

# Advanced Services Require a High Performance HFC Network



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**It's an incredibly exciting and amazing time to be a technology partner in the broadband industry. Cable operators are continuing to harden their networks via strategic investments to upgrade and enhance HFC plant design, infrastructure and operations to support growing business services and expanded quad-play offerings. This investment has now opened the door to an even greater array of new, incremental revenue-generating services. These plant hardening efforts are evolving the traditional HFC plant into a high performance network — a modern network capable of supporting a growing line-up of next-generation services.**

**T**hese next-generation services further enable operators to expand their business model by leveraging deployed assets to compete or partner in providing services that were formerly offered exclusively by other carriers. Today, mobile small cell densification, public / community Wi-Fi, Internet of Things (IoT) networks, security and surveillance offerings, as well as greatly enhanced, interactive video and exploding data services, are all part of the next generation cable industry business model. Dozens of pilot programs, trials and early-stage rollouts confirm that these advanced services can be provided via a high performance HFC network.

The broadband industry, largely due to the high capacity and ubiquitous footprint of its HFC plant, has emerged as the front runner for delivering this increasingly diverse group of services. The modern, high performance HFC network is the most cost effective means to provide these next generation services due to three unique benefits:

## Network Real Estate

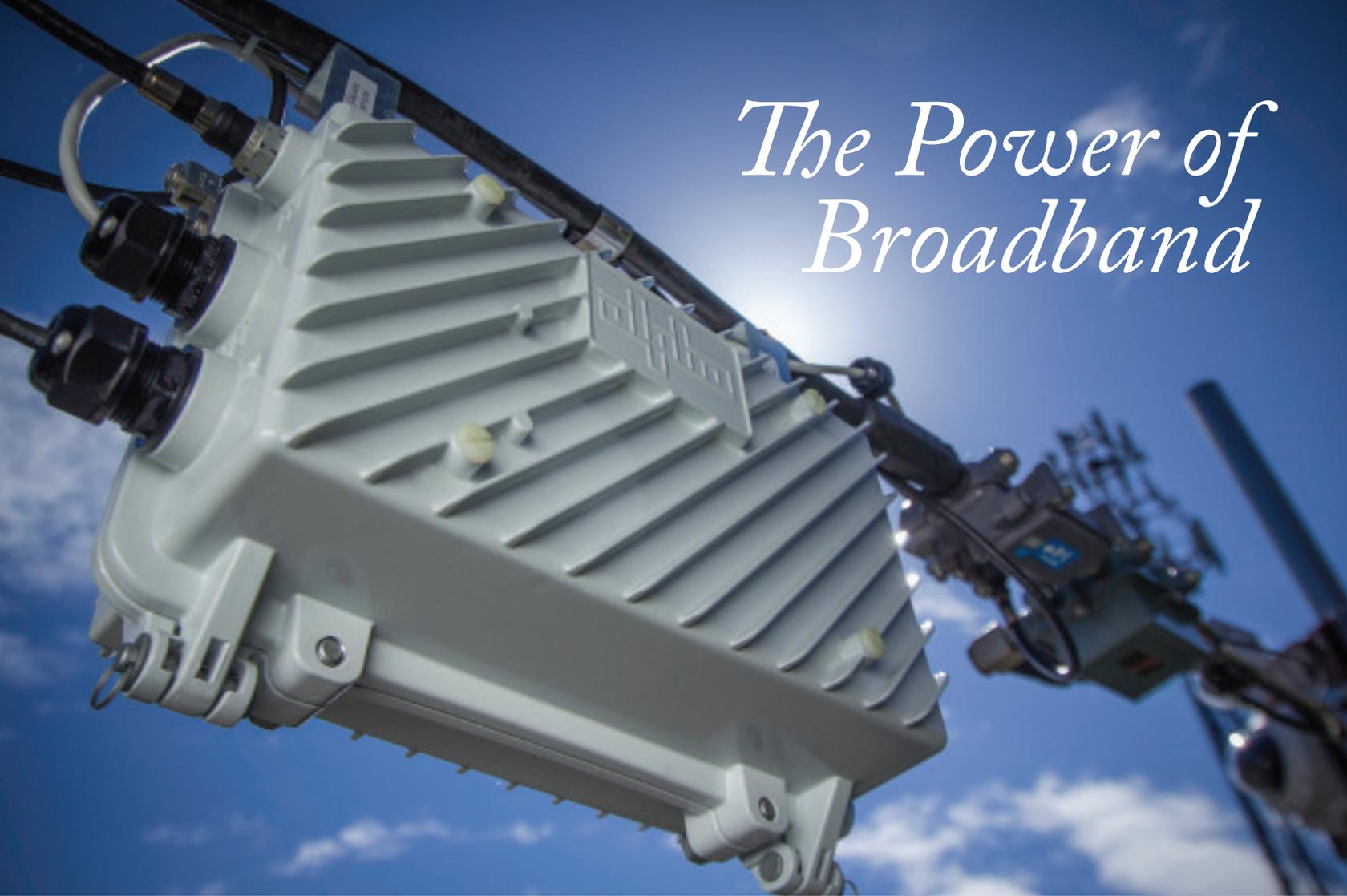
Additional services often require additional network devices. Available, established tangible locations (network real estate) is needed to accommodate and locate the additional network hardware that enables these advanced services to be offered. Often this necessary hardware can be integrated or combined with existing HFC network fixtures and bypass the cumbersome, expensive and time-consuming easement and permitting process otherwise required. Strand-

mounted devices allow installation locations nearly anywhere along the network's path and other devices can be co-located with existing network hardware including power supply enclosures and network access gateways. Additionally, pole and ground mount cabinets and enclosures can be leveraged for deploying deeper access technologies. This unique advantage provides both strategic locating options (especially advantageous for small cell, Wi-Fi, IoT, security and surveillance services) as well as a greatly simplified and streamlined deployment process.

## Access Network Power

The modern HFC plant also incorporates an integrated, highly reliable broadband power conditioning and distribution network independent of the utility grid that most often includes critical backup power in the event of a utility power disturbance or outage. The overall network, as well as the additional hardware required to deliver incremental services, requires electrical power to operate and today's optimally hardened and advanced HFC design incorporates this vital function already. If there is interruption in electrical power, the network will simply no longer deliver service, so this emphasis on ensuring clean, reliable, uninterrupted power is a necessary and highly advantageous feature of the modern HFC design. In comparison, a fiber-only network has no cost-effective ability to carry or deliver electrical power. This benefit is critically important in delivering an ever-increasing mix of next generation services.

# The Power of Broadband



## Backhaul Capacity

An inherent characteristic of the modern HFC plant is its capacity to backhaul large amounts of data via coax and fiber. As a result, the network can also carry and deliver information collected by devices added along the network. Security cameras, IoT devices, Wi-Fi hotspots and small cell radios can be deployed anywhere along the HFC plant to take advantage of the network real estate and electrical power access benefits already mentioned. Additionally, newly developed network access devices make use of the HFC network's unique backhaul capability. Alpha's award-winning line of hardened OSP gateway devices, known as AlphaGateways, allow access to the HFC plant enabling operators to leverage all three of their network's unique advantages.

These three unique HFC plant characteristics of the next generation network are ideal for deploying new revenue generation services such as small

cell, Wi-Fi, IoT, security and surveillance in an increasingly competitive business climate. Alpha Technologies remains committed to helping operators optimize their network and expand into service offerings that continue to strengthen their business opportunities. A full line of Alpha High Performance solutions have been developed in recent years specifically for this purpose. Included under the Alpha-HP brand, these high-performance offerings enhance network performance and allow our customers to pursue advanced service offerings.

The Alpha XM3-HP outside plant power supply, the AlphaCell-HP Broadband Battery offering and the Alpha AMPS-HP2 and Cordex-HP Power Systems for Headend and Critical Facilities applications are all examples of Alpha's commitment to providing high performance products to support today's high performance HFC Network. The addition of the AlphaGateway offering

allows Alpha to leverage its long history of providing hardened, outside plant reliability to sensitive network operations and allows operators to further leverage the benefits of their high performance networks.

It is indeed an exciting time to be part of the broadband industry and Alpha Technologies remains committed to making a high performance contribution to broadband's continued success.

**Alpha Technologies**  
**The Power of Broadband.**



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