



**Solution:** NetCloud Service for Mobile ■ **Industry:** Energy & Utilities ■ **Use Case:** In-Vehicle

# Reliable Connectivity in Oil Fields Allows GR Energy Services to Access Real-Time Data

## Company Streamlines Operations With Remote Management, Dual-Modem LTE Flexibility & Mobile SD-WAN Services



**“Using SD-WAN technology in our vehicles adds automation and traffic steering capabilities that are based on preset policies instead of on our own time and resources.”**

**Elias Santiago,**  
IT Director, GR Energy Services

### Summary

GR Energy Services had been expanding the reach of its oilfield measurement equipment aboard wireline trucks throughout the United States, but one missing component was greatly hindering operational efficiency: network connectivity and the ability to securely access real-time data remotely.

Implementing Cradlepoint’s NetCloud Service for mobile — delivered through an in-vehicle SD-WAN router with embedded LTE and dual modems — in each vehicle gave GR the always-on connectivity, comprehensive security, and cloud management tools it needed to increase efficiencies and reduce money spent on network appliances, data plans, and IT and engineer man-hours.

## Customer Profile

GR Energy Services — headquartered in Sugar Land, Texas — is a completion and production solutions company that helps oil and gas companies safely deliver more profitable wells through unique proprietary equipment and services. The organization has grown rapidly.

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“The edge that we have is being able to make changes in the oil fields, on the fly,” said Elias Santiago, information technology director at GR Energy Services.

## Organizational Needs

On GR’s wireline trucks, highly specialized equipment measures and monitors a variety of conditions inside oil wells. In the past, these systems did not include Internet connectivity, which proved problematic when equipment failure would arise. The field engineer on location would have to call the senior technical engineer, who lacked access to real-time metrics, and the two would talk through the problems over the phone. If unable to address the challenge, the senior technical engineer would have to drive — at times seven or eight hours — to the well for in-person inspection.

With efficiency in mind — and with a new real-time, on-site invoicing process on the horizon — GR began connecting its vehicles to the Internet and to the company network. However, that decision presented a new set of challenges.

Perhaps the biggest issue was the remoteness of many of the oil well locations, especially in western and southwestern Texas. Cellular connectivity was a must, but it had to be flexible enough to support multiple carriers.

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“Usually these wells are way out in the middle of nowhere. In those areas, connectivity is spotty at best. So, we asked ourselves, ‘How do we get consistent connectivity?’” Santiago said.



GR tried hotspots, but they lacked the security, flexibility, and control the company sought. One clear need was the ability to easily set up secure VPNs and implement vulnerability management technologies.

The organization also wanted to prevent employees from running up huge cellular data charges with high-bandwidth video streaming on sites such as Netflix and Hulu.

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“As we started tacking on all of these requirements, most solutions weren’t going to meet all of our needs,” Santiago said.

## Solution

To address its multifaceted connectivity, security, and network management needs, GR deployed Cradlepoint’s NetCloud Service for mobile in all of its line trucks. This service includes routing, in-vehicle SD-WAN, GPS and telematics integration, WiFi-as-WAN, content filtering, and cloud configuration and troubleshooting, all delivered via a dual-modem LTE router with 24x7 support and a limited lifetime warranty.

“The connectivity really provides a foundation, then we can provide other tools atop that technology,” Santiago said.

Cradlepoint’s purpose-built in-vehicle solution provides Unified Threat Management (UTM), multi-zone firewall, web content filtering, and Intrusion Prevention and Detection Systems (IPS/IDS) through TrendMicro.

## Benefits

### Reliable Connectivity & Wireless-To-Wireless Failover

GR uses Cradlepoint’s high-performance LTE routers with dual-modem functionality, facilitating automatic and instant cellular-to-cellular failover whenever one carrier’s coverage drops off.

GR also leverages load balancing for additional bandwidth from the secondary carrier whenever necessary.

“Having multiple carriers supported through one device gives us the flexibility to keep our trucks connected all the time – even in the middle of nowhere,” Santiago said.

### Network Traffic Steering with Mobile SD-WAN

Cradlepoint’s SD-WAN functionality is built into NetCloud, optimizing primary and hybrid LTE connections. Smart WAN Selection intelligently monitors primary WAN link performance and provides smart, automated failover to the secondary modem when the connection degrades based on preset metrics for latency, jitter, signal strength, and data usage.

“Using SD-WAN technology in our vehicles adds automation and traffic steering capabilities that are based on preset policies instead of on our own time and resources,” Santiago said.

### Remote Access To Real-Time Data

Without reliable online access to real-time data, one of GR’s senior technical engineers had been driving significant distances to well sites for service calls. With always-on connectivity, GR avoids such trips to the field, saving significant time and money.

Constant uptime also enables senior technical engineers to train and monitor junior engineers remotely instead of in person.



**Our senior technical engineers can provide troubleshooting and training from headquarters, at home, or anywhere else.”**

**Elias Santiago,**  
IT Director, GR Energy Services

### Reduced Data Consumption with WiFi-As-WAN

GR uses Cradlepoint’s WiFi-as-WAN functionality to reduce cellular data consumption by prioritizing WiFi over LTE anytime a truck is at headquarters. With Cradlepoint’s in-vehicle routers, which feature dual radios (2.4 GHz and 5 GHz), vehicles automatically switch to WiFi-as-WAN when they return home, then back to cellular connectivity once they leave.

## Cloud-Based Network Management

NetCloud collapses all of GR's network management duties for widely distributed trucks into a single pane of glass. WAN access can be monitored and managed easily from anywhere, and firmware updates, security updates, and custom apps can be pushed out to every vehicle instantly and simultaneously.

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“Our application engineers love NetCloud. All configurations are loaded into the platform and managed online. We love the ability to make changes across the fleet without having to touch dozens of vehicles,” Santiago said.

## Data Security & Web Content Filtering

With a built-in stateful firewall, CP Secure Web Filter, CP Secure Threat Management for IPS/IDS, and a constant VPN tunnel back to its data center, GR has the information security it needs without the cost of additional hardware.

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“The ability to block unwanted website usage and protect our employees and network from malicious sites has been extremely valuable,” Santiago said.



Learn more at [cradlepoint.com](https://www.cradlepoint.com)