



## CASE STUDY

### Jazz at Lincoln Center Performs at Ethernet Speed Thanks to LightPointe Optical Wireless

#### *FSO Deployment Lets World's Leading Jazz Organization Extend 100 Mbps Network to New Multi-Million-Dollar Performance Center*

Jazz at Lincoln Center (JALC), under the leadership of artistic director and renowned jazz musician and composer Wynton Marsalis, is the world's largest not-for-profit arts organization dedicated to jazz. In October 2004, JALC achieved a major milestone with the opening of Frederick P. Rose Hall, a spectacular \$128 million, 100,000 square foot performing arts facility that accommodates dance, theater, opera and classical music. Located in midtown Manhattan, the new complex features three main stages, including The Allen Room, Dizzy's Club Coca-Cola and Rose Theater—all committed to a year-round schedule of education, performance and broadcast events designed to advance the art of jazz.

JALC's inaugural season in its new home arrived after years of planning. Initially, the organization wanted to incorporate administrative offices into the new center, but it soon became clear that the performance side of the business, including box office and production staff, required the full volume of available space. The most logical solution then became to locate administrative personnel across the street in an existing leased

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Fred Murphy | Associate Director of IT  
Jazz at Lincoln Center

office that already housed JALC's data center. This decision, however, presented a new challenge: how to extend the reach of the 100 Mbps corporate network from the administrative office space to Rose Hall, located 60 meters away? In Spring 2004, JALC's IT executives began searching for a solution that would give employees at the new facility access to the company's business-critical ticketing software, custom databases and email—at Gigabit Ethernet speed.

According to Fred Murphy, associate director of IT, JALC's first thought was to lay fiber optic cable, but it quickly became apparent that trenching across a busy New York City street was not an option due to ease-



## CASE STUDY

ment and licensing concerns. “We didn’t fully understand the problem of digging up the streets, or the time delays that fiber entailed,” he says. “With the center’s opening less than six months away, we knew we had to act fast.” The IT team also considered microwave technology, but didn’t want to deal with complex spectrum licensing concerns or the liability issues surrounding public perceptions about harmful emissions. T1 lines offered a simpler answer, but at 1.5 Mbps, they simply wouldn’t offer the enterprise-class bandwidth that JALC’s staff demanded.

Jazz at Lincoln Center’s tier-one service provider in Manhattan then recommended LightPointe, a provider of optical wireless bridging solutions based on free space optics (FSO) technology. LightPointe’s high-capacity, license-free products use beams of light to transmit voice, data and video through the air, without any of the installation challenges of fiber or microwave. Combining the speed of fiber with the flexibility of wireless, optical wireless bridges deliver physical-layer transport that works seamlessly with any network protocol.

Already convinced of LightPointe’s technology advantages, Murphy evaluated the cost and deployment requirements of the FlightLite™ G, which offers Gigabit Ethernet bandwidth. Since the system can be installed in hours, not the weeks or months required for T1 lines, it addressed JALC’s sense of urgency. From a cost standpoint, Murphy concluded that LightPointe provided a very economical solution, with pricing similar to an initial T1 investment, but without the recurring monthly fees.

“I hadn’t heard of optical wireless before, but I’m very glad that it was brought to my attention,” says Murphy. “Evaluating the technology in comparison to the other bridging alternatives made it easy for us to decide in favor of LightPointe.”

### THE SOLUTION:

JALC’s selection of the FlightLite G was made without hesitation, and the organization’s service provider teamed up with LightPointe to install the system. Even though the two JALC buildings are not located directly across the street from one another, but at a diagonal angle, a clear line of sight still exists. This simplified the installation process and assured optimum communication across the LightPointe bridge. To avoid the difficulty of getting permission from the landlords to mount the FlightLite units on the exterior of the buildings, JALC opted to have them installed on the interior, behind windows on both sides of the street. This approach not only facilitates management for Murphy and his team, but also means that the system is not visible from the street. In addition, mounting behind glass saved installation time and costs while allowing JALC to avoid paying potential monthly roof lease fees.

According to Murphy, the FlightLite had plenty of power to transmit through Rose Hall’s tinted glass. “In fact,” he says, “The signal was so strong that the installers advised us to attenuate the power somewhat.” (LightPointe’s manual power control adjustment capability was used for the fine tuning.) Overall, deployment went without a hitch and the network was up and running between the two buildings within 24 hours.



## CASE STUDY

### THE BENEFITS:

Today, Murphy calls the FlightLite bridge the most reliable part of his entire network. He says it performed flawlessly during the official opening of the new performance center this past fall. Through LightPointe, staffers at the new performance center have gained seamless access to business-critical enterprise applications, including Microsoft Exchange Server, a Voice over IP (VoIP) telephone system, Patron Edge ticketing software and an ArtsVision database for artist, event and facility management. With wireless notebooks and other devices in widespread use at JALC, Murphy added that employees easily tapped into the new network after the wireless bridge was installed.

In addition, the LightPointe system has become an integral part of JALC's "closed loop" environment, which involves a four-way link that connects the administrative building, Rose Hall, an additional JALC annex and the New York Public Library's data center – all as part of the JALC corporate network. The Library is JALC's Internet provider and also provides server co-location and other data services to JALC and other New York cultural institutions.

The closed-loop network encompasses the 1.25 Gbps LightPointe pipe between the two JALC buildings, along with a fiber connection from the annex building to the Library data center and T1 lines extending from the two main JALC buildings to the Library data center. The FlightLite provides a backup connection to the Library should one of the T1 lines fail. At the same time, the T1 links provide a backup path for LightPointe between the JALC administrative office and Rose Hall.

According to Murphy, the LightPointe installation is projected to produce a rapid return on investment. Most importantly, it delivered a solution that JALC simply couldn't find anywhere else. "Without LightPointe, I don't know how we'd be able to provide Ethernet-class connectivity to our staff at the new facility," he concludes. "We now have the bandwidth we need, which is an important part of fulfilling our goals at JALC."

Those goals include leveraging technology to produce web casts and distance learning events in the near future so JALC can spread its message to an even broader, global audience.

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Jazz at Lincoln Center



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### CUSTOMER:

Jazz at Lincoln Center (JALC), the world's largest not-for-profit arts organization dedicated to jazz.

### INDUSTRY:

Music/Entertainment

### CHALLENGES:

- Needed to extend 100 Mbps network across busy Manhattan street to new \$128 million Frederick P. Rose Hall to provide enterprise-class connectivity to production crews and box office staff.
- Digging up the streets of Manhattan to trench for fiber optic cable was ruled out due to easement and licensing challenges as well as anticipated time delays.
- Microwave was eliminated as an alternative bridging solution due to concerns about complex spectrum licensing and liabilities related to public's perceptions about harmful emissions.
- T1 lines, operating at 1.5 Mbps, didn't provide nearly enough bandwidth.

### SOLUTION:

- LightPointe's FlightLite G: Weighing only 9.9 pounds, the FlightLite provides true optical networking performance at entry level LAN pricing and installation distances starting at 10 meters for Gigabit Ethernet connectivity. The FlightLite is available in a range of bandwidth and distance options. The FlightLite-G is the market's first FSO-based product specifically designed for enterprise customers who require gigabit Ethernet connectivity for LANs.

### BENEFITS:

- High-speed optical wireless bridging solution provides connectivity at 100Mbps speeds, delivering ample bandwidth to support critical enterprise applications including Microsoft Exchange Server, a Voice over IP (VoIP) telephone system, Patron Edge ticketing software and ArtsVision database.
- Ease of installation allowed 24-hour deployment of the LightPointe system and put robust network connectivity in place in time for JALC's inaugural season at Rose Hall.
- Elimination of recurring monthly charges at FSO-connected site provided cost savings and expedited ROI.
- Optical wireless plays an integral role in JALC's closed loop network environment, which also encompasses fiber and T1 lines—all connecting to the WAN and Internet via the New York Public Library's data center.