ScharffWeisberg Sets the Stage for Cost-Effective Last-Mile Connectivity with LightPointe's Optical Wireless Networking Solutions

Innovative A/V, Lighting and Staging Company Leverages Free-Space Optics to Quickly Gain High-Speed Bandwidth in Satellite Facility

ScharffWeisberg, Inc. (SWI), based in Long Island City, NY, is world renowned for providing state-of-the-art audio/video (A/V), lighting and staging services to Broadway's leading theater productions. Founded in 1990 by Peter Scharff and Josh Weisberg, this unique company has earned a reputation for technical excellence and superior customer service in an industry that demands perfection at every performance. In recent years, SWI has successfully expanded its business beyond Broadway theater to encompass A/V equipment rental as well as staging and lighting services to broadcasting and television, retailers, museums, special events companies and corporations. Today, SWI serves such diverse clients as Smithsonian Institution, Holland America Cruise Lines, Madison Square Garden, Johnson Controls, J.P. Morgan Investments and Time Warner.

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With 7,000 worldwide customers, SWI has more than 100 full-time employees across five corporate divisions. Steady growth and a desire for larger facilities forced the company to expand beyond Manhattan in 2002, when it transferred three of its five divisions to a new 39,000 square-foot headquarters in nearby Long Island City. The company's lighting division, which previously occupied space in East Rutherford, NJ, subsequently took over the Manhattan office. However, after 1-1/2 years, and with commercial real estate prices skyrocketing, SWI executives decided it would be more cost-effective to move the lighting division to Long Island City when the Manhattan lease expired in spring of 2004. Although the existing six-story headquarters facility was already fully occupied, SWI found a one-story building conveniently located just two blocks away. Phil Vachon, SWI's IT director, was soon given the task of making the new satellite office IT-ready for a move-in date of May 2004.

THE CHALLENGE

SWI's computing environment reflects the technological savvy of an experienced IT organization. The company runs a virtual private network (VPN) that is backed up 365 days a year and offers employees use of PC Anywhere, a remote control application that allows them to work from home or the road at their convenience. Microsoft Exchange and Outlook are the organization's key enterprise applications.

In addition, SWI is dependent upon mission-critical software that drives its multi-million dollar equipment rental business and handles logistics across operations and divisions. The software manages rental equipment scheduling and returns—top priorities because all gear must be fully checked and serviced before it can be rented again.

"With more than $10 million in equipment that is utilized almost around-the-clock—both by our rental customers and our clientele for lighting, staging and A/V services—any IT downtime could potentially cost us not only time and money, but also our reputation for excellence in the business," says Vachon. "It was therefore critical to have the IT infrastructure extended to the new satellite building on time and without interruption of service."

With only weeks to spare before the move, Vachon first determined that he needed to centralize the company's data center by moving all lighting division servers to the headquarters building in Long Island City. His next concern was network connectivity. Previously, the lighting group accessed the corporate network via T1 lines. In addition, four tie lines were used for direct voice communications between the two offices—an indication of the

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importance the company places on instant phone access across its employee base. Vachon first investigated microwave or radio frequency (RF) technology as a network access solution, but determined it wouldn't work for his application because the minimum distance for the desired RF was 500 feet, and the satellite building was about 300 feet away. "In addition, I was concerned about licensing issues related to RF as well as the thought of beaming that type of power across a neighborhood that included residential housing," he says.

According to Vachon, fiber optic cable was never an option because there was no chance of laying wire underground in an established urban area without expending substantial costs and time, while enduring many logistical challenges.

He was about to settle upon T1 lines again when a customer introduced him to optical wireless, a last-mile connectivity solution based on free space optics (FSO) technology. The IT director for "Jazz at Lincoln Center," a not-for-profit organization dedicated to jazz under the artistic leadership of Wynton Marsalis, had already deployed an FSO-based optical wireless solution to solve a building-to-building connectivity challenge in Manhattan. Optical wireless solutions are line-of-sight and use lasers to provide high-speed, optical bandwidth connections for sending and receiving voice, video and data through the air at full-duplex speeds up to 2.5 gigabits per second at distances up to 4 kilometers. Originally developed by the military and NASA, optical wireless has been used for more than 30 years to provide fast, reliable and quickly deployed communication links for remote locations.

"Jazz at Lincoln Center" was very pleased with the optical wireless solution they purchased from LightPointe Communications Inc., a pioneer in the field. In this particular installation, the LightPointe products shoot 200 yards down 62nd Street at a harsh angle, but continue to work flawlessly. With that

endorsement, Vachon decided to evaluate the company's application-specific Flight™ Optical Wireless product line. Combining the speed of fiber with the flexibility of wireless, LightPointe's Flight products provide physical-layer transport that work seamlessly with any network protocol. The portable units appealed to Vachon's sense of urgency, especially since they can be installed in hours, not weeks or months, unlike T1 lines. In addition, they can be re-deployed easily if network needs change—a welcome bonus for a rapidly growing company such as SWI.

From a cost standpoint, Vachon determined that LightPointe provided a very affordable solution. "LightPointe offered a product that cost 30 percent less than a comparable offering from Canon, one of the other major players in the FSO market," Vachon explains. LightPointe's FlightLite-G link delivered nearly 80 times the bandwidth of the old T1s. The price point turned out to be equivalent to an initial T1 investment, but without the additional monthly fees of $600 or more. Add to that the $400 monthly fees that SWI had been spending on tie lines for voice connectivity between the two buildings, and the one-time cost of an optical wireless solution was unbeatable.

THE SOLUTION

After researching trade publication articles on optical wireless, Vachon was clearly sold on the technology. He purchased the LightPointe FlightLite-G with 1.25Gbps of full-duplex capacity. At only 9.9 pounds, FlightLite-G provides full-duplex, point-to-point and Fast Ethernet connectivity at up to 500 meters.

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To complete the network solution, LightPointe put Vachon in touch with Speed Wire Network Services, a Floral Park, N.Y.-based reseller offering telecommunications equipment and installation services along with specialized expertise in FSO-based optical wireless. Matt Breen, a vice president for Speed Wire, was assigned to the installation. Because SWI leases its buildings, Speed Wire would not be allowed to mount the FlightLite units via a traditional hole punch through the rooftops. Breen rose to this challenge by creating non-penetrating roof mounts fastened by posts that could withstand the impact of the region's harshest winters. He then aligned the FlightLite units and had the entire system running in less than two days.

"We turned the units on, pointed them at each other, and moved forward. It was as simple as that," recalls Vachon, who concedes that the installation couldn't have been easier, thanks to the clear line of sight and proximity between the two buildings.

BENEFITS

The day following the installation, the SWI lighting division occupied the new Long Island City building and began using their applications as if nothing had changed. Performance has been impeccable, according to Vachon. "I'm very happy with my decision to go with LightPointe," he says. "It has been a transparent purchase from the beginning and we've experienced no discernable downtime since day one."

LIGHTPOINTE™

He anticipates a return on investment within two years, leaving him eight years of "free" use of the product, since they've signed a 10-year lease at the new building. Beyond cost savings, Vachon says he also feels he also chose the most environmentally friendly solution in LightPointe. "Optical wireless is low impact, both from an environmental and human exposure standpoint. This makes my decision even more satisfying," he concludes.

CUSTOMER:
ScharffWeisberg, Inc. (www.swinyc.com)

INDUSTRY:
Technology for the entertainment industry

RESELLER:
Speed Wire Network Services, a Floral Park, N.Y.-based reseller offering telecommunications equipment and installation services along with specialized expertise in FSO-based optical wireless (www.speedwireinc.com)

CHALLENGES:
- Steady growth and skyrocketing commercial real estate leases in Manhattan dictated the need to move the company's lighting division to a new satellite facility on Long Island; the new building needed to be IT-ready within weeks and without interruption of service.
- 100 percent network uptime and transparent access to data were critical.
- Ease and speed of deployment were critical factors in selection of a last-mile connectivity solution.
- Environmental issues were a concern.

SOLUTION:
- LightPointe FlightLite-G, an optical wireless solution for enterprise IT professionals, weighs just 9.9 pounds (4.5 kilograms); offers up to 1.25 Gbps speed; and is the most compact and economical member of the LightPointe Flight™ Optical Wireless family.