EVOLUTION TO SCALABLE, MULTISERVICE CORE AND EDGE NETWORKS FOR CABLE MSOS

STRATEGIC WHITE PAPER

It's no exaggeration to say the multiple-system operator (MSO) industry has undergone a radical transformation in recent years as it evolves to meet the needs of business and residential customers. While in the past it was possible to run a sustainable business by offering a handful of linear video channels to residential subscribers, increased competition and heightened subscriber expectations mean this is no longer the case. But as more service providers add voice and data services and begin to address commercial and Wi-Fi® opportunities, the "S" in MSO is beginning to stand more for "service" than "system".

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EVOLUTION IN STAGES

The first new service to be introduced was broadband; the advent of the cable modem and the Data Over Cable Service Interface Specification (DOCSIS®) standard gave MSOs the ability to become internet service providers. Next came digital video and video-on-demand, followed by voice over Internet protocol (VoIP), which enabled MSOs to offer phone services. Combining phone and broadband access to residential subscribers created added value and opened the door to commercial service offerings, placing additional demands on MSO service delivery networks.

Many cable networks evolved step-by-step as they adapted to the demands of these new services, which means MSOs may now find themselves operating multiple parallel networks that were built to address these incremental market opportunities.

ACCELERATING CHANGE

The pace of change in the industry is only growing faster. The explosion in smartphones and other video-capable portable devices and the constant introduction of new and compelling over-the-top content sources and devices for viewing them is affecting traditional MSO revenue streams, requiring an adjustment in business strategy.

Customers are becoming increasingly accustomed to the rapid new service introduction typical with the over-the-top model and expect to have their service bundles available at all locations and on all devices. Commercial services are also growing in importance to the top and bottom line.

MEETING THE CHALLENGE

These changes are driving transformation in the cable network at many levels, as MSOs adapt to the demands of new service offerings that were unheard of not that long ago.

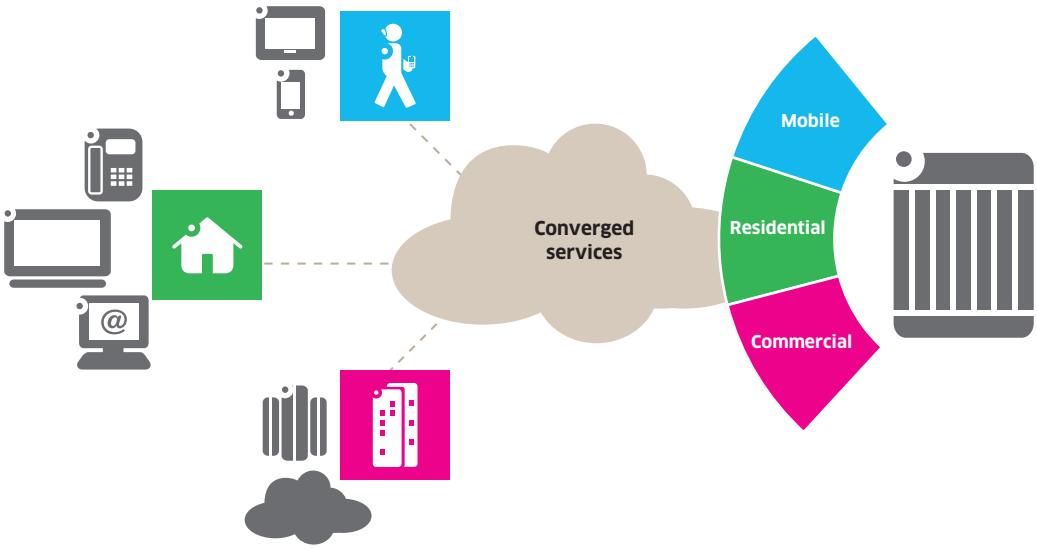
Video consumption no longer centers on traditional broadcast models with schedules defined by service providers and broadcasters. It has become an on-demand experience where the user decides what to watch, when to watch, and where and how to watch.

Commercial services are a rich opportunity for MSOs where they can take advantage of their reach and footprint. MSOs can diversify revenues and grow the business by going beyond basic business voice and internet to offer differentiated commercial services. These include service-level agreement-based Carrier Ethernet, virtual private networks, managed cloud services with application awareness and security, and wholesale cellular or mobile backhaul.

Mobility must also be part of the solution. MSOs are turning their attention to Carrier Wi-Fi technologies to both remain competitive and to generate revenue as part of their mobile broadband strategies. Carrier Wi-Fi can be a real game changer for MSOs, who can use it to make their service offerings available to subscribers not only at home or place of business, but also on the go.

MSOs are contemplating community Wi-Fi, venue coverage and extended hotspot strategies — each of which has unique business and network implications — to meet business objectives.

Figure 1. Driving Flexibility at the Cable Edge



REDUCE COMPLEXITY, INCREASE AGILITY

Building and operating separate silos to address multiscreen video, commercial services and mobility is not cost-effective. Cable hubs are already too complex: multiple routers and routing protocols combined with inflexible access mediums has created a situation in the hub that makes deploying new services more complex, harder to implement and harder to troubleshoot. This complexity requires large, specialized groups to support each function, meaning resources cannot be efficiently leveraged across the organization.

Alcatel-Lucent believes much of this complexity can be alleviated by MSOs adopting a common, flexible "service edge," which could potentially eliminate one or more network IP aggregation layers. This would both drive cost savings today and provide an access-agnostic service delivery foundation that can be used with current and future technologies.

This transformational hub architecture allows cable operators to deliver residential, business, wireless and network services with service awareness and differentiation that can be connected across any access medium, including DOCSIS, Ethernet passive optical network (EPON), direct fiber, EPON protocol over coax (EPoC), and Carrier Wi-Fi. The service edge expands on the same reduced cost, reduced space, and reduced power approach of the Converged Cable Access Platform (CCAP) framework for hybrid fiber-coaxial networks, and shows tremendous potential to simplify overall network design and operation, to enable service flexibility, and to reduce overall network costs.

START TRANSFORMING TODAY

In today's survival-of-the-fittest business environment, cable networks must evolve to meet the emerging needs of residential and business customers, at home and on the move. To compete in this increasingly all-IP world, cable operators need scalability and service flexibility from network edge to core – scalability to meet the demands of tomorrow's applications and services, and flexibility to enable agile service innovation and low-cost service delivery.

Transform your cable network to enable new services today.

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