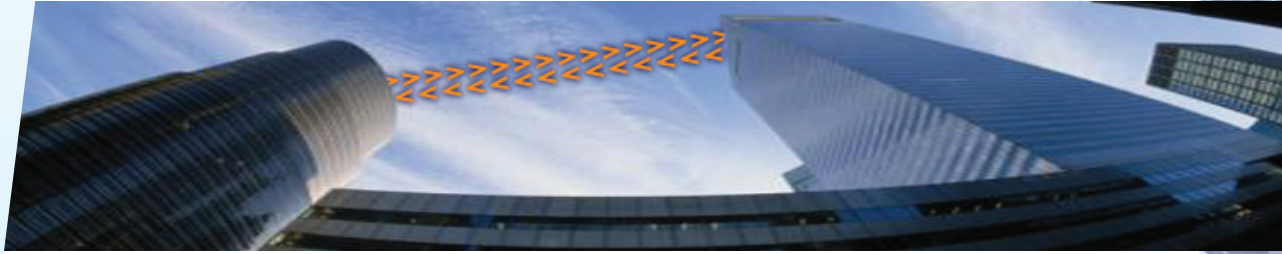




Case Study

# RUSH UNIVERSITY MEDICAL CENTER



## RUSH UNIVERSITY MEDICAL CENTER DEPLOYS BRIDGEWAVE'S GIGABIT WIRELESS TO QUICKLY AND RELIABLY TRANSFER PATIENT DATA



Located in Chicago, Ill., Rush University Medical Center is home to one of the first medical institutions in the Midwest and is one of the nation's premier medical organizations in the country. Founded nearly 170 years ago, Rush University Medical Center was named a "Top-Performing Hospital" in 2007 by the University HealthSystem Consortium (UHC), and is widely known as a national leader in academic medicine.

With more than 8,500 employees and spanning 30.5 acres, Rush University Medical Center is a growing facility focused on maintaining a campus that provides the highest quality of patient care. As Rush University Medical Center is a non-profit organization, the IT staff strives to incorporate cost-effective initiatives utilizing emerging technology to further benefit their patients.

Sensitive patient data including medical records, claims and financial information is regularly transferred from outpatient care facilities to the campus information services data center. Given the critical patient information that is being transferred, network security, reliability and compliance to HIPAA regulations are of utmost importance.



*"Our main concern with this project was being able to find a solution that could securely transmit large amounts of data quickly and efficiently, while staying within our limited budget. The long term costs of the BridgeWave links and the fact that the links could provide the bandwidth we needed was an attractive solution."*

Eric Schoedel  
Voice Manager  
Rush University Medical Center

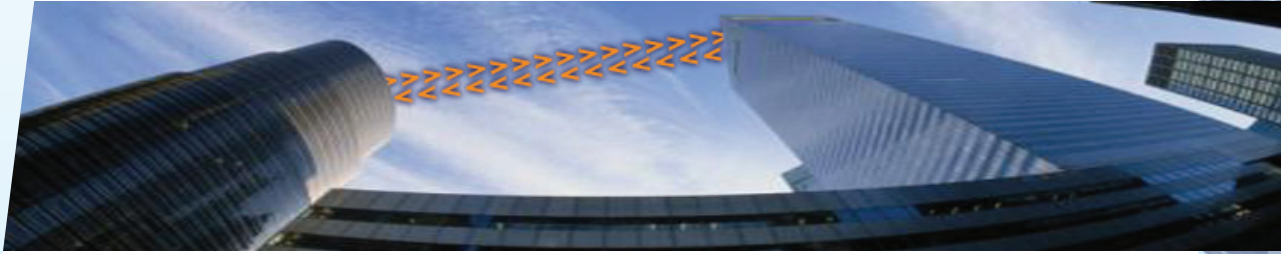
Eric Schoedel, voice manager for Rush University Medical Center, was tasked with finding a secure, reliable and economical LAN data connection to transfer data, including critical medical history from remote facilities to the main campus.

*"Rush University Medical Center is among the leading medical institutions in Chicago and we make sure patient care is -the highest priority. Sensitive patient data is transferred across campus on a daily basis, so it was imperative that our network function at high speeds and be ultimately 'hack-proof.'"*



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## THE CHALLENGE

Expanding its facilities to deal with high-growth, Rush University Medical Center is currently in the process of a \$901 million transformation project that includes a new state-of-the-art hospital. The hospital will be comprised of more than 700 beds and a 40 bay emergency departments geared towards advanced emergency response. To make room for the construction, some outpatient care facilities were relocated to leased space, a block away. The outpatient care facilities still needed to be securely connected to the campus LAN in the information services data center, located less than a mile away.

Mr. Schoedel and his team needed to find a quick and secure LAN data connection which also addressed the following:

- A high-capacity network solution less costly than installing leased fiber, as estimated costs to lay fiber was more than \$500,000, in addition to the monthly lease charge.
- Provide the necessary bandwidth required to support the transfer of sensitive patient data, including medical records, claims and financial information.
- HIPAA-compliant security to support the transmission of sensitive financial and medical information from the outpatient care facilities to the main campus data center.

## THE SOLUTION

After initial research Mr. Schoedel determined that the exorbitant costs associated with installing fiber would be out of Rush University Medical Center's budget for the project. Having a background in wireless technology, he researched wireless solutions and initially decided upon using Free Space Optics (FSO) as the primary link and the GE60 from BridgeWave as the backup link. Once installed, the FSO began dropping network connection mainly due to weather conditions - resulting in numerous help-desk calls. After realizing that FSO did not meet their operational needs, Mr. Schoedel migrated traffic over to the BridgeWave link which solved the connectivity issues.

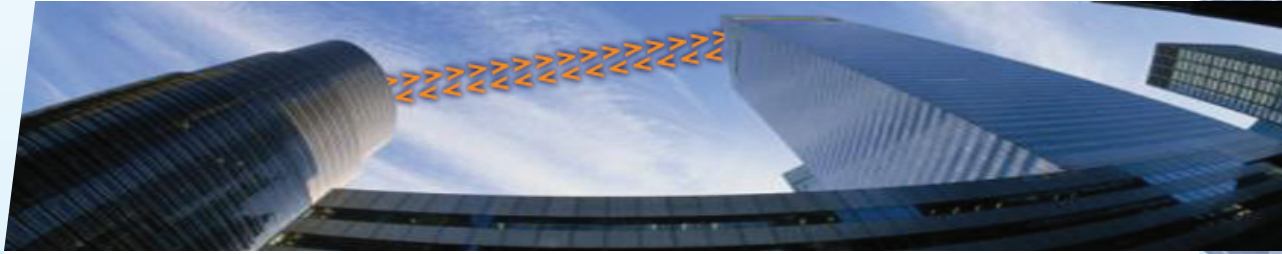
*"After researching prices to lay fiber it became clear that I would need to find a more affordable alternative. I did an online search for wireless radios and came across BridgeWave's Web site, I was pleased to discover that BridgeWave offered gigabit links, which would offer more capacity than expected for data transfer across our network."*

Mr. Schoedel contracted Gurtz Electric to perform the installation. Gurtz worked with TESSCO, a local distributor, and purchased BridgeWave's GE60 radios to connect the outpatient care facilities to the main campus data center.



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The license-free 60 GHz range appealed to Mr. Schoedel, as cost-effectiveness and reliability were the reason Mr. Schoedel decided upon a gigabit wireless solution. In addition, BridgeWave's solution provided low latency for fiber-equivalent performance. The ultra narrow beamwidth of these radios were appealing as they provide an added level of security and interference immunity that other wireless alternatives do not offer.

BridgeWave's links were installed and aligned in a day - weeks faster than any fiber installations would have taken. Initially, Mr. Schoedel ran the radios with no traffic to ensure he would not encounter the same issues he had faced with the FSO, but after three days he tested the links with traffic, and has not encountered a problem.

*"Sensitive financial information is transmitted on the network, so any breach in network connectivity must immediately be reported to auditors. We have yet to make such a report since using BridgeWave as our technical backbone."*

## THE BENEFITS

Since February 2008, Rush University Medical Center has leveraged BridgeWave's wireless gigabit link to provide flawless connectivity between the data center and the outpatient care facility. The problems Mr. Schoedel experienced using FSOs have disappeared and he has come to depend on BridgeWave for reliable and rapid data transmission despite several storms and frequent inclement weather.

*"From our initial day of installation, the BridgeWave links have provided 'five-nines' network connectivity. Patient care at Rush University Medical Center would be severely compromised if we were unable to transfer patient data securely via our network. We are assured now knowing the BridgeWave radios perform dependably, regardless of weather conditions – and we're considering buying additional BridgeWave links for the campus."*

After months of using BridgeWave's GE60 radios, Rush University Medical Center purchased an additional link to act as backup to their existing network link. Mr. Schoedel says the Medical Center has already achieved complete ROI on its gigabit wireless installation while also obtaining ample bandwidth for their current expansion project. Given the dramatic decrease in cost by using BridgeWave's gigabit wireless solution compared to laying fiber, and noting the fiber-like performance of the existing links, Rush University Medical Center is considering purchasing additional links for the expanded campus hospital. Because BridgeWave links are ultra-low latency, the Medical Center also plans to use BridgeWave to support the transfer of VoIP between the information services building and the outpatient care facility. The high level of security that BridgeWave's products provide has prompted Mr. Schoedel to plan for the transmission of patient MRI's after the completion of the hospital.

*"We have already saved at least two hundred thousand dollars by using BridgeWave's GigE solution instead of fiber. BridgeWave has allowed us to stay well under budget with low operating costs for high-speed connection and functionality."*



**BridgeWave**  
COMMUNICATIONS

## Case Study

# RUSH UNIVERSITY MEDICAL CENTER



**CUSTOMER:** Rush University Medical Center, (<http://www.rush.edu/>).

**INDUSTRY:** Education/ Healthcare

### CHALLENGES:

- Reliable, secure and HIPAA-compliant LAN data connection
- In addition to the monthly lease charge, estimates for fiber installation were more than \$500,000 – far more than the project budget allowed for
- High bandwidth required to support transfer of sensitive patient data, including medical records, claims and financial information

**SOLUTION:** BridgeWave GE60 radios

### BENEFITS:

- Immediate connectivity between two buildings
- ROI in approximately 5 months
- Secure, reliable transfer for patient medical information



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CASE STUDY

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