

Broadband Reliability and Security that You Can Take to the Bank:

How the wireless provider ERF Wireless is using the Motorola Canopy® platform and its CryptoVue™ Encryption System to help banks reduce costs, expand bandwidth capability and avoid downtime resulting from natural disasters.



Thanks to ERF Wireless and Motorola's Canopy wireless broadband products, banks can now pay less than they currently pay for bandwidth while getting much higher connectivity speeds.



Banks across the country are facing a dilemma: Their needs for bandwidth are outpacing the capabilities of their T1 lines. "For most banks, the technology of choice has been a leased T1 line to their remote locations," said John Burns, a banking technology expert and CEO of the Enterprise Network Services subsidiary of Texas-based ERF Wireless, Inc. "But T1s are expensive and they do not have the capacity to support the growing volume and complexity of present-day bank transactions and the new digital applications."

For example, today many banks transfer digital images of checks – not the actual pieces of paper – from place to place for settlement. This is much cheaper than paying couriers to hand-carry the actual cancelled checks to the respective issuing banks. It also eliminates the cost of float – the time during which the bank that cashed the check does not have access to the funds and the interest income that otherwise could be generated while in possession of those funds.

The challenge of this practice is the need for greater bandwidth capacity, which can lead to greater costs for financial institutions. Until recently, that is. Thanks to ERF Wireless and Motorola's Canopy wireless broadband products, banks can now pay less than they currently pay for bandwidth while getting much higher connectivity speeds.

ERF Wireless has installed secure, point-to-point wireless financial networks in several banks in the southern United States. ERF's banking customers use these networks as the backbone for all of their retail ATM networks and teller systems as well as to digitally transfer checks and to support other financial transaction data transmissions. Two key elements make up the networks: Motorola's Canopy wireless broadband technology and CryptoVue, a patent-pending proprietary data encryption system that builds on Canopy's already encrypted radios to secure the banking network stem to stern. The CryptoVue system encrypts every portion of the network – including Ethernet cables and other portions of the network – using biometric controls developed and deployed exclusively for high-security networks by ERF Wireless.

SYNOPSIS

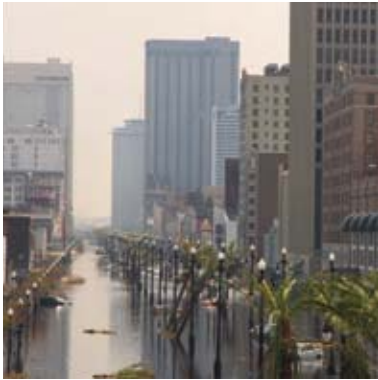
Iberville Bank, located in south-central Louisiana, was spending too much money on its transactional data communications. The bank leased numerous land-based data transmission lines to link its 12 facilities dotting a 500-square mile area, which was costing it nearly \$100,000 per year.

Fortunately, there was a solution to this problem: wireless communications. Iberville Bank worked with Texas-based broadband provider ERF Wireless to install an encrypted wireless financial network, powered by Motorola's Canopy® wireless broadband system and CryptoVue™, a patent-pending proprietary data encryption system with biometric controls developed exclusively for high-security networks by ERF Wireless.

The result: the bank saves \$7,000 to \$8,000 a month by eliminating the cost of connecting its branches with T1s and \$70,000 annually on courier fees because it no longer needs to deliver checks and other paper-based documents to processing centers.

And Iberville Bank is just the latest financial institution to take advantage of this system to reduce its communications costs while expanding bandwidth capability.

“For most banks, the technology of choice has been a leased T1 line to their remote locations,” said John Burns, a banking technology expert and CEO of the Enterprise Network Services subsidiary of Texas-based ERF Wireless, Inc. “But T1s are expensive and they do not have the capacity to support the growing volume and complexity of present-day bank transactions and the new digital applications.”



Banks using the system have more than enough processing capability – at costs-per-megabit that are far less than those involving T1 leased lines. “Our value proposition is to cut the costs of connectivity for banks by 25 percent to 50 percent while increasing their bandwidth by 20 to 30 Mbps,” said Burns.

More Than Just Saving Money

Iberville Bank, an ERF Wireless customer, saves \$7,000 to \$8,000 a month by eliminating the cost of connecting its branches with T1s. The system also eliminates another major cost for Iberville Bank: the \$70,000 it was being charged annually by couriers to deliver checks and other paper-based documents to processing centers.

And the Canopy wireless systems that ERF Wireless provides not only save the banks money, they also provide them with extra bandwidth that they can then use for other purposes.

Typical data throughputs over T1s, especially fractional T1s, can only provide connectivity of up to 1,536 Kilobits per second. This can't compare to the 14 Megabits-per-second speeds available with the Canopy links, said Larry Melsheimer, president of Iberville Bank.

To make use of this extra bandwidth, Iberville is considering installing security cameras in every bank branch that would allow police to see what is happening within the bank if a robbery were to take place. It is also in the process of using some of the bandwidth to support voice over Internet protocol (VoIP) communications among its branches.

“My customers are delighted because we can complete a transaction in seconds rather than minutes,” Melsheimer said. “My branch managers are pleased because this network will allow the bank to add new services such as voice over IP, document and item imaging at the branch level, video conferencing and a host of other new applications that improve efficiency and lower costs in our operations.”

ERF has worked with other banks to use the bandwidth for video conferencing, thus helping

its banking customers eliminate travel fees previously incurred for travel to training sessions. And ERF Wireless has also used excess capacity on one bank's network to offer broadband Internet communications to the bank's commercial customers. ERF manages the delivery of those services, meaning that “the bank doesn't have to do a thing, and they get a nice check every month,” Burns said.

Reliability in the Face of Disaster

Wireless systems provide one other big advantage compared to T1 lines – they are more reliable in disaster situations. Just ask the banks located in the area hit by Hurricanes Katrina and Rita, which got a wake-up call when it came to the dependability of their T1 networks.

When T1 telecom facilities fill with water, the T1 lines quit working. And it can take months to get the T1 service restored. In fact, at least one bank that was hit by Hurricane Katrina was still waiting for its T1 lines to get back in service nearly a year after the disaster. In contrast, monopole towers can withstand winds as high as 155 miles per hour – and, in the case that communications is lost from a tower, it can often be restored much faster than T1 lines.

That certainly was the case for the Jeff Davis Bank in Louisiana's Lake Charles area.

When Hurricane Rita smashed into the Texas-Louisiana border region just one month after Katrina caused devastation in New Orleans and other portions of the north-central Gulf Coast region, Brent Courrege saw first-hand the destructive force of a Category 3 hurricane and what it can do to disrupt local and regional commerce. Courrege, the chief operations officer at the Jeff Davis Bank, oversees operations for the bank's 16 locations across some 800 square miles, all of which are tied together by a wireless encrypted wireless broadband network that contains both Canopy and CryptoVue equipment.

“We lost about half the towers in the storm but the main network backbone and our operations center stayed up even during the most intense winds and rains,” he recalled. “We lost power

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at most of our locations. There were mandatory evacuations – all Lake Charles people were locked out. However, we got permission to go back in and within a day after the hurricane hit, we got busy and the affected branches were back up and running a week and a half later. In fact, we were up and back in business before most other banks – banks that had to wait for the local telephone company to restore their T1 connections.”

Courrege and his team used rented generators to power the branches and his Motorola-ERF Wireless network while they waited for the local electrical utility to restore service. Since the hurricane, the bank has replaced failed towers with ones designed to withstand a Category 4 storm. Generators now are permanently installed at key branch locations, while a supply of portable units are available for immediate deployment if needed.



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Combining Canopy and CryptoVue Equipment Offers Banks Unparalleled Network Security

Because they have to follow stringent Federal regulations on protecting consumer information, banks require an extremely high level of security. To meet these requirements, two key elements make up the communications networks that ERF Wireless delivers to its banking customers: Motorola’s Canopy wireless broadband technology and CryptoVue, a patent-pending proprietary data encryption system that builds on Canopy’s already encrypted radios to secure the banking network stem to stern.

Motorola’s Canopy platform provides built-in security with powerful, over-the-air DES (Data Encryption Standard) encryption. For special applications in which extra security precautions are prudent, the system is also available with AES (Advanced Encryption Standard) capabilities, which provide 128-bit encryption to ensure totally secure data delivery and exceptional reliability. With AES, it would take approximately 149 trillion years—that’s older than the earth itself—to crack a code.

When CryptoVue devices are installed along with the Canopy radios at each bank branch in the network, these devices employ biometrically-controlled 3-DES data encryption IPsec tunnels to encapsulate Layer 3 data LAN to LAN over the WAN network to each location.

The devices also have a packet-filtering firewall to block the propagation of any traffic on the WAN network from any device other than a CryptoVue. The devices route encrypted packets of traffic to other authenticated CryptoVues on the WAN between the branch LANs and multiple internal LAN subnets across the network.



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