

Teleconomics: Doing More with Less

The Key to Sustainable Business Models for Telecommunications

To remain competitive, network operators and service providers are always looking for new ways to generate additional revenue without adding corresponding costs that erode margins. Today, those challenges have intensified as a result of a rapid rise in consumer demand for broadband services and the current economic recovery efforts by consumers, enterprises and governments.

Consumption of video and multimedia content is booming

This trend makes high-quality broadband services increasingly important for maintaining customer loyalty. In fact, recent Alcatel-Lucent research found that consumers worldwide value their broadband connection more than any other

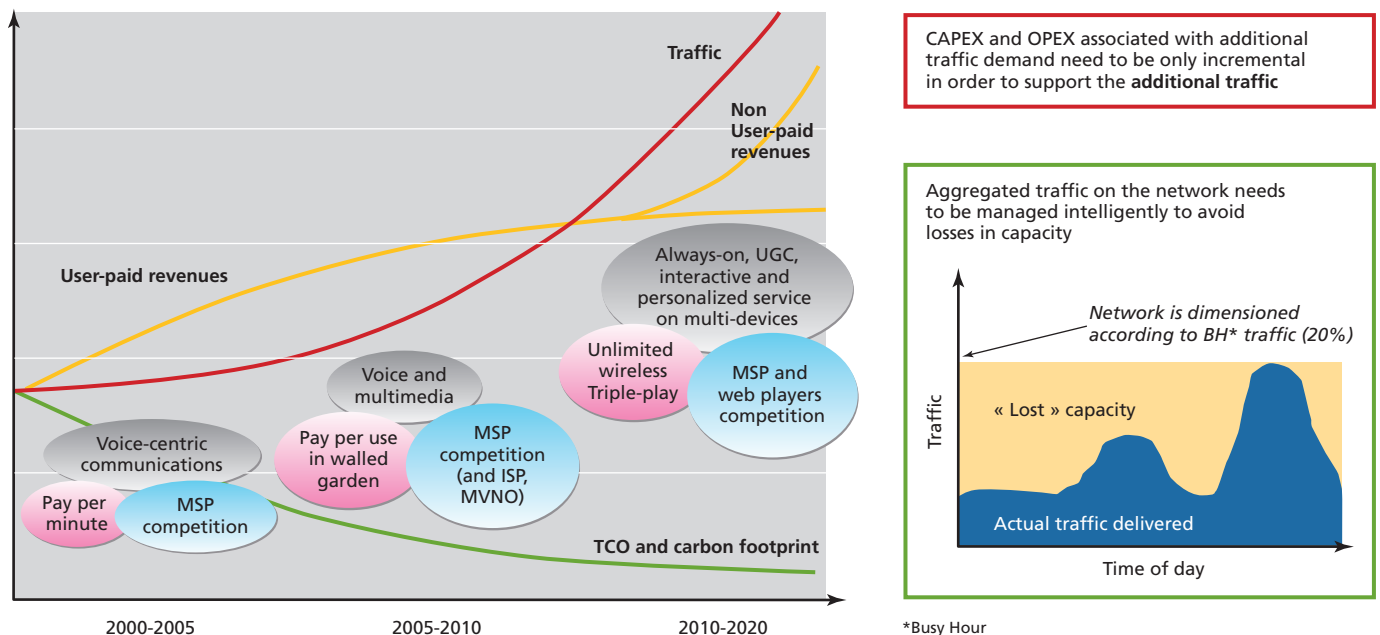
network service — and more than a wide range of activities, such as dining out or going to sporting events.

However, there are consequences to explosive growth

Consumers' endless hunger for multimedia services has destabilized the old telco business model, which was optimized for voice. As video traffic skyrockets:

- Bandwidth provisioning costs are rising
- But profit margins have flattened, because much of today's video content is delivered over the Internet — with new revenue going primarily to content and application providers, rather than service providers

Figure 1. Changing market conditions require a new cost/Mb approach



CAPEX and OPEX associated with additional traffic demand need to be only incremental in order to support the additional traffic

Aggregated traffic on the network needs to be managed intelligently to avoid losses in capacity

*Busy Hour

In this new market environment, a High Leverage Network can help you deliver the innovative broadband services customers want most while maintaining your profitability. This network combines distributed intelligence with a simplified architecture, giving you the capabilities required to “do more with less.” So you can optimize bandwidth usage, streamline operations and leverage your existing networks to create exciting new multimedia offerings — as well as sustainable business models.

Dynamic bandwidth management optimizes network resources

Soaring demand for bandwidth is one of our industry’s crucial issues. But merely increasing network capacity also increases overall maintenance and management costs. High Leverage Networks offer a more cost-effective way to put bandwidth where it’s needed, using fewer resources. Their dynamic bandwidth management capabilities intelligently allocate your available network assets — quickly providing bandwidth wherever it’s required to maintain reliable performance. As a result, these networks can satisfy the unique needs of video, voice and data traffic streams, while delivering the lowest total cost of ownership per transported bit.

Cost-cutting technologies

The following Bell Labs innovations are just two of the technological advances now enabling High Leverage Networks.

- *Zero-touch photonics* – provides point-and-click service activation, automated operations that minimize on-site interventions and greater networking flexibility with tunable photonic switching.
- *Wavelength tracker* – is an automated OAM tool that enables per wavelength QoS, along with performance monitoring, integrity checks and fault localization.

Simplified networks shrink OPEX

Maintaining multiple silo networks is an inefficient way to deliver video, voice and data services. High Leverage Networks help minimize operating expenses by transporting these diverse traffic types over a single network. This converged services approach relies on network intelligence to automatically identify each unique service type and apply the appropriate QoS controls — while significantly reducing your network management and maintenance costs.

For further efficiencies, High Leverage Networks use a flat-IP architecture to reduce the complexity of traditional wireless networks. This architecture flattens the traditional network hierarchy by moving radio network controller functions to the base stations — and by using a single gateway node wherever possible. In addition, it uses Voice-over-IP (VoIP)

for voice calls, eliminating the need for a parallel circuit-switched architecture. These simplifications enable decreases in both CAPEX and OPEX.

Field-proven High Leverage Network

The latest evolution of the Alcatel-Lucent Triple Play Service Delivery Architecture (TPSDA) allows service providers to offer a more personalized and interactive IPTV experience, with support for more HD content on more screens. These advanced capabilities help generate additional revenue and reduce churn, while increasing operating efficiency.

By distributing intelligence throughout the network, TPSDA 2.0 provides:

- A more cost-effective way to deliver high-bandwidth video, with greater flexibility to meet individual users’ preferences
- Improved user experience, with faster channel changing and more reliable TV service
- Targeted ad insertion capabilities that can bring in revenue from new sources, while improving ads’ relevance to customers’ lives

Distributed intelligence enables lucrative new services

To succeed in today’s broadband world, you must be able to deliver a high Quality of Experience (QoE) for your customers. This means meeting consumer demands for reliable, easy-to-use multimedia services — delivered anywhere, over any device. It also means providing innovative features and personalization that make your offerings more interesting, useful and relevant.

High Leverage Networks support these enriched services cost effectively by leveraging the intrinsic value locked in your network. Using their distributed intelligence, you can:

- Incorporate customers’ presence, location and preferences into services — to create high-value, customized offerings.
- Integrate third-party applications that provide market differentiation, while allowing you to maintain control of network assets.
- Enable creative new business models that bring in revenue from non-traditional sources, such as advertisers and content providers.
- Implement a service delivery architecture that is optimized for the concurrent delivery of multiple services, with a policy-driven quality of experience.

By supporting these new revenue sources, High Leverage Networks give you a powerful opportunity to benefit from broadband growth — instead of simply bearing the cost of constantly expanding your networks. As a result, you can overcome today's bandwidth scaling challenge and build sustainable business models for the future.

Evolution to high leverage networks has already begun

There are many paths to a high leverage network, and Alcatel-Lucent can help determine which path offers you the most attractive return on investment. Most wireline providers have already taken some evolutionary steps toward these networks, through their investments in broadband access, multi-service IP/MPLS routing and optical packet transport. Wireless network providers are ready to begin a similar process.