

Cablecos and Telcos Share Challenging Network Future

By Russ Green

While cableco and telco operators originally served completely separate markets, the introduction of IP broadband services has led to a lot of similarity in the communications products and services they now provide. It's likely that their offerings will continue to converge to a more common future. While cableco and telco operators have mostly been separate entities in North America, in other parts of the world there are examples of telcos that are also cablecos (and vice-versa). All of these cable, telco, and hybrid entities share future paths that raise differing and common challenges in making sure that their networks are ready to satisfy the common opportunities ahead over which they now compete.

Different Pasts, Converging Futures

The respective heritages of cablecos and telcos are clearly fundamentally different. Since their inception,

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cable operators have provided broadcast TV and radio entertainment services, while telcos' staple was the provision of voice services through landline telephones. There was a period of some competitive overlap with the bundling of satellite TV services with Telco product packages, but all of this changed when competitive IP broadband services were introduced. What followed soon thereafter was the cableco voice and IP product offerings. These, along with the regulatory changes that occurred in roughly the same timeframe, started downward pricing pressure that changed subscribers' communications habits forever.

Increasing bandwidth in IP services meant that telcos could start offering new services, too. TV services meant that the triple play of voice, internet and TV could now

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be offered by both camps. Both also introduced new derivative products like video-on-demand.

Wireless communications, the biggest growth area in terms of consumer spending, is now becoming part of the business domain for telcos and cable operators. Spectrum sales and new business models for selling wireless access capability, such as that which LightSquared offers in the US, mean that anyone can become a mobile service provider. The wireless market's rapid growth means that cable operators and telcos are now competing in the provision of backhaul services for mobile service providers, too.

Managing Network Change

Some things in life are certain; ongoing change in the network is one of them. Technology convergence, growing competition and the rapid change in the capacity new products and services require mean that cable operators and telcos have significant planning and design challenges ahead. Operators in both camps will have to take an end-to-end view of their network assets to ensure that they are ready to provide new services affordably.

A key to success is to include all parts of the network in any analysis of the network impact that results from changes in subscriber behavior brought on by new products and services. Consistency across organizations in understanding loads and vulnerabilities from reliability and capacity perspectives means that the real network cost of a product can be determined and made available before launch. Operators that take this robust approach are able to keep subscribers and enterprise customers happy even with significant changes in the network and its behavior. This type of planning and analysis is no longer an annual event. The pace of change means that these scenarios are part of normal business for planning and operations groups.

Different Challenges

As described earlier, cableco and telco operators have different backgrounds and experiences in the provision of their now common offerings. Some of the different challenges they face now are as a result of their respective histories.

When IP broadband services were introduced, cable

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operators had an incentive to launch voice products as quickly as possible to provide the first TV, internet and voice bundles. The complexities of launching voice meant that many companies chose to outsource some parts of this function. An example of this type of outsourcing is the handoff and management of calls to off-network destinations. The handling of a call handoff requires its routing to the optimum exchange switch to ensure the most cost effective use of inter-carrier agreements. By outsourcing this capability, the cable operator was able to reduce time to market and reap the benefits of selling bundled voice products.

Price pressure and cost management has meant that the margins lost through outsourcing are now seen as opportunities for operators to save money by bringing this in-house. The challenge here is to make sure that the subscriber experience is maintained through the transition while minimizing network costs. This means that an accurate view of subscriber behavior, projected network performance and inter-carrier agreements all have to be taken into consideration for these significant margins to be realized.

An example for telco operators is the introduction of IPTV services. Even without considering the business agreements with media providers, this introduction requires a massive change in the network. The planning and engineering organizations across the board need to be able to have a common view of the demands placed on the network to ensure a consistent provision of capacity to support the services. Traffic demands from the subscriber access points, through to the core network, across all technology layers and media distribution hubs all have to be considered together. The complexities of doing this without a supporting system make the inevitable countless "what-if" scenarios of market introduction, subscriber update and network configurations practically unmanageable.

Common Challenges

There are many examples of common challenges that are being faced by operators in both the cable and telco camps. The ongoing pressure to improve customer experience and service quality will remain a common challenge. Reliability and performance improvements that accompany new products involve significant network analysis. One example is the offering of new data services with different bandwidth and reliability characteristics. It's essential to be able to provision these services as fast as possible, which means that enough but not too much network capacity and protection has to be in place when the customer orders the new product. Another example would be the launch of 3D High Definition TV services in selective markets as well as its video-on-demand version. There's no second chance in offering high value products: They have to work right the first time or the risk of subscriber churn increases, decreasing operator revenues.

Even if some of the business problems are different between cable and telco operators, there are parts of the network that are very similar and present common problems in this domain. An example here is the dimensioning of core networks in support of complex, new services. In both camps there are IP and Ethernet networks similarly layered on optical transmission, or transport networks which ultimately carry the bits of data that comprise all subscriber communication and entertainment. These layers are of primary interest in the provision of enterprise data services such as those required by wireless operators for mobile backhaul.

And Mobile Service For All

Mobile data and entertainment provides one of the fastest growing revenue opportunities for

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communications service providers. The Feb 2011 edition of the Cisco Virtual Networking Index reports that mobile data traffic grew 2.6x in 2010 and is set to continue on at this pace or higher over the next few years. Furthermore, more than 50 percent of this data traffic is expected to be generated by video streaming this year.

With new business models making it easier for operators to get access to mobile spectrum, it's becoming easier to launch a mobile product offering. The mobile data revenue opportunity, especially when combined with subscriber "stickiness" of bundled TV, voice and internet services will lure more cableco and telco operators to this market. Mobile data network analysis and planning brings new challenges to be addressed. As before, the ability to anticipate subscriber behavior and network impact in the context of the whole network is the key to avoiding performance and capacity surprises.

The Future

Whatever happens, all operators will need to be able to work smarter and faster under cost constraints to ensure happy subscribers and a profitable future. Robust network analysis and planning is an essential part of the process of delivering new and more complex services that perform well the day they are introduced.

About VPI Systems

VPI systems incorporates accurate translation of subscriber, device and application growth into network impact analysis and traffic management systems, enabling mobile service providers to make real-time business decisions. The company's software enables optimized solutions for the massive bandwidth requirements in backhaul and core networks. Serving the telecommunications industry since 1997, VPIsystems has been the leading vendor of design and planning applications to network operators worldwide.

Headquartered in Somerset, NJ, and with offices in Europe and Asia, VPIsystems' software is used by over 150 communications service providers, network equipment manufacturers and leading-edge research institutions to assess current and future capacity needs, and to optimally plan QoS-constrained service networks and underlying network infrastructure. For further information, visit us at www.vpisystems.com.