

Capturing Major Growth in Commercial Services

An Untapped Market Opportunity for Cable MSOs

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Introduction

The small and medium-sized business (SMB) market represents a tremendous growth opportunity for cable multiple system operators (MSOs) over the next three to five years, specifically in the United States, Europe, Middle East, Asia, and Latin America. Historically, this segment has been largely underserved by traditional service providers (SPs) focused on large enterprises. As a result, SMBs have had few options beyond time-division multiplexing (TDM) voice trunks and fractional T1/E1 data services.

With anywhere from 20 to 300 employees, SMBs have begun to demonstrate communications needs—security, speed, and rich features—that are similar to those of larger businesses. These tendencies are consistent in SMBs around the world. Because of this, SMBs are now adopting managed services such as Ethernet-based access, IP VPN, voice over IP (VoIP), collaboration, video conferencing, and cloud-based applications and infrastructures.

According to AMI Research, the global SMB managed communications services market is expected to grow 5 percent to 10 percent annually through 2015. Traditional SPs have taken note, focusing on the SMB market with targeted managed services offerings. However, their cost structures are often rigid, and their operating models often lack the agility that enables SPs to offer a compelling value proposition. Newer entrants such as competitive local exchange carriers (CLECs) have made a valiant attempt at offering SMBs innovative IP-based solutions using agile operating models. These players, however, fall short in terms of brand recognition, and often lack full control of the last-mile access infrastructure to the customer's premises. In addition, their operating models lack scalability.

Cable MSOs are uniquely positioned to capture growth in the SMB managed services market by exploiting the benefits of DOCSIS 3.0, or ultra-high-speed Internet access.

DOCSIS 3.0 Market Potential

By taking advantage of DOCSIS 3.0 as their platform of choice, MSOs can cost-effectively offer SMBs Internet access at speeds of more than 100 Mbps within their existing footprints. This will provide smaller businesses with unprecedented access speeds (previously cost prohibitive, except for large businesses) and the ability to utilize more bandwidth-rich applications, such as VoIP, video conferencing, cloud-based services, and more.

Since 2011, Comcast (the largest U.S. cable MSO, with more than 17 million broadband subscribers as of the first quarter of 2011)¹ has deployed DOCSIS 3.0 across 80 percent of its footprint and is offering residential service with download speeds of 105 Mbps for

¹ <http://www.comcast.com/2010annualreview/#/ceoletter>

US\$199 per month. In the New York market, Cablevision recently launched its Optimum Online Ultra service with download speeds of 101 Mbps for \$99 per month.²

In Europe, cable providers now have DOCSIS 3.0 services with prices much lower than those of their U.S. counterparts. For example, in 2010, Virgin Media launched residential 100-Mbps download service in the United Kingdom for £35.00 (\$57) a month.³ French cable provider Numericable currently offers residential 100-Mbps download service for €29.90 (\$43) a month.⁴

According to CableLabs, a nonprofit research and development consortium that works with cable television operators globally, the Asia Pacific region has demonstrated the largest potential for DOCSIS 3.0 growth and adoption. More than 12 cable MSOs currently offer DOCSIS 3.0 service across Asia Pacific, with more providers planning deployments in the next 12 to 18 months. Deployment activity is particularly intense in Japan and South Korea, where MSOs compete against incumbent SPs and others who are currently rolling out fiber to the premises (FTTP).

In addition to fast Internet access, many SMBs need connectivity among multiple office locations. Historically, they would use either dedicated lines (fractional T1/E1) or over-the-top VPN to link their remote locations—or worse, forego connecting them at all. Cable companies with Multiprotocol Label Switching (MPLS) backbones can offer cost-effective Layer 2 and Layer 3 VPN services. It is this marriage of high speed and security (Ethernet over DOCSIS 3.0 + IP VPN) at a cost-effective price that gives cable MSOs an edge in the SMB market.

In the United States, the total addressable market for SMB communications offerings serviceable by cable MSOs is expected to reach approximately \$36 billion per year by 2015, according to estimates from the Cisco® Internet Business Solutions Group (IBSG). Cisco IBSG estimates that the worldwide market could reach \$100 billion per year by then.

Architectural Elements Required for Implementation

Cable MSOs can provide high-quality, cost-effective services to the SMB market by taking advantage of existing assets used to provide residential services. The optimal architecture to deliver these services is based on a reference IP/MPLS infrastructure that most MSOs have already deployed in their core and aggregation networks. The access component of the architecture is based on DOCSIS 3.0 over MSOs' existing hybrid fiber coaxial (HFC) infrastructures.

Several key architectural elements are needed to deploy carrier-class Ethernet and IP VPN services to the SMB market. They include:

- Robust MPLS infrastructure on aggregation and core networks
- Robust HFC network capable of reliably supporting DOCSIS 3.0 speeds
- Innovative features of cable modem termination systems (CMTS) and cable modems to extend Layer 2 / Layer 3 VPN Ethernet service from the MPLS core network over the DOCSIS 3.0 access network, thereby providing T1/T3 replacement services

² <http://nyconvergence.com/2011/05/cablevision-to-launch-optimum-online-boost-plus-this-week.html>

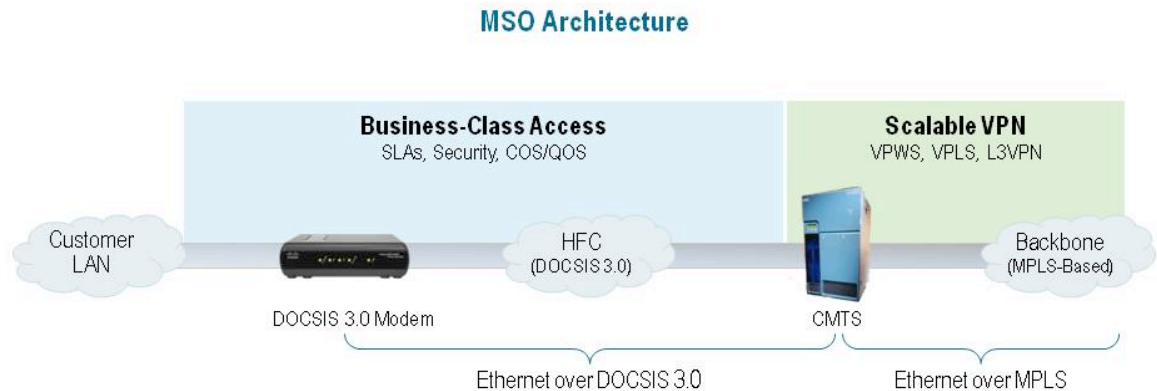
³ <http://tarifica.com/broadband/virgin-media-to-launch-100mbps-broadband-in-uk/>

⁴ <http://offres.numericable.fr/>

- Metro Ethernet Forum (MEF)-certified services
- Unicast and multicast routing, MPLS, VPN, quality of service (QoS), IPv6, security, carrier Ethernet, and more
- Optimized service delivery through convergence

Figure 1 illustrates a carrier-class network architecture based on these elements.

Figure 1. Enhanced Services Network Architecture for Cable MSOs.



Source: Cisco IBSG, 2011

An HFC-based architecture with MPLS and DOCSIS 3.0 creates a compelling platform for SMBs for three main reasons:

1. Most MSOs' existing HFC infrastructures and MPLS backbones provide the foundation upon which to build a compelling portfolio of business services.
2. Ethernet over DOCSIS 3.0 presents a reliable access alternative to fixed lines because it is reliable, scalable (1 Mbps to 100 Mbps+), secure, and more cost competitive than traditional fixed lines (T1/T3) and current Metro Ethernet services.
3. MPLS backbone provides the foundation for L2/L3 VPN services. The solution is more cost competitive than traditional fixed-line WAN solutions and can scale to larger businesses.

Network Architecture: Economic Benefits

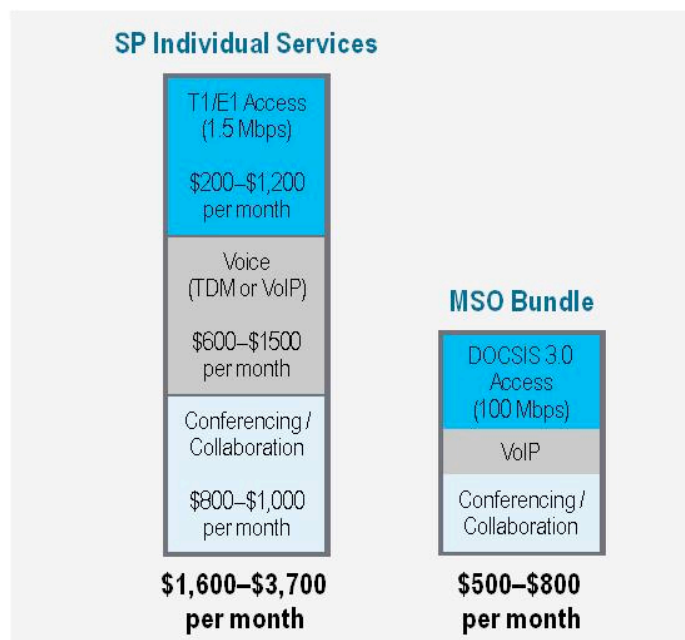
Cisco IBSG had a number of engagements with SMBs and MSOs regarding the proposed architecture in Figure 1. Based on their feedback, a substantial reduction in cost per megabit per second is the most significant benefit of the architecture. In the United States, traditional SPs typically charge between \$200 and \$1,200 per month for a dedicated T1 line (at 1.5 Mbps), and between \$5,000 and \$12,000 per month for a dedicated T3 line (at 45 Mbps). At a price point of less than \$300 per month, this architecture would enable MSOs to offer SMBs Ethernet service of 100 Mbps or greater at a cost nearly 50 times less per megabit per second than that of a traditional fixed line.

In addition to Ethernet access, SMB customers want other managed services. Cisco IBSG recently held a series of discussions with a select sampling of small businesses and found that most have traditional phone service and, in many cases, pay up to \$1,000 per month for phone trunks and long-distance service. For SMBs with multiple office locations, there is also

the expense of maintaining WAN connectivity among offices. Depending on the number of endpoints and the architecture chosen, this cost could range in the thousands of dollars per month.

Finally, SMBs said they often rely on multiple vendors to provide voice, data, and networking services, and indicated an interest in buying their communications services from a single vendor. If priced appropriately, and if the operational risk of switching providers were minimized, more than 50 percent of customers said they would likely switch to an MSO-based managed services solution. With a DOCSIS 3.0 platform, MSOs can offer SMBs a consolidated suite of managed services to include Ethernet, VoIP, collaboration, and IP VPN at a competitive price per bundle. And with proper operational execution, MSOs should be able to meet or exceed their profitability targets even at these reduced price levels. Figure 2 shows the cost differential for single services from SPs versus a cable MSO bundle.

Figure 2. Costs for Individual SP Solutions Versus Cable MSO Bundle (30-Person Company).



Source: Cisco IBSG, 2011

Cisco IBSG's discussions with MSOs revealed that the greatest benefit from the architecture is the opportunity to gain market share in a rapidly growing segment, thereby presenting a lucrative revenue opportunity. For example, in the United States alone, Cisco IBSG conservatively estimates that an MSO with the size and scale of Comcast could reasonably expect to generate more than \$600 million in annual revenue by 2015. This estimate assumes a modest 15 percent penetration of the MSO's total addressable market of 400,000 SMBs, with service offerings that include Ethernet over DOCSIS 3.0, IP VPN, and VoIP.

Additionally, by federating (or linking) their MPLS backbones, MSOs could create a secure, global network capable of providing fast and reliable managed services across existing network and geographic boundaries. Network federation will lead to development of new and innovative business models (by taking advantage of revenue- and cost-sharing

opportunities), and will allow all MSOs to provide global reach and a competitive portfolio of managed services.

The incremental capital expense for an MSO to deploy this architecture would be limited mostly to upgrading its CMTS infrastructure to ensure seamless Ethernet service across its DOCSIS 3.0 and MPLS networks. Additional capacity may be needed for the core and aggregation networks; however, these expenses should scale linearly with the incremental number of subscribers added to the network.

In terms of operating expenses, MSOs must place a greater emphasis on adapting their business models (people, processes, and technologies) to meet the unique needs of SMBs. Selling, installing, maintaining, and supporting these services will require competencies and capabilities that are different from those possessed by MSOs today. Obtaining these capabilities will pose a challenge for MSOs. The opportunity, however, to realize a compelling new revenue source far exceeds this challenge.

Conclusion

The global market for SMB communications services is robust and growing. There is a clear opportunity for cable MSOs around the world to enter this market quickly and inexpensively via their DOCSIS 3.0 infrastructures. Market entry requires a modest investment in equipment (specifically, a CMTS infrastructure that can translate between Ethernet over DOCSIS 3.0 and Ethernet over MPLS) to implement an architecture that will give MSOs a competitive edge. MSOs must also focus on sales, implementation, customer management, network monitoring, and maintenance to meet the unique operational needs of SMB customers.

Cable MSOs should consider opportunities to federate their MPLS core networks. Lack of expansive geographic coverage is a major limiting constraint of an MSO-driven solution. By federating their MPLS networks, MSOs can offer business customers secure and reliable services across multiple regions. Technically speaking, federation is a fairly straightforward problem to solve. Therefore, MSOs must determine a joint sales and operating model that allows them to do business with each other seamlessly—a harder challenge to tackle, but not insurmountable. Common service bundles and CPE are also an effective way for cable MSOs to tackle these challenges and thereby reduce sales and service complexity.

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More Information

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