

Application Brief: Power and Device Management at Remote Telecom Sites

Venezuelan national telephone company centralizes power, device, and alarm data to reduce energy use, decrease incident response time, and improve service quality.

Challenges

The national telephone company of Venezuela, Compañía Anónima Teléfonos de Venezuela (CANTV), provides all landline and mobile telephone service, Internet access, and data transport for a country of more than 28 million people. Fulfilling this mission and meeting the growing voice and data use of a large population requires CANTV to maintain and expand a nationwide communications infrastructure of hundreds of communication towers, telephone exchanges, data centers, and other facilities.

Each of these facilities contains multiple subsystems needed for its operation. For example, a communication tower site includes tower aviation beacons, generators, and fire and intrusion alarms, while a data center includes network switches, servers, air conditioning systems, and backup power supplies. Many facilities also include power analyzers to record energy consumption and to monitor voltage and other characteristics of the electricity supplied to that location.

CANTV faced the significant challenge of collecting this variety of subsystem data from all facilities, transmitting the data to its network operations center (NOC) in Caracas, and then integrating that data into its network management system (NMS). These tasks had to occur as rapidly and reliably as possible. For example, if a power failure occurred at a communications tower site and the generator didn't start, it was critical that this information be received and acted upon immediately so repair personnel could be dispatched to the site before backup batteries ran out.

Solutions

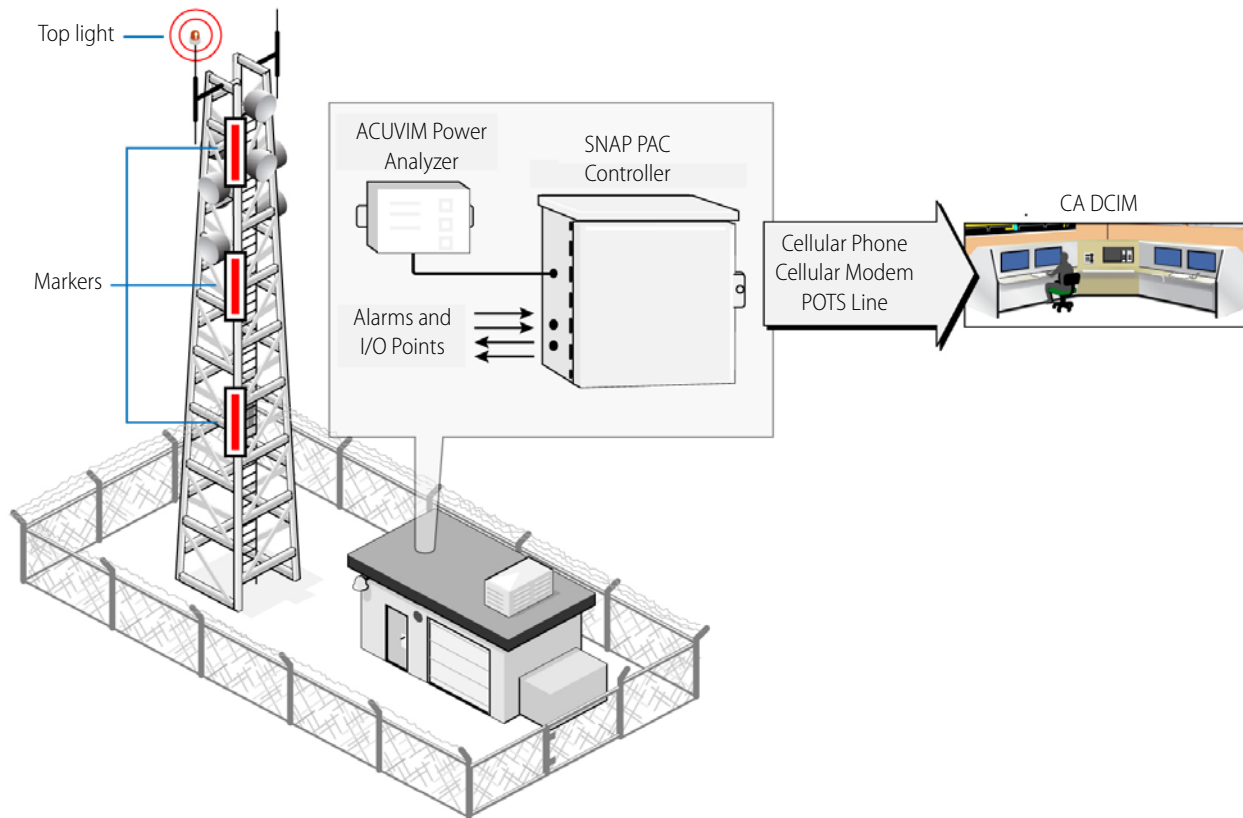
CANTV met this challenge by installing at each remote facility a packaged system of Opto 22 SNAP PAC hardware developed by Florida-based Opto 22 distributor Optimize, Inc. Each system includes a SNAP PAC controller, SNAP I/O modules for receiving digital,



analog, and serial signals, plus power supplies, fusing, and electrical connectors. Status, alarm, and other messages from the facility's subsystems are received by the system and then forwarded over available telephone, Internet, satellite, or other communications links to the NOC in Caracas.

Results

Being able to access remote facilities and integrate subsystem data into its NMS gives CANTV several advantages. First, the company can respond rapidly to alarms and incidents. Second, its ability to analyze historical data from subsystems has made predictive maintenance—identifying and fixing a problem before it occurs—a reality. And third, the company can accurately track energy consumption and the reliability of the power provided by energy suppliers for each site.



CANTV, the national telephone company of Venezuela, installed a packaged solution using Opto 22's SNAP PAC system to monitor and manage hundreds of remote telecom sites.

About Optomize

Located in Miami, Florida, Optomize is Opto 22's International Distributor for Venezuela, Ecuador, the Caribbean, and Central American markets. Optomize has over 20 years of experience with implementing Opto 22 products in successful applications in the Industrial and Telecom fields. For more information, contact Optomize at +1-954-349-1616 or visit www.optomizeonline.com.

About Opto 22

Opto 22 develops and manufactures hardware and software for applications involving industrial automation and control, energy management, remote monitoring, and data acquisition. Opto 22 products use standard, commercially available networking and computer technologies and have an established reputation worldwide for ease-of-use, innovation, quality, and reliability. Opto 22 products are used by automation end users, OEMs, and information technology and operations personnel in over 10,000 installations worldwide. The company was founded in 1974 and is privately held in Temecula, California, USA. Opto 22 products are available through a global network of distributors and system integrators. For more information, contact Opto 22 headquarters at +1-951-695-3000 or visit www.opto22.com.