



New Wireless Technology Connects Remote Utilities

Wireless Alternative to Wireline Data Networks

Industry: Utilities

Challenges:

- Industry deregulation
- Increased competition
- Shrinking margins
- Many widely dispersed sites

Requirements:

- Low recurring costs, pay only for data used
- Broad coverage
- Secure communications
- Small/Medium bandwidth, low latency

Solution:

Wireless access to remote sites/devices via **Digi Connect® WAN GSM/CDMA** routers.

Benefits:

- Broad coverage
- Lower monthly costs
- Real-time access to remote sites/devices
- Easier to install and maintain than wireline solutions
- Less infrastructure to maintain

As with many of today's industries, the utilities business is challenged from every angle to be increasingly productive and profitable. The very nature of managing remote equipment in many locations can be difficult and expensive, yet maximizing uptime while reducing costs is often a requirement. Fortunately, new wireless technologies are available today that can provide high reliability and secure TCP/IP connections to virtually all of your remote sites and devices, and may even be less expensive than traditional landlines.

By using new high speed wireless GSM and CDMA technologies, utilities companies can create a Wireless WAN (WWAN) connection to remote assets for real-time two-way communications to equipment such as RTUs, PLCs, meters, reclosures, etc. In addition, remote networks requiring a backup connection to existing landlines can utilize a wireless connection for failover, providing maximum uptime and peace of mind.

Requirements for Utilities:

- **Cost** is important because deregulation has increased competition and put additional strain on margins. Falling monthly recurring charges and low data usage plans are creating new significant cost benefits for wireless data over traditional landlines like Frame Relay.
- **Security** is critical and carrier networks are up to the challenge with the highest level of advanced encryption and authentication technologies.
- **Coverage** is a key component of utilities that typically have remote assets scattered over a broad geography. GSM and CDMA carriers provide excellent coverage in metro areas and widespread coverage in rural areas as well.

- **Bandwidth** needs to produce sufficient speed and capacity to do the job. Utilities applications typically require 9.6 to 14.4 Kbps for serial connections and 30 to 60 Kbps for Ethernet. New 2.5G and 3G networks provide speeds up to 800 Kbps (and higher) download and up to 400 Kbps upload.



Average Wireless Bandwidth (Speeds in Kbps)				
	GSM		CDMA	
	download	upload	download	upload
2.5G	70-130	20-60	50-70	50-70
3G	400-700 [†]	150-250 ^{††}	400-800	50-70* 300-400**

[†]Based on HSDPA

*Based on EvDO Rev 0

^{††}Based on HSUPA

** Based on EvDO Rev A

Why Wireless for a Landline Alternative?

1. Reduced Monthly Recurring Fees

- Only pay for data used, but "always-on" capable
- Very quick ROI

Cellular	Frame Relay	DSL/ISDN	Dial-Up
\$15-\$50*	\$125*	\$55/ \$100*	\$45*

*Estimated average costs based on low MB data plan

2. Infrastructure is already there!

- Amazing coverage with instant access to world-wide network
- Carriers maintain towers and uptime (not you!)
- Reliable and secure constant connection

3. Easy to setup/install

- No waiting for phone company to set up line
- Seamless migration with legacy devices
- Remote management/monitoring via **Digi Connectware® Manager**

4. It's Wireless!

- True network diversity—wires more vulnerable to nature and man
- Wires are more expensive to install

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Case Study: Florida Power & Light

Verticals:

- Oil/Gas
- Power Utilities
- Water/Wastewater

Applications:

- SCADA/Remote monitoring and control
- Automated Meter Reading (AMR)
- Energy management
- Remote diagnostics and troubleshooting

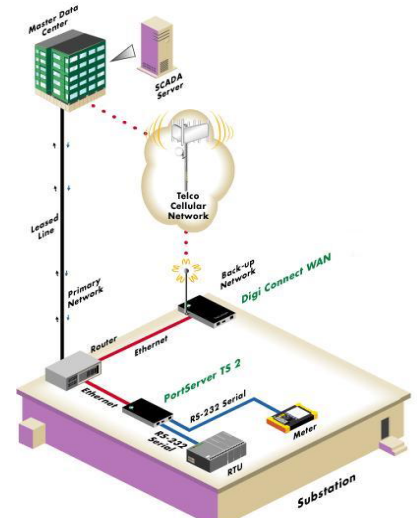
Why Digi?

- #1 in wireless device connectivity
- 5-year warranty
- Strong support and customer service
- **Digi Connectware® Manager** enterprise class remote device management software platform
- Strong relationships with carriers

Florida Power & Light (FP&L), one of the largest and fastest growing electric utilities companies in the U.S., had been using Cellular Digital Packet Data (CDPD) technology for its wireless network connection to remote sites and devices for years. When their wireless service provider announced plans to discontinue its CDPD service in favor of digital technology, they needed a reliable and affordable replacement. Digi offered FP&L a revolutionary solution to replace the CDPD technology with a high speed wireless data connection for both primary and backup connections to remote facilities.

Wireless Backup

At the substation, the **Digi Connect® WAN** interfaces with the customer's Cisco router via its Ethernet WAN port, providing a truly diverse backup network connection. When the primary wired line connection goes down, the Digi solution takes over, providing seamless failover for network data traffic. The Digi Connect WAN utilizes a 2.5G wireless data network, which provides potentially much faster data rates than a dedicated 56K connection. The product's unique **Digi SureLink™** technology offers an "always-on" connection that keeps the session alive without using expensive airtime, thus ensuring the connection will be available when the backhaul kicks in. FP&L now utilizes a data usage service plan offered by its wireless service provider; instead of paying up to \$30 per month per location for dedicated backup phone lines, they now only pay for the data transferred each month. This lowered the total cost of ownership of the backup system.



Alternative to Landline—Wireless Primary

FP&L also had critical assets in locations where other high speed network connections were unavailable or too expensive. Digi Connect WAN offers a cost-effective alternative to traditional landline network connections to equipment such as RTUs for power curtailment.

Digi Wireless Products



ConnectPort™ WAN VPN

- Upgradeable 3G platform with VPN
- 2 serial, 4 Ethernet
- Modules/Cards INSIDE box to prevent theft/damage
- Rugged external antenna connector options



Digi Connect® WAN

- 2.5G embedded WWAN router
- 1 serial, 1 Ethernet
- Industrial protocol support
- RealPort® for integration with legacy devices/applications
- VPN, sync and IA options
- Rugged external antenna connector options



Digi Connectware® Manager

- Enterprise class remote device management software
- Best in class
- Supports remote configuration, email/SNMP monitoring, diagnostics, asset tracking, DDNS integration

GSM Carrier Partners



CDMA Carrier Partners



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