



## Case Study

# Amplex Expands Rural Broadband Access with netElastic vBNG

Amplex Internet was founded when one of the owners moved to a town in Ohio and realized no internet service was available. Since then, Amplex has grown by successfully bringing broadband access to underserved communities, enriching the lives of residents.

As a wireless and fiber provider with many remote sites, Amplex has a complex network topology where equipment costs are a significant factor. As a result, Amplex began looking for cost-effective networking solutions to facilitate its growth while providing an excellent customer experience.

### Meeting the Challenges of Growth

When Amplex began evaluating new vendors, they wanted to solve specific challenges. In particular, Amplex's current routers had packet loss problems and didn't fully support IPv6.

After comparing many alternatives, Amplex chose netElastic's [virtual Broadband Network Gateway](#) (vBNG). According to Mark Radabaugh, President of Amplex, "A BNG works on any delivery method (such as fiber and wireless) and is offered by several vendors, including Cisco and Juniper. We were looking for a lower-cost alternative to our current vendors. netElastic vBNG is much less expensive and works very well."

Mark Radabaugh continued, "netElastic vBNG has been very stable and has a far better ability to handle transient events than competing solutions. Its ability to get all customers back online and authenticated very quickly is far ahead of the competition."



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Amplex was also looking to use DHCP Option 82 to identify individual clients, which netElastic fully supports. Amplex's Mark Radabaugh commented, "All you set at the radio is DHCP insertion - all the major manufacturers support it. The client can connect any router they like, and it will get a DHCP lease. All you have to track is the MAC address of the radio and what service plan the customer is supposed to use."

Mark Radabaugh continued, "The netElastic vBNG / DHCP server detects the incoming DHCP request from the customer router, looks up the MAC address, and determines the service plans. It then implements IP assignment, etc., returns it to the customer router, and creates the gateway between the customer and the vBNG to deliver traffic."



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## A Single vBNG for a Multi-Vendor Network

netElastic vBNG also helped Amplex support IPv6. Amplex's Mark Radabaugh stated, "netElastic vBNG can hand out public IPs, CGNAT IPs, and IPv6 addresses. It's a very flexible system that doesn't care what the delivery mechanism or vendor is. We deliver services to customer with the Cambium PMP 450, Adtran, Calix, Nokia, Juniper, Ciena, and other devices. It's all set up the same way - Option 82 and netElastic vBNG."

Amplex is capitalizing on the growing demand for internet services in rural areas by continuously expanding to new service areas. As part of Amplex's growth strategy, they depend on netElastic vBNG to reach new subscribers cost-effectively while delivering an outstanding customer experience.

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