

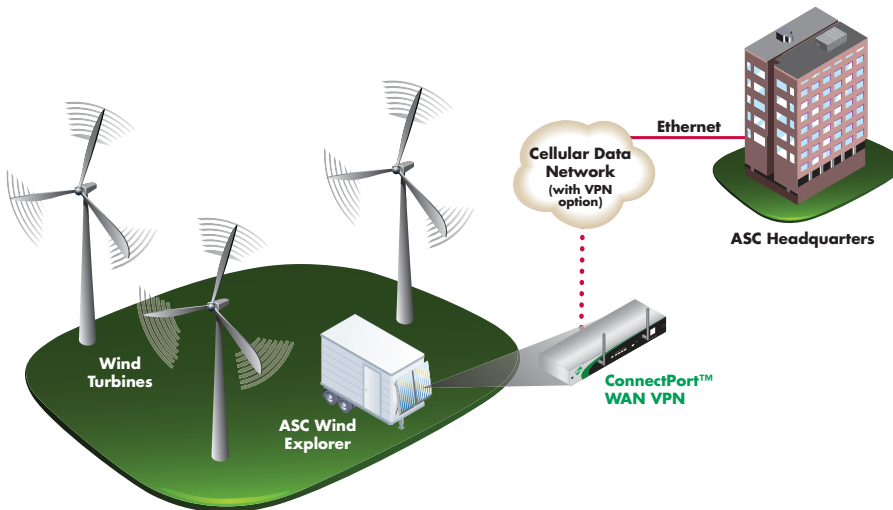
Digi Connects Remote Wind Energy Monitoring Systems

Background

Atmospheric Systems Corporation (ASC) manufactures surface based atmospheric remote sensing instruments and systems that measure atmospheric wind, turbulence, stability and other information. These instruments, called Doppler SoDAR systems, are “virtual wind measurement towers” that provide site-specific wind and turbulence measurements to land owners, developers and wind plant operators.

Wind turbines and potential locations for wind power production are often found in limited access areas such as mountainous areas, ridgelines, desert regions or sparsely inhabited open areas without local power or communications networks. To overcome these limitations, ASC equipped its SoDAR systems with ConnectPort™ WAN VPNs, 3G cellular routers that provide secure high-speed connectivity to remote sites. The ConnectPort WAN VPN enables remote monitoring, remote diagnostics and remote transfer of collected data sets for its SoDAR systems. Without this remote connectivity solution, the SoDAR data sets can only be collected via monthly on-site visits.

The ConnectPort WAN enables many of the SoDAR diagnostic functions to be available remotely, so ASC customers can better prepare for on-site maintenance. Also, the ASC SoDAR systems (including the ConnectPort WAN VPN) are battery powered, and the batteries are charged with solar panels or generators as needed. Other reasons ASC chose Digi’s ConnectPort WAN VPN include its worldwide availability; seamless access to a local network consisting of the SoDAR computer and the customer computer without the requirement of using fixed IP connections with crossover cables; the ability to easily connect other IP devices such as data loggers and cameras; and the RealPort® serial connection that enables the router to



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- Ken Underwood, CEO, ASC

Application Summary

Application:

Measuring and collecting atmospheric data

Industry:

Wind energy

Company:

Atmospheric Systems Corporation

Challenge:

ASC needed to enable Doppler SoDAR systems with remote monitoring, remote diagnostics and remote data transfer of wind and turbulence profiles.

Solution:

ConnectPort WAN VPN 3G cellular routers provide secure high-speed connectivity to SoDAR systems at remote sites. Their remote diagnostics functionality eliminates costly on-site visits.



provide complete access to the SoDAR computer console port.

“Our customers need to be able to monitor, modify the operating configuration and diagnose their equipment remotely,” said Ken Underwood, CEO, ASC. “Otherwise, someone may be required to visit the field site as frequently as every two weeks depending upon the time requirements of the particular project. Assuming that a field site trip requires airfare, hotel and two days labor, that’s at least \$1,400 per trip. The Digi router enables us to minimize the site visits. This can save us between \$5,000 and \$15,000 per project, per year.”

ConnectPort WAN Enables Connectivity in Remote Locations

Unlike other competitive solutions, the Digi router features DynDNS and other state-of-the-art routing features (e.g., LAN support), making it ideal for facilitating duplex communications.

“The ConnectPort WAN VPN provides all of the features we need,” Underwood said. “It manages the changing of IP addresses to make everything much easier. We tried other solutions, including hooking up a modem and a separate router, which turned out to be a nightmare.”

ConnectPort WAN VPNs connect ASC’s remote equipment via 3G cellular connections at more than 80 percent of ASC’s customer sites. ASC can record real-time information and recover locally stored data sets and diagnostics.

“Now we can look at systems any day, from anywhere,” Underwood added. “We can review operations in Europe, China and the U.S. When customers or representatives call up with questions, we can get into the system immediately and answer them. Data in wind energy is like gold. Monitoring daily is important to many customers.”

The routers also allow ASC to implement an automatic diagnostic feature that sends daily emails, which reduces the cost and time associated with system maintenance.

“The diagnostic messages are important,” Underwood said. “We don’t have to check on the systems. Some of our systems are in extremely remote locations. We now get updates from the system if something has gone wrong and needs repair, or if it needs some general scheduled maintenance. Our customers can limit their field trip to only those required times. This allows us to deploy and manage valuable resources and personnel as needed rather than in a scheduled mode.”

Easy to Deploy

ASC also finds the ConnectPort WAN VPNs easy to set up and configure, and Digi technical support outstanding. This technical support is available both domestically and internationally.

“Depending on the carrier, setting up a ConnectPort WAN VPN can be a five-minute job,” Underwood concluded. “The interface for the Digi product is clear and easy to follow. Since working with Digi, we have been very impressed with their technical support and willingness to work with us and the carriers.”



More about ConnectPort WAN VPN

The ConnectPort WAN VPN is an enterprise-class 3G high speed flexible-function cellular router that provides secure wireless connectivity to remote sites and devices. It can be used for primary wireless broadband network connectivity to equipment at remote locations, as well as for a backup to existing landline communications. Integrated IPsec VPN support ensures true end-to-end data protection.

Key Features:

- High-speed 3G primary or backup network connectivity
- Integrated VPN support
- Ethernet, serial and USB ports
- Wi-Fi and GPS options
- Easily replaceable cellular modules or PCM/CIA Cards

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