optimized ⚪ Unoptimized

Throughput (Mbps) vs *File Size*

File Size	Improvement
50K	20% (1.2x)
100K	36% (1.4x)
200K	38% (1.4x)
500K	46% (1.5x)
1M	18% (1.2x)
2M	20% (1.2x)
5M	0% (1.0x)
7.5M+	107% (2.1x)

In addition, there were individual instances where the performance improvement was dramatically greater than 2x, as shown in the graph below:

54X performance improvement

Maximum Performance Improvements

● Optimized ⚪ Unoptimized

Throughput (Mbps) vs *File Size*

File Size	Improvement
50K	600% (6x)
100K	5400% (54x)
200K	2550% (25x)
500K	950% (9.5x)
7.5M+	270% (2.7x)

*Performance improvement amounts will vary for each network environment

BADU networks

Founded in 2012, Badu Networks has become the market leader in network optimization solutions with our patented *Warp*TCP™ technology that delivers up to a 10x improvement in performance and throughput.

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