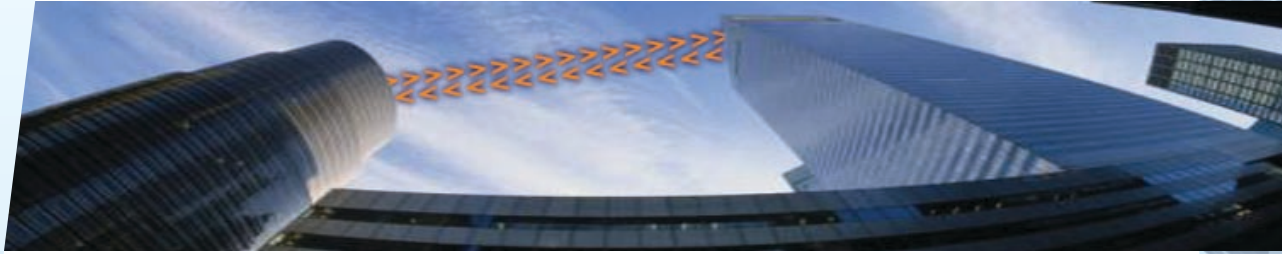




Case Study

Shawmut Design and Construction



Shawmut Design and Construction Builds Secure, High-Capacity Network Extension with BridgeWave's Gigabit Ethernet Wireless Links

Shawmut Design and Construction is an \$850 million general contracting and construction management firm headquartered in Boston. About half of the company's 820 employees work from headquarters while the rest work from a secondary site in Boston along with offices in New York, Providence, Atlantic City and New Haven and remote job sites from coast to coast. To support its growing West Coast operations, a sixth office in Las Vegas was opened in the Spring of 2008.

A unique business model and dedication to personalized customer service has enabled Shawmut to grow its revenues by more than 200 percent since 2000 while focusing within the following market areas: academic, commercial, corporate interiors, cultural and historic preservation, healthcare and science, gaming, restaurant, retail, spas and health clubs. To ensure continued delivery of superior service, Shawmut's networking team provides employees with instant, remote access to the corporate network, business-critical applications and the Internet whether in the office, en route to a project or on the job site.

"BridgeWave's GigE links are essentially wireless fiber, giving us the bandwidth we needed and latency that was equivalent to a hardwire LAN—all without the prohibitive costs and time delays associated with deploying leased fiber-optic connections."

Chris Ryan
Network and Systems Manager
Shawmut Design and Construction

According to Chris Ryan, network and systems manager for Shawmut Design and Construction, the company embraces best-of-class technology, including a secure virtual private network (VPN) featuring the latest Cisco gear, laptops equipped with Sprint broadband wireless cards, Voice over IP (VoIP) and video conferencing.

"Technology plays a large role in the high quality of service we provide to our customers," he says. "When it comes to the corporate network, we lean toward leading-edge yet proven solutions that meet our stringent performance and reliability requirements."

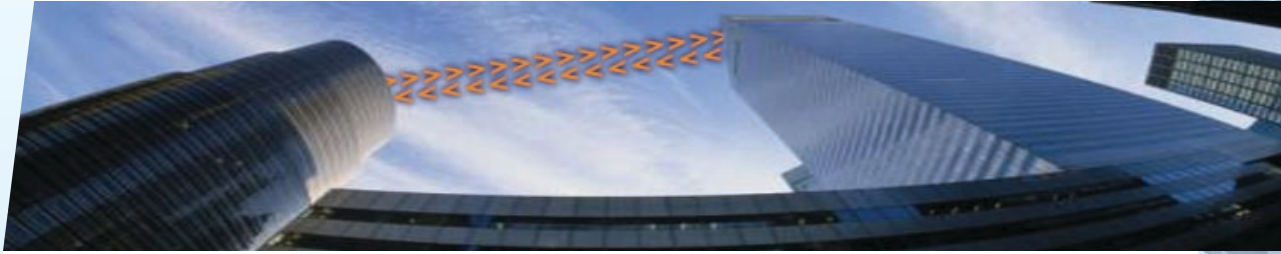
THE CHALLENGE

In late 2006, Shawmut's continued aggressive corporate growth led to space constraints at its headquarters, creating the need for more square footage to support the company's burgeoning restaurant group. Office space for more than 100 people was found in a building located across a parking lot, approximately 1,500 feet from headquarters. Initially Shawmut wanted to connect the two buildings using a fiber-optic leased line that would enable them to connect a data switch at the secondary site to the core network backbone switch at headquarters.



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While linking the two buildings initially seemed like a fairly simple task, a multitude of challenges emerged, including:

- Digging up the parking lot to lay fiber was completely cost prohibitive.
- The estimate to trench 1,500 feet and lay conduit was \$60,000—double what Shawmut forecasted for the project.
- Proposals from Expedient and Verizon for leasing a fiber-optic connection included monthly recurring charges of \$12,000 and \$7,200, respectively.
- Installing multiple T1 lines didn't make sense from a cost or capacity standpoint.

"We knew that gigabit capacity would give us ample room to grow," says Ryan. "We also wanted a low-latency network link that would support Shawmut's increasing reliance on VoIP and video conferencing."

THE SOLUTION

In January 2007, Shawmut's networking team reviewed wireless connectivity options to link the two sites, despite reservations over using wireless technology as a primary network connection.

"Shawmut embraces a variety of wireless solutions for remote users and laptop connectivity anywhere at headquarters," explains Ryan. "But we were skeptical about using wireless technology as a backbone link because of concerns over interference and reliability."

Still, Shawmut moved forward with its research into Gigabit Ethernet wireless links from BridgeWave and others in the space as well as a wireless solution based on free-space optics (FSO).

Shawmut was most impressed with BridgeWave after evaluating its products and customer case studies to learn how gigabit wireless was being used to solve a variety of connectivity problems. The company next approached Pipeline Wireless, a wireless solutions provider based in Fall River, Mass., and a BridgeWave channel partner.

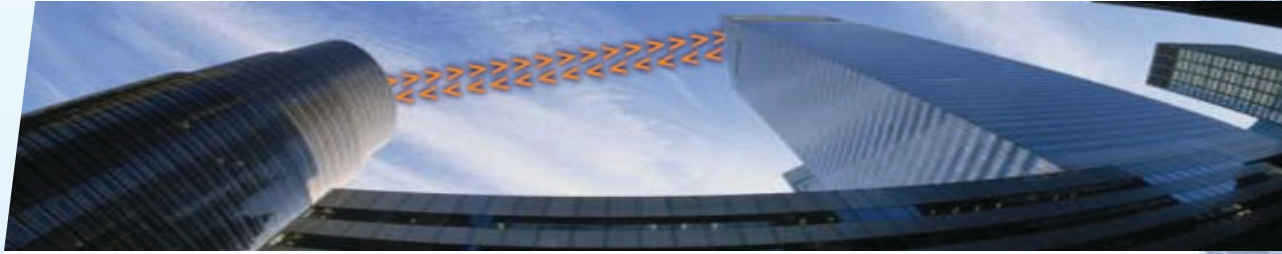
"Together, Pipeline Wireless and BridgeWave alleviated all our concerns about interference and reliability," notes Ryan. "Based on BridgeWave's rain-fade calculations for the Boston area and taking into consideration the short link distance, everyone was confident we could achieve 99.999 percent network availability with BridgeWave's GE60 radios."





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The extremely narrow antenna beamwidth of the gigabit wireless links provided superior interference immunity and enhanced data security. Additionally, the ultra-low latency of BridgeWave's radios, which was less than 50 microseconds, eliminated any lingering concerns about handling Shawmut's VoIP or video conferencing traffic.

"BridgeWave's GigE links are essentially wireless fiber, giving us the bandwidth we needed and latency that was equivalent to a hardwire LAN—all without the prohibitive costs and time delays associated with deploying leased fiber-optic connections," says Ryan.

With assistance from Pipeline Wireless, Shawmut installed a pair of GE60 radios to achieve fully redundant connectivity for about the same price as digging up the parking lot.

THE BENEFITS

Within days, Pipeline Wireless completed a trouble-free installation to give Shawmut's remote employees transparent connectivity to all voice, data and video services.

"Pipeline Wireless did a great job of making the implementation painless while the easy-to-deploy BridgeWave links get high marks for reliability and manageability," says Ryan.

The BridgeWave links work so well that Shawmut has been able to lower its administrative overhead, which is appealing to the small network support team.

"We don't have to baby-sit these radios, they just work and I don't have to worry doing anything to keep them up and running," notes Ryan.

Additionally, Shawmut has substantial capacity to handle future expansions at the secondary site along with its ever-increasing use of bandwidth-intensive video conferencing.

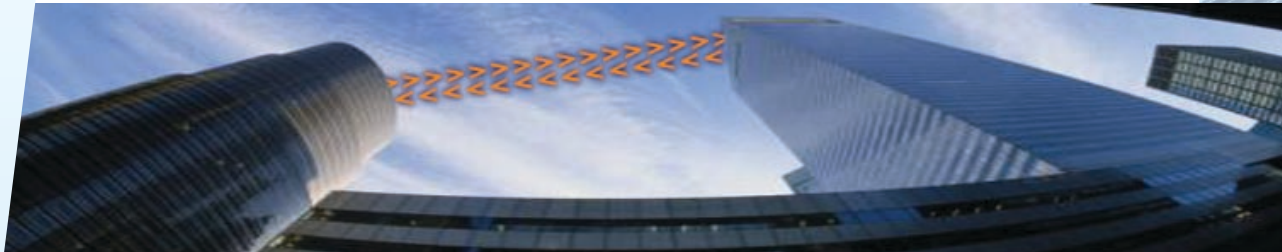
"We'll be able to move another 100 or so people to the remote location without any hesitation," adds Ryan. "Connectivity is seamless, without any discernible difference in network performance, so it's like our remote employees are working from a different floor in our headquarters' building."

The high reliability and capacity of Shawmut's high-speed GigE radios make them a viable primary network connection. For that reason, Shawmut will consider gigabit wireless for extending its network in other fast-growing areas, such as New York.



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"If we expand to a second location in New York that has line-of-sight with our existing office, we would definitely consider adding another gigabit wireless link," concludes Ryan. "BridgeWave's GigE wireless radios are cost-effective and highly reliable while providing us with an easy-to-deploy and manage network extension."

CUSTOMER: Shawmut Design and Construction, www.shawmut.com

INDUSTRY: Construction

CHALLENGES:

- Rapid company growth required acquisition of nearby space, creating need for high-speed link to corporate network.
- Initial costs for installing fiber including \$60,000 to trench and lay conduit as well as up to \$12,000 in monthly lease fees.
- Low latency was a concern due to heavy reliance on VoIP and video conferencing

SOLUTION: Two BridgeWave GE60 wireless links.

CHANNEL PARTNER: Pipeline Wireless, a wireless solution provider based in Fall River, Mass., www.pipelinewireless.us

BENEFITS:

- GigE wireless delivered exceptional cost and time savings over fiber.
- Ultra-low latency, equivalent to hardware LAN, supported VoIP and video conferencing.
- Ample capacity eases continuing expansion at auxiliary location.



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