



**Solution:** NetCloud Service for IoT ■ **Industry:** Agriculture ■ **Use Case:** Remote Monitoring

# Company Steers Cattle Health IoT Data to Cloud Dashboard Through Advanced LTE

## Quantified Ag Uses Cradlepoint’s NetCloud Service to Connect and Protect Real-Time Analytics for Feedlots



Reliable and high-performance LTE allows us to gather and analyze our IoT information every day, which gives feedlots access to accurate, real-time data that helps them care for their animals.”

Alex Heine, Director of Customer Experience, Quantified Ag

### Success Story Highlights

**Challenge** — Quantified Ag delivers cattle health IoT data to feedlots via a cloud dashboard, which helps managers protect livestock health and save valuable resources. However, inconsistent, unmanageable wired broadband options were making it difficult to keep customers connected to their bovine IoT data 24x7.

**Solution** — On feedlots across the U.S., the company deployed Cradlepoint’s NetCloud Service for IoT — which includes extensive cloud functionality, comprehensive security features, and a COR Series router — to keep cattle data connected via cellular links and protected from potential security threats.

**Benefits** — Cloud-managed, high-performance LTE connectivity — provided via one nationwide carrier — across its entire IoT footprint enables Quantified Ag to cost-effectively deliver industry-changing analytics to its agriculture customers.

## Challenges

Quantified Ag's animal health web platform serves dozens of cattle companies across the U.S. This cloud tool gathers and pushes cattle behavior and biometrics data to feedlot managers via a dashboard, which helps them identify sick or dying animals that require medical care. They can view analytics reports from anywhere — whether they're on-site, traveling, or visiting headquarters.

Quantified Ag's IoT system for agriculture customers relies on high-tech ear tags worn by cattle. These devices gather valuable information that are sent via LoRa WAN to custom-designed computers that aggregate all of it at the feedlot location.

The end goal is to make this data available in the cloud, where Quantified Ag's web platform presents feedlot managers with the data they need to prevent diseases from spreading, improve the speed and effectiveness of treatment, and ultimately improve cattle management.

Quantified Ag's main challenge is keeping livestock companies connected to their IoT data 24x7.

**Unreliable or Unavailable Wired Connectivity** — When the wired Internet connection fails or loses efficacy, which is common in rural locations, the livestock health information that customers receive from Quantified Ag's web platform is inaccurate.

“If the Internet connection isn't reliable, the data can't reach the cloud and our customers won't know the health and well-being of their animals,” said Alex Heine, director of customer experience for Quantified Ag.

Sometimes wired connectivity isn't even an option — especially when feedlots don't permit third parties onto their network.

**Complexity of Deployment and ISP Management** — As the company began extending its services across the U.S., working with a different regionally based Internet service provider (ISP) at every feedlot became far too time-consuming and complex. Dealing with each provider to open ports, set up a static IP address, and even keep settings up to date proved much too difficult.

“With the time and management challenges of wired ISPs, it became clear that LTE was the only WAN source that would allow us to scale our business,” Heine said.

**Difficulty Troubleshooting On-Site Network Problems** —

Quantified Ag's small, centrally located team must deal with any hardware and network connectivity issues throughout widespread IoT footprint. When a problem with their system arises, sending a third-party truck roll or specialist from headquarters would take too long and be cost-prohibitive.



### About Quantified Ag

Quantified Ag is part of the Nebraska Innovation Campus, a program that facilitates in-depth partnerships between the University of Nebraska and private sector businesses.

## Solution

Quantified Ag chose Cradlepoint's NetCloud Service for IoT for constant connectivity, enabling its customers to remotely monitor cattle health on feedlots all over the U.S.

The NetCloud Service includes edge computing, SD-Perimeter technology for device-to-cloud security, and cloud configuration and troubleshooting, all delivered via an IoT router with embedded LTE, 24x7 support, and a limited lifetime warranty.

## Benefits

### Reliable Connectivity for Actionable IoT Analytics

Cradlepoint's NetCloud Service allows Quantified Ag to get its IoT system set up and connected to the cloud via enterprise cellular, regardless of whether the feedlot offers wired options.

"Reliable and high-performance LTE allows us to gather and analyze our IoT information every day, which gives feedlots access to accurate, real-time data that helps them care for their animals," Heine said.

### Easy Deployment for Instant Connectivity

Quantified Ag deploys Cradlepoint's service — including purpose-built hardware — with zero-touch deployment enabled by easy group configurations through a single-pane-of-glass experience.

"Deploying Cradlepoint's NetCloud Service has been incredibly painless. It's a plug-and-play experience at each feedlot," Heine said.

### One Nationwide Internet Provider Across Entire IoT Footprint

Quantified Ag uses one network operator for LTE availability virtually everywhere, which has alleviated its ISP-related headaches.

"The challenges associated with managing wired ISPs were a huge pain point for us. Cradlepoint's ability to leverage advanced cellular connectivity for our widely distributed IoT devices solved this problem," Heine said.

### Remote Network Management for Fast, Simplified Troubleshooting

Quantified Ag remotely views signal strength and other network indicators at all of its IoT locations via Cradlepoint's single-pane-of-glass platform, and the company receives an emailed alert if there's a network outage.



**Cradlepoint NetCloud makes it very, very easy for us to manage all of our IoT connections from one place, which saves us a lot of time and money,"**

**Alex Heine,**  
Director of Customer Experience, Quantified Ag

When a problem is detected, the IT team uses NetCloud Manager to determine whether the issue is related to the LTE link or the router. Once they rule those out, they know to focus their attention elsewhere.

"Remote visibility into the status of our cellular connectivity helps speed up the whole process of troubleshooting. It's definitely a huge advantage for business operations and cost-effectiveness," Heine said.



### Separate Network with All-in-One IoT Security

With Cradlepoint's all-in-one routers featuring a built-in firewall, Quantified Ag can protect its network from the threat of hackers attacking their IoT data. Also, the company has the option to leverage NetCloud's SD-Perimeter technology to isolate and hide traffic on a private overlay network.

These IoT networks are completely separate from each host site's WAN, which simplifies Quantified Ag's network management duties and puts the feedlots more at ease.

### Convergence of IoT Data and WAN Analytics Into a Single Dashboard

With Cradlepoint's open API and Router SDK at its fingertips, Quantified Ag can easily unite its robust cattle health IoT data and Cradlepoint's extensive LTE network analytics into a single custom dashboard. It's a convenient option that the company is considering. A custom script can be pushed to every router in the field with one click in NetCloud Manager.

[Learn more at \*\*cradlepoint.com/iot-networks\*\*](https://www.cradlepoint.com/iot-networks)