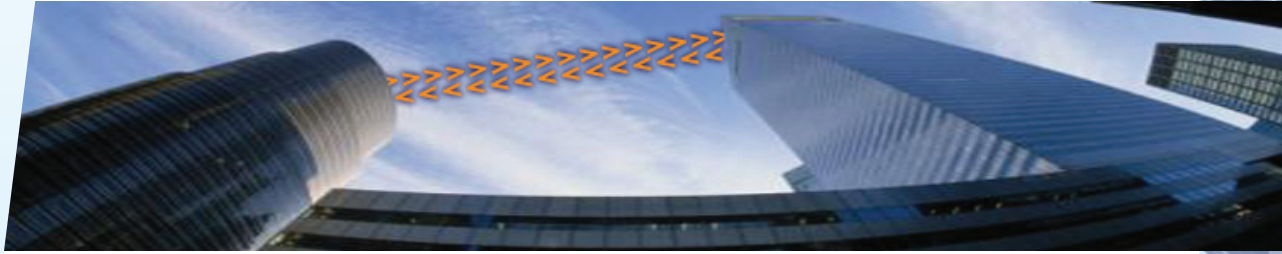




BridgeWave  
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## Case Study

# RIVER RADIOLOGY



### RIVER RADIOLOGY GAINS SEAMLESS CONNECTIVITY AND HIGH-SPEED IMAGE TRANSFER WITH BRIDGEWAVE'S SECURE GIGABIT WIRELESS LINKS



River Radiology is one of the largest and most technically advanced providers of diagnostic imaging services in New York's Hudson Valley. Operated by the oldest radiology group in Ulster County, the thriving practice group sees up to 150 patients a day for a complete range of radiologic services, including bone densitometry, CT scans, digital mammography, MRIs, nuclear medicine, PET scans, ultrasounds and X-rays.

In keeping pace with diagnostic imaging innovations, River Radiology has embraced the latest Picture Archiving and Communications System (PACS) for capturing, storing and distributing all medical images. Additionally, the group relies on a leading-edge Radiology Information System to streamline appointment scheduling while supporting the group's migration toward an all-digital, paperless environment. Technology plays a crucial role in fulfilling the practice group's mission to offer the highest quality diagnostic imaging and patient care.

For that reason, River Radiology decided to expand its capabilities by opening a second office located a mile away at

Benedictine Hospital. The secondary site would permit River Radiology to provide convenient MRI services to hospital patients while also increasing capacity for outpatient treatment at its Kingston office.

"Once the decision was made to add the second location, we focused on finding a high-speed network link to connect the two sites to support the rapid transmission of PACS images," recalls Alice Omichi, IT systems and PACS administrator for River Radiology.

*"We have ample network capacity for at least the next decade. Our highly secure and reliable BridgeWave GigE network extension reinforces River Radiology's ability to deliver diagnostic services and imaging reports in a timely manner, enabling us to provide extremely responsive, top-quality patient care."*

Alice Omichi  
IT Systems and PACS  
Administrator  
River Radiology



## THE CHALLENGE

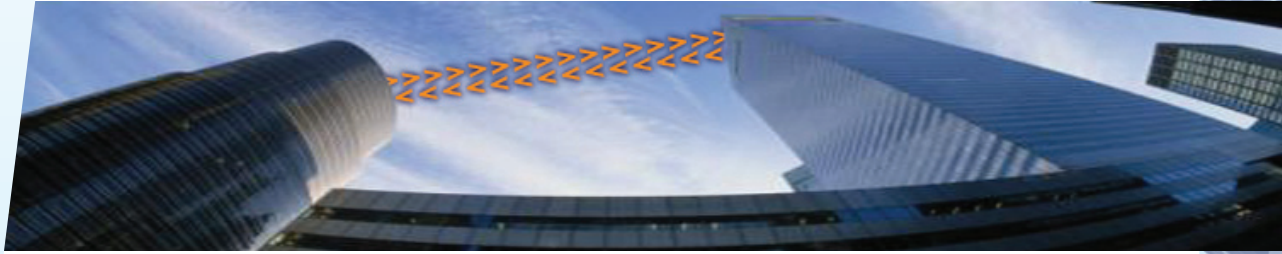
All MRIs taken at the hospital need to be transferred to River Radiology's PACS, which is hosted at Kingston, for cataloging, storage and future viewing. Since each MRI can contain up to 500 discrete images totaling several hundred megabytes, it was imperative to install a high-capacity network connection between the two sites. River Radiology quickly discovered, however, that only limited and costly options were available from local telecommunications service providers.

CASE STUDY



## Case Study

# RIVER RADIOLOGY



In seeking a high-capacity connection, River Radiology was faced with the following challenges:

- The leasing fee for a 45 Mbps landline link ranged from \$3,000-to-\$4,000 per month and required two-to-five-year service commitments.
- 45 Mbps bandwidth capacity only met minimum bandwidth requirements, which would restrict further expansion of imaging services at the secondary site.
- The time delay associated with installing a landline link was anywhere between 60 days and six months.
- Security and reliability were top concerns, especially since River Radiology followed strict HIPAA guidelines and need to ensure "five nines" network availability.

River Radiology encountered significant shortcomings with traditional leased-line services.

*"Capacity was limited and the installation and monthly fees were cost prohibitive," says Omichi. "We also worried about the time constraints since we wanted to be up and running within weeks, not months. So, we started looking for a more cost-effective solution that could meet our bandwidth demands and deployment timeframe."*

River Radiology visited Mount Kisco (N.Y.) Medical Center to observe how its numerous sites were networked to its PACS platform. This facility too had found traditional landline connections were lacking and instead had installed a wireless solution. River Radiology was intrigued about the possibility of using wireless, especially since Benedictine Hospital was situated on a hilltop with clear line-of-sight to the practice group's main facility. Still, there were lingering concerns about security and reliability, especially since New York's Hudson Valley can experience severe weather conditions.

*"We had to prove no one could 'tap into' a wireless link," adds Omichi. "We also had to ensure 'five nines' network uptime despite winter storms and torrential spring showers, since there was no tolerance for any downtime that would interfere with patient care."*

## THE SOLUTION

River Radiology enlisted the assistance of Webjogger, a Tivoli, N.Y.-based provider of wireless networking solutions, to evaluate potential wireless options. Webjogger suggested products from BridgeWave Communications, a pioneer in Gigabit Ethernet wireless networking with a full portfolio of products operating in the 60 and 80 GHz frequency spectrum.

Webjogger reviewed River Radiology's distance and uptime requirements while also working with BridgeWave to perform a rain-fade calculation for the geographic region. Based on computations, BridgeWave's AR60 product was recommended to connect the two buildings, which were less than a mile apart.

The AR60 operates in the license-free 60 GHz band with exclusive AdaptRate capability, which momentarily switches transmissions from GigE to 100 Mbps data rates during periods of intense rain downpour to maintain link availability. This would ensure continuous operation even during the region's occasional periods of heavy rain.

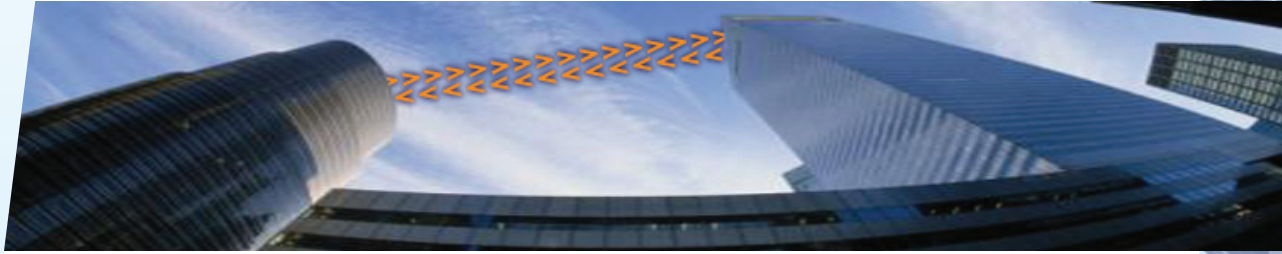




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## Case Study

# RIVER RADIOLOGY



*"We were really impressed with this unique capability, which would enable us to meet our demands for elevated levels of network dependability, says Omichi."*

BridgeWave's products also utilize an extremely narrow antenna beamwidth to provide enhanced levels of data security and interference immunity, which alleviated any concerns about eavesdropping or interference-related outages. As a result, River Radiology moved forward, to expedite a trouble-free installation of BridgeWave's AR60 link in mid-November 2006. After readying the rooftop for the installation, Webjogger had the AR60 radios up and operational in a single afternoon, a huge improvement over the expected 60 days or more wait time associated with the installation of a landline.

*"Working with Webjogger was one of the best experiences I've had in a long, long time," notes Omichi. "They know what they're doing, are extremely attentive and available in a heartbeat to answer any questions. The deployment of BridgeWave's wireless GigE link went off without a hitch."*

## THE BENEFITS

For the past year, River Radiology has leveraged its wireless GigE link for seamless connectivity between its two sites.

*"The fact that we generate images at two locations is completely transparent to our radiologists," says Omichi. "It doesn't matter if the image is taken 200 feet down the hall from the PACS server or a mile away at the hospital—it takes less than two minutes to complete a PACS transmission regardless of where the image was originated. Furthermore, image quality is not compromised as we have ample capacity to handle our bandwidth-intensive PACS files."*

Equally impressive is continuous operation despite several severe storms and frequent inclement weather.

*"Link operation has been flawless and the connection has not even throttled back to 100 Mbps momentarily in bad weather," she adds. "The best part of the BridgeWave wireless link is that it just runs without needing anyone to check it or manage operation, which is a huge plus for our small support team."*

River Radiology also has taken advantage of ultra-low latency on the BridgeWave link to implement -Voice over IP services between the two locations.

*"The ability to support VoIP was the icing on the cake," Omichi says. "We saved significant dollars on voice connectivity and PBX equipment expenses. Additionally, it is completely seamless for personnel to call the second location as they only need to dial an extension to reach someone at the remote site."*

River Radiology was able to achieve a complete ROI on its gigabit wireless installation in 10 months while also obtaining enough bandwidth to easily accommodate future service expansions, including the addition of a new CT scanner at the hospital.

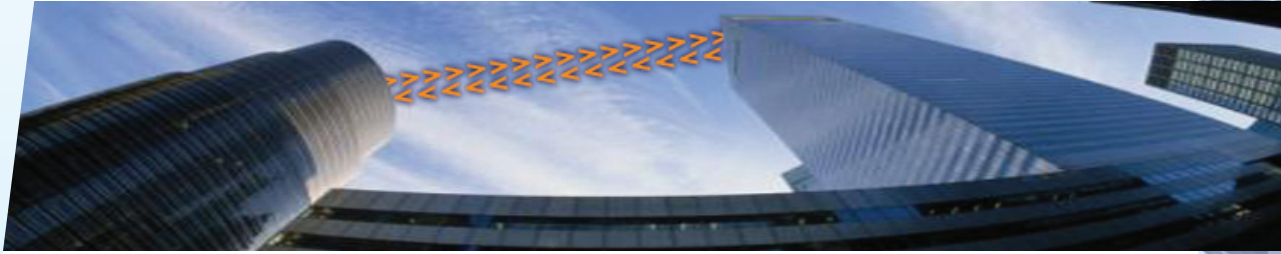
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# RIVER RADIOLOGY



*"We have ample network capacity for at least the next decade," concludes Omichi. "Our highly secure and reliable BridgeWave GigE network extension reinforces River Radiology's ability to deliver diagnostic services and imaging reports in a timely manner, enabling us to provide extremely responsive, top-quality patient care."*

**CUSTOMER:** River Radiology, a diagnostic imaging and patient care group, based in Kingston, N.Y., [www.riverradiology.com](http://www.riverradiology.com).

**INDUSTRY:** Healthcare

### CHALLENGES:

- Expansion into remote location required high-capacity connection to transmit large PACS files.
- Potential 45 Mbps landline connections was cost prohibitive.
- Concern about high network availability due to severe weather in winter and spring months.

**SOLUTION:** BridgeWave AR60 60 GHz AdaptRate wireless links.

**CHANNEL PARTNER:** Webjogger, a provider of wireless solutions based in Tivoli, N.Y., [www.webjogger.net](http://www.webjogger.net)

### BENEFITS:

- Instantaneous, transparent connectivity between the two offices.
- Substantial bandwidth meets projected capacity requirements for the next decade.
- Ultra-low latency supports VoIP connectivity for seamless intra-office calls.
- ROI in approximately 10 months.



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