



Case Study

BUNCOMBE COUNTY



BRIDGEWAVE'S GIGABIT LINKS PROVIDE NETWORK BACKUP FOR EMERGENCY DISPATCH AND COUNTY FACILITIES



Buncombe County is the largest county in the western half of North Carolina. Formed in 1791, Buncombe County was named for Edward Buncombe, a colonel in the American Revolutionary War, who was captured at the Battle of Germantown. The town strives to promote a healthy, safe and thriving community and provide an effective and efficient government their citizens can trust.

With a population exceeding 222,000, Buncombe County relies on its IT infrastructure for their emergency response needs. Their sizable IT department supports 1,800 employees working in 20 locations scattered across 660 square miles. City Hall and the county's major facilities, including the police station, fire department and emergency medical dispatch, are connected via fiber optic lines. The county, however, began using IP-telephony for a new 911 call center and sought a wireless solution to provide a back up to their existing fiber lines in case the primary link failed.



"The safety of Buncombe county employees and residents was our primary concern. BridgeWave's gigabit wireless links ensured we would never lose network connectivity, which is critical when dealing with emergency assistance calls. The AR80 radios provided flawless connectivity and offered fiber-equivalent service."

*Bryan Dillingham
Network Communications Manager
Buncombe County, North Carolina*

THE CHALLENGE

As county employee and resident safety was the utmost priority, the redundant wireless links had to offer the same level of service as the primary connection if the primary connection went down. The redundant link also needed to be high-performance to support applications such as 911 dispatches to fire and police departments.

Bryan Dillingham, network communications manager for Buncombe County, and his team faced the following challenges:

- Find a cost-effective yet high-performance wireless product to offer sufficient bandwidth for critical public safety applications such as 911 dispatch and patient billing
- Remain secure and reliable to avoid losing connectivity in the event of the main network dropping
- Ensure IT staff could easily deploy and manage a solution to keep resources on higher priority projects



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THE SOLUTION

Dillingham decided on gigabit wireless products for the redundant links because they were cost effective and still offered fiber-equivalent performance and reliability. After researching wireless solutions, he chose BridgeWave Communication's gigabit wireless links. BridgeWave was an attractive choice due to their combination of high-capacity bandwidth and cost-effective price.

"It was imperative for the redundant wireless system to offer fiber-equivalent service if the primary links were down," said Dillingham. "BridgeWave was the best solution we found because of their performance, reliability and price."

Buncombe deployed four BridgeWave AR80 point-to-point wireless links providing backup to their existing county fiber network. The BridgeWave links offer full-rate gigabit Ethernet backhaul capacity with the strongest encryption commercially available. Using an extremely narrow antenna beamwidth, BridgeWave can ensure sensitive information remains protected.

"We have important applications running on our network including patient and billing information for the county," said Dillingham. "Having wireless encryption is particularly important for the transfer of sensitive data. We can't have it any other way."

With assistance from Wireless Data Systems, Inc., a leading systems integrator providing wireless networking services, an install team of five individuals deployed a high-capacity wireless backup, incorporating four BridgeWave AR80 wireless links. Several buildings located within Buncombe County lines provided excellent line-of-site and the total deployment lasted just one day.

Additionally, BridgeWave's 80 GHz capacity and AdaptRate mode switching offered reliable network connectivity consistently regardless of weather. Buncombe County winters often consist of sleet and heavy downpours, impairing the ability of some wireless solutions to provide reliable service during the winter months. During moments of violent downpour, transmissions switch from GigE to 100 Mb/s data rates, maintaining a highly available link.

BENEFITS

BridgeWave's AR80 radios provide a crucial role in Buncombe's network by offering round the clock reliability for important applications such as health records and patient billing from county hospitals and medical dispatch calls to local fire and police departments.

"In times of disaster, Buncombe County will be completely running – with access to emergency dispatch and our major facilities," said Dillingham. "We all sleep easier at night knowing there is a reliable backup solution in place."



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Buncombe County has experienced flawless network connectivity since their deployment. Dillingham is confident the network is protected against lost connectivity, offering nonstop access to critical applications. In times of disaster, Buncombe County will be fully functional with BridgeWave's AR80 radios. Emergency workers will maintain contact to dispatch and major facilities, despite network failures.

"The county can rest assured knowing we have a reliable and secure backup solution in place," said Dillingham.

CUSTOMER: Buncombe County, <http://www.buncombecounty.org/>

INDUSTRY: Government

CHALLENGES:

- Establish redundant network connection offering the same level of service if primary connection goes down
- Meet bandwidth and security requirements for critical public safety applications
- Cost effective as well as reliable and manageable to support Buncombe's emergency dispatch and county facilities

SOLUTION: BridgeWave's 80 GHz gigabit wireless radios with AdaptRate

BENEFITS:

- High-speed performance with full-rate gigabit connections
- Reliable especially during temperamental weather
- Wireless encryption for critical data, medical and safety applications
- Easy to manage for IT support teams and cost effective



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