

CASE STUDY

# WAVE Rural Connect partners with Infoblox to extend reliable high-speed Broadband to underserved residents in Arkansas and Oklahoma



## SUMMARY – BRINGING DIGITAL BROADBAND TO THE RURAL WEST SOUTH CENTRAL UNITED STATES

WAVE Rural Connect, founded in 2018 by the Arkansas Valley Electric Cooperative Corporation (AVECC), is a small ISP delivering high-speed home broadband connectivity services to over 7,100 rural customers in Arkansas and Oklahoma.

WAVE was created to fill the critical need of rural communities underserved by large communications companies averse to serving less populated areas. With only a small staff and limited resources, WAVE required high-performance network resources in place—especially at the DNS layer—in order to deliver on its service mandate. The organization’s IT decision makers selected an Infoblox NIOS DDI solution because it enabled them to build and deploy an MPLS network on virtual appliances all controlled through Infoblox Grid.

The Infoblox solution delivers the reliability, redundancy and “set it and forget it” manageability WAVE needed to affordably deliver its fixed-rate service plans to cover AVECC’s sparsely dispersed electrical users. Its service was game-changing for rural customers. WAVE was able to increase bandwidth from 10GB to 100GB, providing fast, reliable service for agricultural workers, work-from-home employees and students engaged in online learning. The Infoblox-powered network was solid, resilient and scalable, and it broadened the horizons of rural users with reliable high-speed services previously unavailable.

## THE CHALLENGE

### Vast geography, sparse population

AVECC was founded in 1937 to ensure that rural communities would have electricity to support sustainable development and the quality of life found in urban areas. As electricity was in the 1930s, high-speed Internet access is now. Large, top tier Internet communications companies are often financially averse to extend service to less populated rural communities, so the need for reliable

**Customer:** WAVE Rural Connect  
**Industry:** Internet Service Provisioning  
**Location:** Ozark, Arkansas

### INITIATIVES:

- Build and deploy a new, affordable MPLS high-availability network infrastructure.
- Support 10GB to 100GB broadband for up to 30,000 electrical users.
- Provide high ease of use while ensuring network uptime, reliability and redundancy

### OUTCOMES:

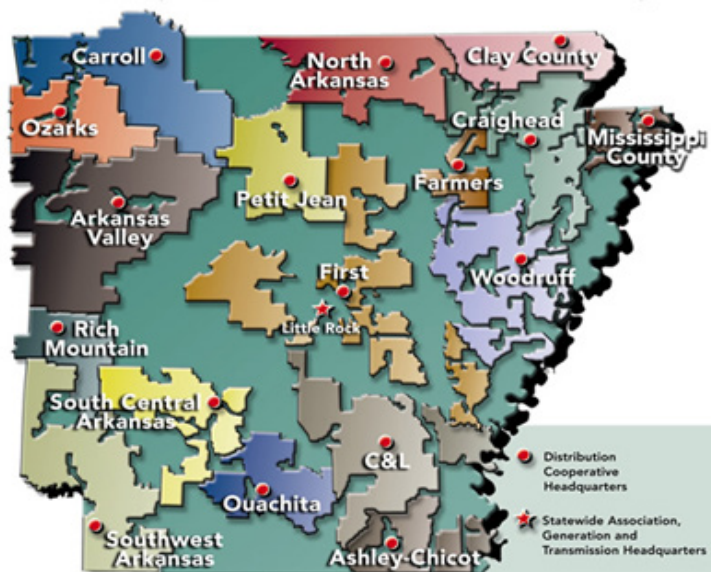
- Affordable, reliable and sustainable high-speed home broadband for agriculture, rural home workers and online learners
- Redundant and resilient infrastructure with off-site backups for service continuity
- DDI that’s quick and easy to deploy, use and maintain by a small IT staff
- Unified, real-time visibility into DDI data, reporting and network analytics
- Increase in bandwidth from 10GB to 100GB for rural users

connectivity through ruralized ISPs is great. Today, high-speed broadband powers agricultural businesses, enables work-from-home employees and equips students of all ages to further education at home through online learning. In response, the Federal Communications Commission launched the Connect America Fund to help extend broadband to remote locations. Taking advantage of these newly available resources, AVECC advanced its founding vision by approving a five-phase, system-wide fiber build-out. In 2018 it created WAVE Rural Connect to deliver high-speed Internet to its coverage area where service was previously unavailable.

#### **SOLUTIONS:**

- Infoblox NIOS DDI
- Infoblox Grid
- Reporting and Analytics

#### **Electric Cooperatives of Arkansas Service Area Map**

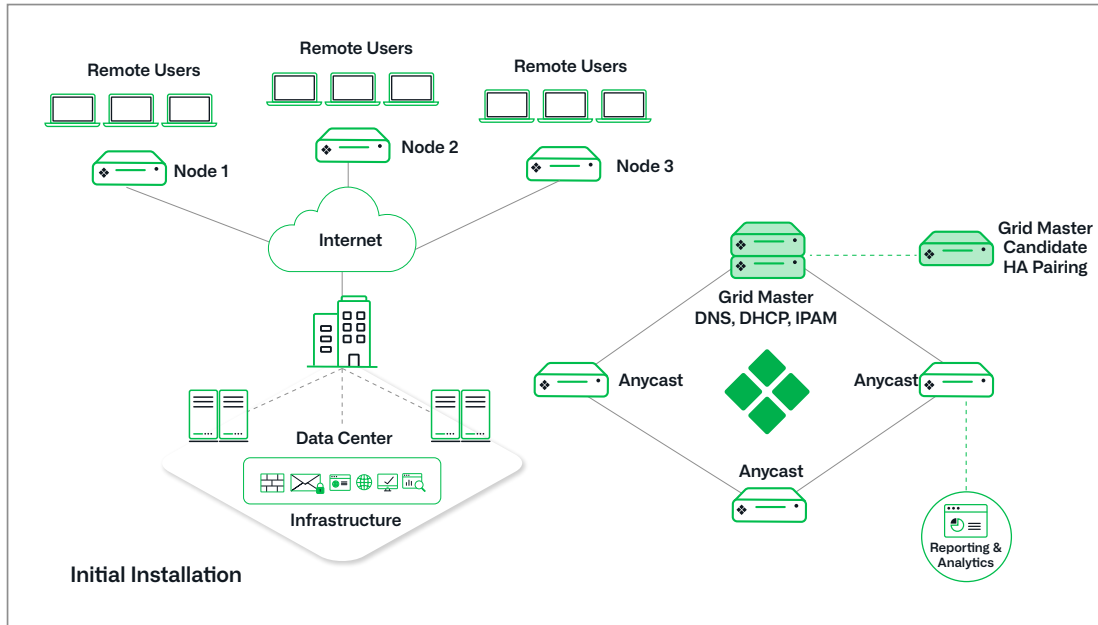


WAVE prioritized its requirements and researched the market for a core network services provider on which to build its platform. It had to cover more than 6,600 miles of distribution lines and 36 electrical substations to reach its 60,000 members. DNS reliability, uptime and resiliency were absolutely critical because service failures adversely impact not only customers but ISP business as well. Off-site network redundancy was necessary to ensure service availability. Further, with a very limited IT support team, fast “set and forget” deployment, ease of use, minimal maintenance and excellent technical vendor support were also essential.

## **THE SOLUTION**

### **High-performance networking technology from Infoblox**

Based on its reputation for reliability and two decades of DNS industry leadership, Infoblox was WAVE’s selection to help design and deploy a high-availability (HA) MPLS architecture. WAVE installed Infoblox NIOS DDI (DNS, DHCP and IPAM) across four virtual Next-Level Trinzic 1415s and 825s devices, all managed through Infoblox Grid and Anycast for high availability, network addressing and routing. The IT team also configured a three-node cluster to deliver service through remote power substations and electrical huts. WAVE ensured redundancy through off-site backups. It also deployed Reporting and Analytics for network visibility through dashboards, customizable pre-built reports and predictive analytics.



Infoblox Grid is the platform for managing Anycast and Trinetic appliances for high availability, network addressing and routing.

## THE RESULTS

### Powerful, reliable Broadband for AVECC customers

In the first two years, WAVE delivered reliable home broadband service to over 7,100 customers with virtually no service interruptions. Looking forward, its goal is to reach 10,000 users by the end of year four and ultimately 30,000 users, or half of its installed electrical accounts overall. According to Jake Witten, WAVE network engineer, “Infoblox is rock solid and just works. It’s a quick service restart to add networks and IPs, and easy to use and maintain. There have been few if any issues, which is important for a small IT staff like ours.”

WAVE looked to Infoblox to help deliver affordable, reliable and sustainable high-speed home broadband for the agriculture community, rural home workers and online learners. It provided redundant and resilient infrastructure with off-site backups for service continuity. Infoblox was quick and easy to deploy, use and maintain by a small IT staff. It enabled unified, real-time visibility into DDI data, reporting and network analytics. Most importantly, it increased bandwidth from 10GB to 100GB to broaden new horizons for rural users, businesses and communities today and for the future.



Infoblox unites networking and security to deliver unmatched performance and protection. Trusted by Fortune 100 companies and emerging innovators, we provide real-time visibility and control over who and what connects to your network, so your organization runs faster and stops threats earlier.

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