

THE ROLE OF SERVICE PROVIDERS IN HOME NETWORKING INCREMENTAL REVENUE OPPORTUNITIES FOR MSOS

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Abstract

With the rise of multi-PC households and broadband subscribers, high-performance home networks are required to easily extend the broadband experience throughout the home to numerous devices—set-tops, mobile web pads, and other information appliances—while preserving quality of service (QoS). Therein lies significant revenue opportunities for MSOs, not just in adding premium services, but also in delivering them to additional devices connected to the broadband access point on a home network. The solution, however, must be high-performance, easy to install, affordable, and scalable. This paper addresses the requirements for distributing multimedia and digital content throughout the home, and the associated benefits to service providers—including consumer self-installation, limiting device redundancy, and incremental revenue opportunities. Target audience: Service providers, OEMs, press, analysts

THE ROLE OF SERVICE PROVIDERS IN HOME NETWORKING

“In three to five years, home networks will have moved off the pages of science magazines and into millions of US homes. And millions of people, seeing a home network as a huge opportunity to...obtain valuable new services, will embrace the technology with enthusiasm.”

—The McKinsey Quarterly, 2001 Number 2

Introduction

The increasing penetration of broadband technology into the home is a key driver for home networks, which extend the broadband experience to multiple computers and digital devices anywhere in the home.

In addition to benefiting broadband subscribers, home networks enable broadband service providers to increase revenues, decrease installation costs, and accelerate the deployment of new broadband services, such as video on-demand (VoD), interactive television, and IP-based media services.

This translates into significant competitive advantage for the MSO: capturing and retaining more subscribers while opening up new value-add revenue streams.

To take advantage of these incremental revenue opportunities, it's in the MSO's best interest to aggressively encourage the deployment of home networking technology.

Because these incremental revenue generators are multimedia-focused, they require home network technology that seamlessly transmits high-fidelity digital content and supports true quality of service (QoS).

ShareWave's Vision

The deployment of broadband content and services, distributed throughout a home network, is changing how people interact with digital content. ShareWave's vision is to enable *wireless* home networks that provide consumers with access to a variety of digital content—entertainment, information, and communications—when and where they want it. This ubiquity makes consumer interaction with digital content more enjoyable, convenient, and affordable. More importantly, it raises the subscriber's perceived value of the content, leading to incremental revenue opportunities for the MSO.

Emergence of New Devices and Applications

The proliferation of new digital devices, content, and services further drives the broadband and home network markets. Beyond traditional PCs and laptops, consumers now have a choice of many exciting new devices:

- Set-top boxes
- Integrated personal video recorders (PVRs)
- Cable modems
- Residential gateways
- Digital audio and video jukeboxes
- MP3 players
- Mobile web pads
- Advanced game consoles
- Other internet appliances

These devices facilitate—and increase—consumer interaction with digital content and broadband services.

Some application examples:

- Listening to MP3 audio files through the home stereo system, instead of PC speakers

- Internet appliances, such as a kitchen pad, that allow for convenient access to broadband content appropriate for activities conducted in a specific room.
- One PVR providing recorded content to multiple TV sets throughout the home, versus restricting it to one TV.

Without the deployment of home networks to connect these devices, consumer consumption of these new content offerings and services will not achieve its full potential.

Delivery of Broadband Services

The deployment of broadband services fits hand-in-hand with home networks. Both are required for consumers to gain full benefit.

Increasingly, consumers want more than just simple file and print sharing. Studies show that subscribers with cable modem service are significantly more likely to access multimedia content than dial-up subscribers. Consumers are interested in entertainment and interacting with digital content—music, video and games.

The ability to distribute this content to multiple locations throughout the house makes broadband services much more appealing. Anyone in the family can interact anywhere, anytime, from any device.

This creates an ever-important value chain: devices are being developed to support new and valuable broadband content and services. The more accessible the broadband connection is to these devices, the more the subscriber will use and value it. And the more they will pay for it.

Therefore, home networks add significant value to services such as:

- Video on-demand (VoD)
- Interactive television
- IP-based media services
- Online gaming
- Broadband Internet sharing
- Voice over IP (VoIP)

Looking ahead, home networks also provide MSOs the opportunity to extend their services beyond the home—to the automobile, for example, where average subscribers spend up to 3 hours a day while commuting. The subscriber could listen to personalized music or news that was downloaded from the home server or broadband connection while the automobile was parked in the garage the night before.

Service Provider Benefits

- Easy, low-cost installation

Home networking enables service providers to initially reduce the time to install new broadband services by eliminating in-home wiring, thereby reducing the cost of installation.

Eventually, home networks will eliminate expensive truck-rolls entirely by supporting easy subscriber self-installation.

- Acceleration of service deployment

New broadband service deployments are constrained by the MSO's inability to install the customer equipment fast enough.

Reducing installation time, and subsequently moving to self-installation due to the home network, will accelerate subscriber penetration rates and thus revenue from those new services.

- Support for retail equipment model

Because a new device can be added to the wireless network easily, consumers can purchase new devices at retail stores, self-install, and order the new service(s) without the need for a truck-roll. This improves marketing efficiencies and inventory carrying costs.

- Incremental and enhanced revenue

With home networks, MSOs have the unique opportunity to implement additional revenue streams, including:

- Network maintenance and management, including software updates and services
- Tiered IP service levels, based on bandwidth requirements and number of devices
- Tiered service packages for premium video, VOD, audio and interactive gaming
- Personalized services, based on device usage and content consumption

- Reduced device redundancy

A home network supports the concept of a single, full-featured set-top box, cable modem, residential gateway, or media server to deliver broadband services to several less-expensive devices, thereby eliminating the cost of additional boxes. For example:

- One cable modem supporting multiple PCs or Internet devices.
- Distributing the cable modem connectivity within an advanced digital STB to one or more PCs located in other rooms of the home.
- Distributing the capabilities of one fully featured STB (CM & PVR) to one or more "thin" STBs attached to other TVs or devices.

- Differentiated competitive service offerings

By deploying a home network to distribute content and services to multiple devices, the MSO is able to create a differentiated service offering versus its competition. This lends itself to improved new subscriber acquisition.

- Subscriber retention

As the home network becomes an integral part of the service offering, the MSO is effectively creating a barrier to entry for the competition. Subscribers will become less likely to switch service providers because of their dependence upon the multiple services offered by the MSO. Customer retention would improve in the face of competition.

The home network could offer the MSO greater visibility into the subscriber content and service usage patterns on every device in the home. This information is invaluable in developing new service offerings and improving customer satisfaction.

- Customer service

Remote diagnosis of networked devices from the headend allows for better customer service, troubleshooting, and reduced cost by eliminating truck rolls when possible.

Multimedia Requirements

Although broadband Internet access offers significant revenue opportunities for MSOs in the short-term, entertainment and voice services—whether IP- or traditional MPEG transport-based—offer the highest revenue opportunity over time.

Therefore, any home network must support multimedia and address the requirements for transmitting time-dependent, digital content.

- Breadth of applications

- Connectivity for applications on a wide-range of devices including STBs, PCs, consumer electronics, mobile pads, cable modems, Internet appliances, and more.

- Support for quality of service (QoS)

- Flawless support for multiple isochronous media streams (video, voice, audio); Greater throughput for transmitting high fidelity digital content, such as MPEG-2 video and CD-quality audio; Efficient bandwidth allocation and usage to support multiple simultaneous content streams; Predictable delivery of time-dependent content.

- Ease of use

- Open enrollment for easily adding devices; Peer-to-peer communications among multiple devices; Efficient bandwidth usage; Master redundancy; No single point of failure.

- Reliability

- Avoidance of in-band interference from household appliances, such as microwave ovens and cordless phones; Sufficient range and fade margin for coverage throughout the home; Use of Forward Error Correction (FEC) to minimize bit error rate (BER) and support time-dependent content without retransmission.

- Scalability

- Obsolescence protection to preserve device investment
- Foundation for future features, devices, and services.

Other Home Networking Issues

- Price/performance is a key driver for home networking. Currently transmitting up to 11 Mbps.
- Home networks will be heterogeneous environments, incorporating WANs, LANs, and PANs.
- 802.11b is emerging as the wireless standard for home networks, but lacks QoS and multimedia support

Close

It is in the best interest of all MSOs to rapidly deploy home networking technology. Herein lies a unique opportunity for MSOs to maximize their incremental revenue opportunities, increase customer retention and fend off the increasing competitive threat. The technology is available today.

Author Information

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Don Apruzzese serves as Director of Business Development for ShareWave, Inc. In this capacity, Apruzzese works closely with leading OEM suppliers to the telecommunications industry to integrate ShareWave's wireless networking technology into next generation digital set-tops and cable and xDSL modems. Prior to ShareWave, Apruzzese served as Director, Product Marketing Management, Broadband Internet Services of MediaOne. In this position, Apruzzese was responsible for overseeing the company's enterprise-wide marketing effort for its broadband Internet products. Apruzzese was appointed Director, Product Marketing Management for Continental Cablevision, Inc., in March of 1996, prior to its merger into Media Group. Continental became MediaOne in May of 1997.

Prior to joining Continental Cablevision, Apruzzese held several key marketing positions with Ford Motor Company and Braun, Inc. Apruzzese received his B.F.A. in Film Production from New York University, Tisch School of the Arts, and his MBA from The Wharton School, University of Pennsylvania.

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Company Information

ShareWave provides semiconductor technology for multimedia-capable wireless home networks. ShareWave delivers the industry's optimal solution for wirelessly transmitting the full range of high-fidelity multimedia content—including MPEG-2 video and CD-quality audio—to complement broadband delivery into the home.

The company is privately held with its headquarters in El Dorado Hills, CA. ShareWave has received funding from APV Technology Partners, Cisco Systems, Intel Corporation, KLM Capital, Kyushu Matsushita Electric Co., Ltd., Microsoft Corporation, Philips Electronics NV, SBC Communications, Inc., SOFTBANK Technology Ventures, Vulcan Ventures, Inc., and other public and private investors.

For more information, visit the company's website at www.sharewave.com.