

# Big Bets for the U.S. Cable Industry

Key Opportunities for Future Revenue Growth\*





---

# **Big Bets for the U.S. Cable Industry**

**Key Opportunities for Future Revenue Growth**

January 2005



PricewaterhouseCoopers Global Technology Centre  
San Jose  
California  
U.S.A

---

## ■ Acknowledgements

### GLOBAL TECHNOLOGY CENTRE

#### Managing Director

Bo Parker

#### Principal Authors

Vinod Baya, Alan Morrison

#### Contributor

Steve McClellan

#### Editorial

Saba Mirza, Christine Wendin

#### Production & Graphics

Bruce L. Leininger, Susan Mills

#### Cover

John Goldie

#### Research

Peter Vigil

#### Advisory Review Board

Deborah K. Bothun, William Cobourn, Robert Conklin, R. Wayne Jackson, Ted Schaefer, Peter Winkler

#### Special Thanks

For assistance during the preparation of this report, we wish to thank Eric Berg, Laura Bobrik, Mitch Cohen, Joe Duffy, Charles Hacker, Paul Gaynor, Thomas J. Mangold, Jim O'Shaughnessy, Mary Shelton Rose, Laura Schooler

### INDUSTRY PERSPECTIVES

During preparation of this report, we benefited from interviewing the following executives:

**Luis Avila**, Vice President of Corporate Strategic Planning; Scientific-Atlanta

**Matt Blank**, Chief Executive Officer, Showtime Networks

**Sean Bratches**, Executive Vice President, Affiliate Sales and Marketing; ESPN

**Nick Davatzes**, President & Chief Executive Officer, A&E Television Networks

**Fred Dressler**, Executive Vice President of Programming, Time Warner Cable

**Neil H. Dickson**, Partner, Media & Entertainment Group, Lord, Bissell & Brook LLP

**Lisa Gersh Hall**, President and Chief Operating Officer; Oxygen Media

**Mark Harrad**, Vice President Communications; Time Warner Cable

**Dan Hartman**, Vice President Programming Acquisitions; DIRECTV

**Frederick Huntsberry**, Chief Financial Officer and EVP Distribution; NBC Universal

**Geraldine Laybourne**, Chief Executive Officer, Oxygen Media

**Gary Myer**, Principal; Myer and Associates

**Mike Tallent**, Executive Vice President of Finance and Administration; Comcast

**Tony Vinciguerra**, President and Chief Executive Officer, Fox Networks Group



## Executive Summary

***After two decades of robust growth, the U.S. cable TV industry is facing significant challenges to future growth. With more than 300 existing programming channels resulting in increased audience fragmentation, the prospects for creating additional revenues by launching new channels are very limited. At the same time, the pool of subscribers to multi-channel video services is unlikely to grow beyond where it stands today: 86 percent of U.S. television households.***

The majority of those subscribers are served by cable. The remaining subscribers are served either by satellite television, the cable industry's established competitor, or by a telecommunications carrier, an emerging competitor. This increased competition, in conjunction with the growing use of new technologies, is also bringing about changes in consumer behavior and expectations.

Each of the two main industry sectors—cable operators that sell and distribute cable signals to consumers and cable networks that develop, produce, and market programming networks to the operators—will face its own unique sets of challenges and opportunities during the next decade. In this report, PricewaterhouseCoopers analyzes the growth strategies that the industry will pursue over the short (2 to 5 years) and longer term (5 to 10 years).

For cable operators, near-term growth will come from non-video services, such as high-speed data and telephony. In the emerging battle to own the home, operators will focus on offering a triple-play bundle of services. Additionally, operators will pursue growth in local advertising revenues. Cable networks will place their short-term bets on developing and airing high-quality programming that will appeal to targeted demographics. They will also look to expand advertising revenue streams through marketing and sponsorship opportunities associated with programming. Networks with strong brands and large content libraries will also leverage syndication and brand extensions, as well as develop business models to monetize new video outlets, such as the broadband Internet and the mobile Internet.

Longer term, cable operators and networks will invest in the on-demand platform. While certain barriers exist to the development of this platform, the industry has only begun to explore its potential. Well-conceived business and economic models that take advantage of a mature on-demand platform would provide mutual benefits to operators and networks alike. By complementing—not replacing—the linear-channel distribution model in operation today, on-demand would enable growth opportunities by expanding the overall pay-video market.

## KEY FINDINGS

This report's primary findings underscore both the challenges confronting the cable TV industry in the United States and the opportunities requiring a new level of collaboration between cable distributors and networks.

■ **After two decades of growth based on increasing the number of channels and subscribers, the cable industry will become stagnant unless it aggressively develops new revenue streams.** The subscriber base in the U.S is saturated. Disruptive technologies threaten the advertising revenue stream. And competition in multi-channel video delivery is intensifying. During the period from 2004 to 2008, cable operators will see their multi-channel video subscribership decline 3 percent, while cable networks will experience a slowdown in affiliate carriage fee growth by 50 percent, compared to the previous five-year period. With more than 300 available channels, the existing linear-channel delivery platform has questionable growth potential. Although this platform is unlikely to be replaced in the near term, the industry requires a next-generation delivery platform that addresses both technology advancements and the changing needs of consumers.

■ **The barriers to creating successful new linear channels are high, while the opportunity to develop content for niche audiences holds promise.** The vitality and expansion of the cable industry will continue to be fueled by the development of fresh, compelling, and targeted content that is made available to viewers. Yet both cable operators and networks acknowledge the difficulty of launching new linear channels, given that there is already considerable viewer fragmentation. This environment is particularly difficult for independent developers that typically do not have the resources and access to distributors that larger networks do. The situation could limit industry innovation and therefore stifle growth. At the same time, opportunities for developing content for niche audiences are numerous, but require

new economic models for content creation and distribution.

■ **With video-subscriber levels approaching the saturation point, near-term revenue growth for distributors will come from non-video services.** Cable operators have already demonstrated a track record of growth in the high-speed data (HSD) market. Telephony service rollout has newly begun, but cable operators have a tremendous opportunity in the next two to four years to tap that market quickly, given technology advances that will enable them to provide a high-quality, easily deployable voice over Internet Protocol (VoIP) service.

■ **Over the short term, widely distributed cable networks with established brands and large content libraries will seek growth from areas other than affiliate fees.** With a saturated subscriber base and declining leverage against consolidating cable operators, networks will realize growth by brand extensions and syndication. Digital program tiers also offer growth opportunities for another form of brand extension, the spin-off channel. In 2004, non-affiliate and non-advertising revenue comprised less than 10 percent of most cable networks' total revenues, but their share could grow to a quarter by 2008.

■ **Advertising sales will remain a primary revenue driver for both cable networks and cable operators.** For cable networks, advertising revenue growth between 2004 and 2008 will remain at 8.8 percent. The threat that digital video recorder (DVR) technology poses to advertising revenue has been overstated. However, its impact will be seen in evolving network models that enable advertisers to reach more targeted groups of consumers through interactive and on-demand applications. Cable distributors will also pursue strategies to increase advertising revenue, in particular focusing on local markets.

■ **Over the longer term, growth prospects for cable networks and operators will depend on their effective use of the on-demand platform.** The on-demand platform has the potential to address many of the growth challenges the industry faces. It is complementary to the linear-channel platform, rather than an alternative to it. It can expand the market for pay-video by enabling easy access to existing content libraries and lowering the barrier for new content to reach consumers. How operators and networks implement economic and business models surrounding its deployment will determine when and how it will impact the industry.

■ **Cable operators and networks have divergent views on the viability and the potential of the on-demand platform.** For operators, the on-demand platform is seen as a potentially lucrative new revenue stream and an effective subscriber-retention tool. For networks, the platform presents an opportunity to test new content ideas and provides new ways of packaging existing content libraries. However, there are disagreements over the value of on-demand programming rights, how such services are best deployed, and which business models will yield a satisfactory return for both parties.

■ **The biggest unknown in predicting cable operator futures will be the emerging challenge by telecommunications carriers in the video market.** According to most estimates, it will take carriers three to four years to deploy a video-capable infrastructure to the majority of their subscriber base. However, there is a strong chance that telecommunications carriers that offer video services will begin taking market share away from both satellite and cable operators beginning in 2007, after which the “battle of the bundles” will gain significant momentum. At this early stage, forecasts do not fully reflect this emerging competition.

■ **The battle to serve U.S. homes with video, HSD, and telephony services will be waged—and won or**

**lost—by effectively bundling three or more services for each home.** This ensuing battle among satellite operators, telecommunications carriers, and cable operators is about becoming a consumer's sole entertainment and communications services provider. This strategy positions the service provider to up-sell new services delivered through in-house development or partnerships. In the process, service providers have the ability to reduce churn, lower operations and maintenance expenses, while boosting per-household revenue. Bundling also benefits consumers, who gain through discounts, convenience of a single bill and a single point of contact for customer service.

■ **Satellite operators will be limited in their ability to offer newly differentiated services, but will continue to compete on price, customer service, quality, and programming choice.** Satellite operators have been successful in the multi-channel video market over the past decade by competing on quality of picture, quantity of content, competitive pricing, and superior customer service. Satellite operators will continue to attract customers at the expense of smaller cable operators and in areas where cable service is unavailable. But longer term, in the on-demand market, satellite will be at a disadvantage in the amount of programming it can offer consumers because it relies on local storage.

■ **With increasing competition and intense pressure on margins, customer service differentiation will be essential to acquire and retain customers.** Competition in the multi-channel video market will increase pricing pressure and compress margins. Customer service may be a decisive factor in the competition among cable operators, telecommunications carriers, and satellite operators, if the past is any indicator. Much of the satellite industry's initial success could be attributed to its ability to lure cable subscribers who had disagreeable customer service experiences. ■

## RECOMMENDATIONS

The following recommendations address the primary challenges and opportunities facing the U.S. cable TV industry's main participants: cable operators, cable networks, and satellite operators. For a discussion of the issues telecommunications carriers face, see the sidebar on page 29.

### *Recommendations for Cable Operators*

- **Manage complexity by focusing on customer service.** Cable operators need to continue to improve and consistently deliver satisfactory customer service. This initiative is necessary in order to fully realize the benefits of their investments in an upgraded infrastructure. Delivering a triple-play bundle of telephony, high-speed data (HSD), and video services will strain the capabilities and performance of the operators' customer care organizations. However, operators will not be able to attract customers away from satellite or maintain their lead against telecommunications carriers without competitive customer care.

- **Focus management and financial resources on the most promising opportunities.** Cable operators should avoid being distracted by new, non-fundamental services that promise less in returns than the solid execution of a sound triple-play strategy. They should focus on the most lucrative prospects and the best differentiators—and deliver on what they promise. For the near term, the focus should be on maintaining their lead in HSD and growing their telephony businesses. Over the longer term, operators should develop the on-demand platform.

- **Continue to lead with a bundling strategy and focus on total revenue from the household.** Cable operators must lead with a triple- or—even better—a quad-play bundle of services to attract and retain customers. Their focus should be on the revenue from the total services purchased by a household, rather than the revenue from individual services.

Pricing of individual services should be based on the competitive dynamics of the region where the customer resides. Over the near term, bundling will be instrumental in reducing subscriber churn to satellite. Over the longer term, bundling positions the operator to “own” the customer, and thereby sell incremental services that bring more value to both the customer and the operator.

- **Differentiate the cable HSD service and enter into partnerships with providers of bandwidth-intensive applications.** Customer adoption of higher-speed access is dependent on their use of bandwidth-intensive applications and content. Operators should offer tiered broadband service, with greater throughput services priced higher than an entry-level HSD package. Operators should also enter into partnerships with providers of bandwidth-intensive services, such as digital photo and multimedia applications, gaming, and off-site data storage. In such a partnership, the content provider might pay the carrier to temporarily increase the speed of a subscriber's connection during the time that the subscriber is accessing the service. Operators should emphasize innovative HSD services and compete aggressively on quality, capacity, and applications, in addition to price.

- **Pay close attention to quality of service for telephony offerings.** Operators must solidify their current advantage in the video and data business segments by rolling out telephony quickly. But bundling is likely to succeed only if all services in the bundle are of acceptable quality. Telephony will be an integral part of such a bundle, with customers unlikely to tolerate poor quality in this service. Also, after HSD, telephony will be the next area of strong competition between the operators and telecommunications carriers. Operators should ensure that the quality of their voice service is adequate to succeed in attracting and retaining telephony customers.

■ **Pursue wireless service to add to the bundle.** The telecommunications carriers will use their wireless capabilities to provide subscribers with wireless service as part of their bundle. In addition, they will create service differentiation by deeply integrating wireline and wireless services. Cable operators will need a competitive response, and they too should consider collaborating with existing wireless operators or using new technologies such as WiMAX, to offer a bundle that incorporates wireline and wireless service. Cable operators may also need to explore mergers with or acquisitions of wireless operators.

■ **Develop and communicate the benefits of the on-demand platform to consumers and network partners.** Cable operators have a crucial and unique role in making the on-demand platform a successful, compelling service. Operators must develop and communicate the value proposition of the on-demand platform to both consumers and cable networks. They should educate consumers on the benefits of on-demand, while allowing cable networks to participate in the creation of new revenue streams that will result from the platform. They must also expand the coverage of the on-demand platform in their territories. There is a real opportunity for operators and networks to collaborate on the creative new packaging of programming and the development of new advertising models.

■ **Take advantage of and be prepared for HDTV.** Operators must be in a position to offer all the available high-definition (HD) programming to their subscribers or risk losing customers to satellite. HDTV will increasingly become a customer acquisition and retention tool. For most cable systems, modular plant upgrades will be necessary to ensure they have sufficient spectrum for all HD signals. Operators should also consider providing analog subscribers with digital set-top boxes to free up the analog bandwidth for additional usage.

■ **Anticipate a true telecommunications carrier video threat.** Faced with significant threats to their core telephony businesses, telecommunications carriers are serious about modernizing their networks and entering the video market. Operators should anticipate a true video threat from these service providers with scenario planning around (a) growing profits while losing market share, (b) diversification strategies, and (c) infrastructure changes that surpass the switched-video advantages touted by the carriers. To maximize the temporary competitive advantage they enjoy, operators should promote the development and use of applications that have large downstream bandwidth requirements, because the carriers will have difficulty meeting such requirements in the short term.

## *Recommendations for Cable Networks*

■ **Continue to invest in the highest-quality programming content.** Cable networks have the opportunity to establish a distinctive brand and market reputation by developing and broadcasting high-quality programming that appeals to targeted demographics. Original dramas, comedies, or series in other genre can add considerable value to a cable network in the marketplace. The development and popularization of a small number of original programs can also have significant downstream revenue benefit in the form of syndication revenues.

■ **Diversify the advertising revenue stream through unique marketing and sponsorship opportunities associated with programming.** While the rise of digital video recorder (DVR) technology will not cause irreparable damage to the television advertising marketplace, it has served as a wake-up call to both the networks and the advertising industry. The traditional 30-second TV ad format needs to be supplemented by more innovative forms of sponsorship and marketing. Broadcast and cable networks,

## RECOMMENDATIONS

advertising and media-buying agencies, corporate marketers, and talent agencies have already begun to innovate in this area. Early efforts have used such techniques as in-program product placement, sponsored programming, and non-traditional content productions. In addition to creating the potential for new advertising revenues for the cable networks, these techniques could also revitalize the entire TV advertising category by promoting the concept that advertising is creative content that consumers will choose to watch.

■ **Develop strategies for taking advantage of the increasing number of video outlets.** Distribution of video content is no longer limited to one-way broadcast on the linear channel platform. The emergence of the on-demand platform, broadband Internet, mobile Internet, and digital video recorders (DVRs) have changed how video content is consumed. Networks should understand the unique characteristics of these outlets and develop strategies for capturing the synergies across them. The increasing number of outlets carries the prospects of extending existing brands as well as exploring new business models.

■ **Leverage the unique characteristics of the high-speed Internet.** The high-speed Internet has unique characteristics that make it suitable for highly interactive applications such as games. Video content that makes use of such characteristics to provide compelling user experiences have yet to be developed. For instance, being able to view a single program episode from the viewpoint of different characters. Networks should develop a richer selection of original broadband content that takes full advantage of the high-speed Internet, adding to its appeal as an outlet for exclusive content as well as increased throughput. Invest in developing new kinds of content for the on-demand platform. Networks are challenged to develop new and creative formats for the on-demand platform. They must create new program models that provide

a compelling product from the consumer's perspective, as well as viable economic returns for both distributor and content provider.

■ **Collaborate with distributors in making on-demand a success.** Cable networks should work with cable operators to fully tap the potential that on-demand has to offer to all segments of the industry value chain. There is an opportunity for creative new packaging of programming by themes, celebrities, and genres, for example. Once these packages are available, the networks must develop new advertising opportunities to take advantage of them.

■ **Engage advertisers in the value of targeted advertising via the on-demand platform.** The on-demand platform promises more effective advertising, by making it targeted. Networks and advertisers will have access to more accurate and detailed data on consumer usage that can be leveraged for targeted and effective advertising. Networks need to engage advertisers in developing appropriate advertising mechanisms for the on-demand platform.

■ **Take advantage of commonly used Web techniques to promote content and stimulate demand.** The on-demand platform can use a variety of mechanisms to allow consumers to find the content they are interested in. Networks should apply the same tools used to promote and stimulate demand on the Internet, such as collaborative filtering, search and retrieval, and personalized recommendations. This approach will effectively expand the market for pay-video.

### *Recommendations for Satellite Operators*

■ **Continue to focus on the total customer experience.** Satellite operators have been successful in acquiring customers by providing superior

picture quality and customer service, key elements of the total customer experience. However, with a growing satellite subscriber base and cable operators attempting to narrow the customer-care gap, maintaining a high level of customer service will be challenging. Satellite operators should continue to seek differentiation on quality by taking advantage of technology innovations like HDTV and DVR, as well as maintain their advantage in customer care.

■ **Leverage a national footprint.** Cable networks desire to make their content available to as many paying customers as possible. Certain deals, such as those for exclusive content, are more substantial with distributors that have a national footprint and can offer the potential to reach everyone.

■ **Focus on customers of smaller cable operators.** As cable operators continue to consolidate, satellite operators will have opportunities to increase their customer base. In particular, operators should look to take customers away from smaller operators that will have difficulty executing on a bundling strategy and that do not carry the same leverage with networks that larger operators do.

■ **Expand partnership with telecommunications carriers to complete the bundle.** Satellite operators' current inability to provide a complete bundle of video, HSD, and telephony services can potentially be a serious disadvantage. Satellite operators should continue to expand their partnerships with carriers to offer a complete and competitive bundle of services to consumers.

■ **Continue to advance the capabilities and conveniences associated with DVRs.** Satellite operators' response to the on-demand platform depends upon advancements in DVR and associated technologies. As hard drive costs decrease, operators will be able to stage more content on DVRs to offer to consumers. Satellite operators should continue investing in DVR capabilities and continue promoting their associated benefits to consumers. ■

*Technological advances in systems along with a much wider range of programming choices have served as the primary engines for growth from the industry's inception to the present day transition to a digital platform.*

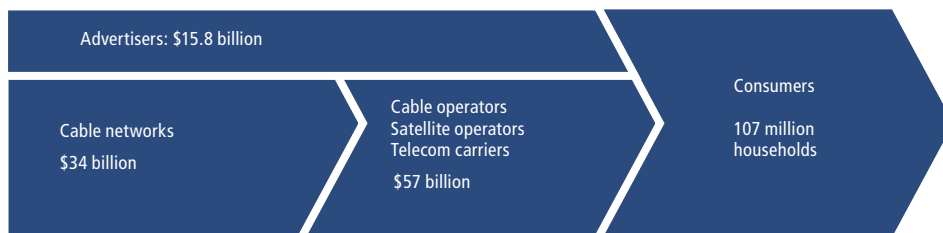
**■ Background**

Over the past two decades, the cable business in the United States essentially evolved from a service industry to one that focused on programming choices and communications products. Cable system operators and cable television networks experienced rapid growth as they met consumer demand for new content and services. The market for operators grew from less than \$10 billion in 1985 to more than \$57 billion in 2004. Similarly, the market for cable networks grew from less than \$4 billion in 1991 to more than \$34 billion in 2004. At the same time, the number of channels the average U.S. television household received increased fivefold, from 18 channels in 1985 to 100 channels in 2003, according to Nielsen Media Research. The total universe of available channels is considerably higher at more than 300.

In 2005, the industry now finds itself at a turning point. The pool of subscribers to multi-channel video services is unlikely to grow much beyond where it stands today: 86 percent of U.S. television households. The majority of those subscribers are served by cable, which has about 67 percent penetration, according to Nielsen. The remaining subscribers are served either by satellite television, the cable industry's established competitor, or by a telecommunications carrier, an emerging competitor.

Given they face a saturated multi-channel video market and, at the same time, an environment where innovative video technologies are emerging, operators and networks can anticipate more shifts in the existing industry value chain shown in Figure 1. These changes include more consolidation and vertical integration among established companies in the industry over the short term. However, over the long term, new entrants will disrupt the market, approaching the business differently with the help of the emerging on-demand platform and Internet-based video. At least partial industry disintermediation could be the result.

FIGURE 1: MULTI-CHANNEL TV INDUSTRY VALUE CHAIN, 2004



**■ Cable Operator Landscape**

Cable TV distribution in the U.S. is controlled by a short list of large cable system owners and satellite operators that includes Adelphia, Charter, Comcast, Cox Communications, DIRECTV, EchoStar Communications, and Time Warner Cable. The industry is heavily consolidated, with the largest 11 operators collectively serving more than 80 million subscribers, about 85 percent of the total subscriber base. (See Table 1.) By the second half of 2004, cable subscribership in the United States was nearly 73 million, a penetration rate of more than 67 percent of television-viewing

TABLE 1: MULTI-CHANNEL TV DISTRIBUTORS BY NUMBER OF SUBSCRIBERS

Rank	Distributors	Subscribers (in millions)
1	Comcast	21.1
2	DIRECTV	12.6*
3	Time Warner Cable	10.9
4	EchoStar	10.0*
5	Cox	6.3
6	Charter	6.2*
7	Adelphia	5.4
8	Cablevision	2.9*
9	Advance/Newhouse	2.1
10	Mediacom	1.5*
11	Insight	1.3

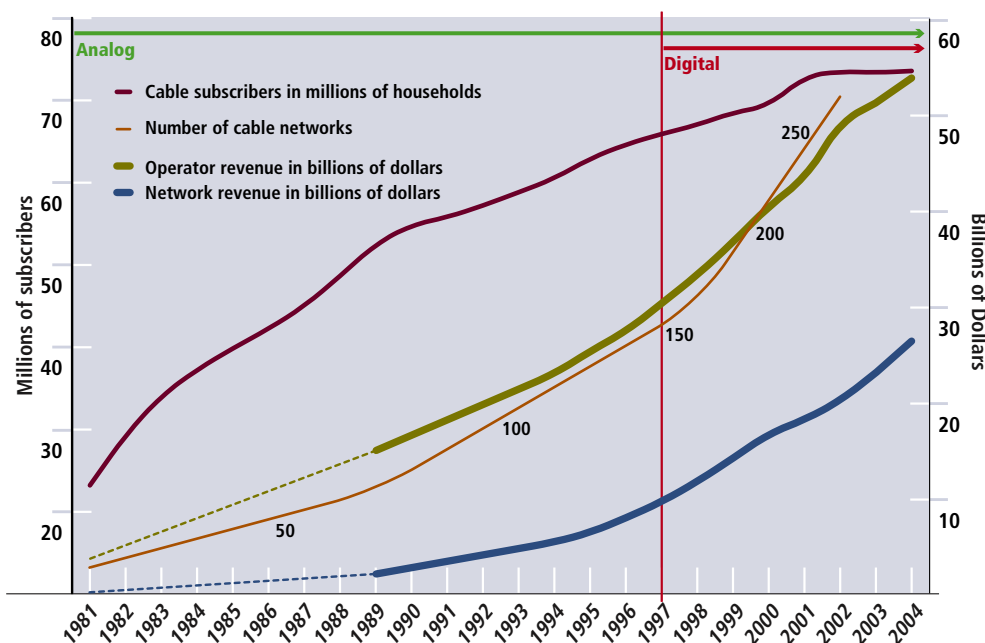
Source: Company reports, June 2004

\* first quarter, 2004

households, according to the National Cable Television Association (NCTA). Satellite operators accounted for another 24 million subscribers, or 20 percent of TV households. Technological advances in systems along with a much wider range of programming choices have served as the primary engines for growth from the industry's inception to the present day transition to a digital platform.

As shown in Figure 2, the industry has experienced a steady increase in subscribers and the number of cable networks. In the late 1990s, the industry's \$80 billion investment in a digital infrastructure significantly improved the cable operators' ability to offer more channels to consumers than possible with an analog system. It also provided the platform for new consumer services, such as high-speed data (HSD) and telephony.

FIGURE 2: U.S. CABLE TV INDUSTRY GROWTH, 1981–2004



Source: Kagan Research LLC, NCTA, PricewaterhouseCoopers, and other industry sources

The revenue growth of the cable industry in the past two decades was a result of increasing the number of subscribers who, at the same time, consumed an increasing number of linear channels.

There has been substantial consolidation among cable operators in the past five years, including Comcast's 2003 acquisition of AT&T's cable holdings. Consolidation provides operators with greater coverage areas, more customers, and greater leverage in negotiations with cable networks. It helps current players survive in an increasingly competitive market and is a trend that is expected to continue. As of late 2004, one of the largest operators, Adelphia, was up for sale. Smaller cable operators are finding it increasingly difficult to compete in an industry where operators require ever greater amounts of capital to upgrade their infrastructures. Additionally, these operators simply lack the economies of scale afforded by their bigger competitors.

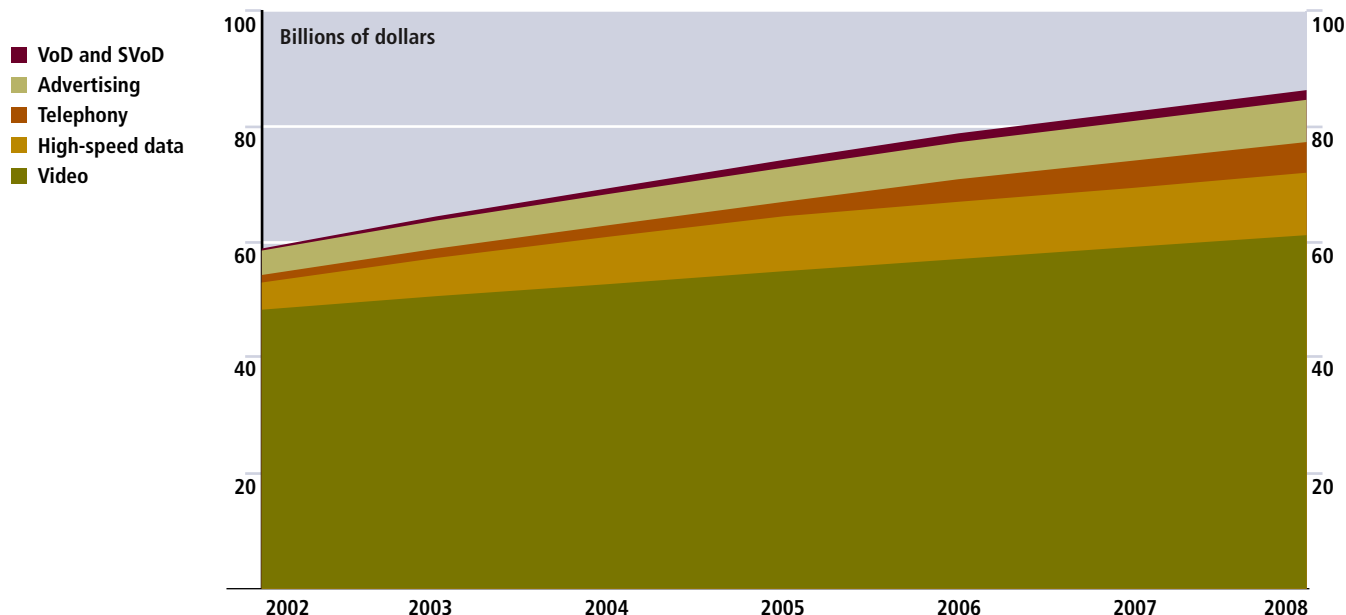
**REVENUE SOURCES**

Throughout the analog era, subscription fees for basic and premium video services made up the primary revenue source for operators, with advertising an important secondary source. With the introduction of the digital platform, cable operators created new revenue streams associated with services such as video-on-demand (VoD), subscription video-on-demand (SVoD), HSD, and telephony.

As cable has reached the saturation point for basic video subscribers, revenue growth rates from fees generated by video-only services are declining. According to PricewaterhouseCoopers estimates, because of increased competition from satellite operators, cable operators will see their multi-channel video subscribership decrease by 3 percent (about 2 million households) between 2004 and 2008.

By 2008, PricewaterhouseCoopers forecasts that cable operator revenues will total about \$86 billion. Basic cable video fees will average only a 3 percent compound annual growth rate (CAGR) between 2004 and 2008 and account for a little more

FIGURE 3: CABLE OPERATOR REVENUE FORECAST BY SERVICE TYPE, 2002–2008



Source: PricewaterhouseCoopers, Universal McCann, Wilkofsky Gruen Associates, 2004

than half of total revenues (52 percent), or \$45.1 billion. Revenues from premium services will total almost \$13 billion, growing about 4 percent annually and accounting for 14 percent of revenues by 2008. (See Figure 3.)

The same analysis found that, between 2004 and 2008, digital subscriptions will grow at a rate of 9 percent, while analog subscriptions will decrease at a rate of 6 percent. Also during this time, digital upgrades will account for an additional \$2 billion in industry revenue.

### COMPETITORS

For years, cable had a single competitor: broadcast television. But in the mid-1990s, after decades of development, Direct Broadcast Satellite (DBS) materialized and satellite operators began to attract customers from cable's core base of video subscribers. Meanwhile, cable operators have provoked aggressive new competition with the telecommunications carriers in their core video business, as the operators have sought new revenue streams through HSD and telephony services.

The competitive intensity for video services is only expected to increase. "Cable television has always had competition, but never as much as today," says Mark Harrad, vice president of corporate communications at Time Warner Cable. "And it's coming from two different fronts—satellite and telephone."

#### Satellite Operators

The two leading satellite operators, DIRECTV and EchoStar (known commercially as The Dish Network), now claim close to 24 million subscribers. DBS operators continue to add customers at a rapid rate by addressing the primary consumer complaints about cable: First, cable has yet to overcome a history of service-quality problems, both with the signal itself and with the customer relationship. Second, cable's frequent absolute rate increases, although usually associated with additional programming, have not always been appreciated by subscribers satisfied with their existing channel line-ups and monthly fees.

For satellite operators, video services constitute their primary revenue source. An obstacle for DBS providers, however, is the lack of suitable technology to allow them to effectively bundle video, HSD, and telephony services. Satellite operators will therefore continue to compete on price, customer service, quality, and programming choices. Satellite operators will also continue to leverage technologies that are available to them, including digital video recorders (DVRs) and high-definition television (HDTV), in an effort to differentiate their services.

"You'll see us focusing more on HD; you will see us launching some new HD networks and [in 2005] getting into as many local markets as we can, with local high-definition product," explains Dan Hartman, vice president of programming acquisitions for DIRECTV.

#### Telecommunications Carriers

Major telecommunications carriers, such as BellSouth, SBC Communications, and Verizon Communications, are challenging cable operators directly in their core

*"You'll see us focusing more on HD; you will see us launching some new HD networks and [in 2005] getting into as many local markets as we can, with local high-definition product."*

*Dan Hartman, DIRECTV*



*For a detailed discussion of telecommunications carriers' challenges and opportunities, see the PricewaterhouseCoopers' white paper, Competition in the First Mile: Why Fiber to the Premises is Not the Issue.*

***“Having another player [carriers] selling our product to consumers may get that last 15 percent of households that don't have a multi-channel video supplier in their home.”***

***Tony Vinciguerra,  
Fox Networks Group***

business—video. For these carriers, the stakes are high: With their own core voice and HSD businesses threatened by cable operators and wireless providers, their very existence as independent operators is at risk.

The major carriers have already committed to spending approximately \$10 billion over the next several years to lay fiber optic networks capable of video delivery to parts of their coverage areas. The carriers are expecting that they can provide bundled HSD, telephony, and video services of comparable quality to cable. At the same time, they must convince consumers that their customer service is more reliable. More importantly, there are indications that the major carriers may seek to develop interactive video offerings that leverage their network-switched architecture in ways that may create a superior video product to that provided by cable.

In partnership with satellite operators, carriers are already bundling video with their voice and HSD services. To compete effectively over the long term, the carriers must have control over their own the video services, as well as a scalable infrastructure that offers the potential to provide new services.

“If the telcos really want to own the customer, they're going to have to be in control of all the services. They're going to have to be able to put together different packages—whether it's telephone (wired and wireless), media (video, games, music), broadband, high-speed Internet access—or any future applications,” predicts Gary Myer, principal of Myer and Associates.

The carriers' entry into the multi-channel video market also has the potential to reach new customers. “Having another player [carriers] selling our product to consumers may get that last 15 percent of households that don't have a multichannel video supplier in their home. We're pretty agnostic on the distributor. We just want to get to more viewers,” says Tony Vinciguerra, president and CEO of Fox Networks Group.

#### **CHALLENGES FACING CABLE OPERATORS**

Over the next decade, cable operators must contend with a number of short- and long-term challenges.

##### **Balancing Revenue and Cost**

In the coming years, operators anticipate the crucial challenge of boosting per-subscriber revenue while containing escalating costs. According to Morgan Stanley, video revenue per subscriber grew at an average rate of 6.5 percent for the period from 1999 to 2004. Meanwhile, programming costs per subscriber increased between 10 to 15 percent annually. These figures reflect the fundamental imbalance that the cable industry must address in the short term.

Persuading subscribers to pay more for additional services will be difficult, particularly with increasing competition from satellite and telecommunications carriers offering similar services to those same subscribers. Additionally, consumers have

already resisted cable operator attempts in recent years to raise rates. Their outcry led Congress to consider re-regulating rate increases if the increases were not fully justified.

Thus, raising average revenue per subscriber will depend on the industry's ability to market and deliver new services more effectively than the competition. In the past, operators have succeeded in this regard. For example, in 1994, basic cable programming packages and premium channels accounted for 85 percent of operator revenues, according to Kagan Research. Revenue from other sources, such as advertising and commissions from home shopping sales, accounted for the remaining 15 percent. By 2003, basic cable and premium channels accounted for 67 percent of revenues. New services such as HSD, digital cable, and telephony, combined with a moderately growing advertising base, rose 33 percent.

At the same time, cable operators are faced with increasing complexity in their infrastructure and operations, due to their increasing array of consumer services. Managing this environment will be critical to managing costs. Operators must develop smarter, integrated business and operational support systems that contain costs even as they add new services to their offerings.

#### **Reducing Customer Churn**

Customer churn is a major concern. To keep subscriber penetration from declining, cable operators are engaged with replacing more than 20 million subscribers each year who disconnect for various reasons (relocation accounting for about half of the disconnects). In 2003, the industry failed to add (or reconnect) as many new subscribers as it disconnected—the first full year in its history that the industry posted a subscriber decline. According to Kagan Research, subscriber disconnects totaled 20.4 million, while new subscriptions and reconnects totaled 20 million, for a net decline in basic subscribers of 400,000. Cable's subscriber count continued declining in 2004: As of July, Nielsen data showed basic subscribers fell 2 percent (to 72.6 million) compared to the previous year.

#### **Managing the Relationship with Cable Networks**

Finding it more difficult to pass license-fee increases on to consumers, operators are beginning to resist the imposed cable-network fee increases. Recent disputes over the value of video channels in license-renewal negotiations and on-demand rights for programming associated with video channels have indicated tension between the operators and the networks. Examples of how that tension has played out are numerous.

ESPN and Cox had a publicized dispute in 2004 over proposed rate hikes for the sports network. Cox also underwent tough negotiations with Fox Sports over fees. In both cases, contracts were negotiated, but comments in the press from each side indicated that the relationships had become strained as a result of the conflicts.

Negotiations in 2004 between Viacom and Comcast over carriage rights and fees for cable networks including MTV, VH-1, and The Comedy Channel, also were uncompromising. Viacom granted video-on-demand (VoD) programming rights to

***“If the telcos really want to own the customer, they’re going to have to control all the services. They’re going to have to be able to put together different packages—whether it’s telephone, media, broadband, high-speed Internet access—or any future applications.”***

***Gary Myer,  
Myer and Associates***

Comcast for the *CBS Evening News*. However, Comcast was not willing to pay extra for VoD rights to Viacom's stable of prime-time shows, such as *CSI*, *Everybody Loves Raymond*, or *Survivor*. Such disagreements on economic models for new platforms and services are impediments to the development of new revenue streams.

Lack of capacity on the analog tier for new channels also increases the pressure on cable operators and networks alike. It also demonstrates how leverage, for even the biggest network players, only goes so far. After six years of trying to get wide distribution for CNNfn, Time Warner finally gave up in late 2004 and discontinued the struggling business news service, which was only able to aggregate about 30 million subscribers, half of which were on News Corp.-owned DIRECTV.

Companies on both sides acknowledge the symbiotic relationship and the need to move toward longer-term contracts to provide stability in pricing and rights. Operators and networks alike are aware that customer satisfaction through compelling services at competitive prices is an important factor for mutual success.

#### **Capitalizing on the Digital Opportunity**

While digital services like HSD, telephony, and on-demand are expected to provide new areas for industry growth, operators must define appropriate short- and long-term strategies for these new markets. First and foremost, they must

### **HIGH-SPEED DATA SERVICES: SEEKING DIFFERENTIATION**

Among newer businesses, high-speed data (HSD), first introduced in 1998, has shown the most promise. Through the first half of 2004, UBS Investment Bank reported that cable operators had sold HSD service to about 60 percent of the total broadband subscriber base. But the cable industry faces heated competition from telecommunications carriers, which claimed the remaining 40 percent of the market with their digital subscriber line (DSL) installations.

Between 2004 and 2008, total U.S. broadband households are forecasted to increase from 29 million to 54 million, a compound annual growth rate (CAGR) of 20 percent, according to PricewaterhouseCoopers. In contrast, the CAGR for end-user consumer spending on Internet access for the same period will be 7.3 percent, rising from \$25.5 billion in 2004 to \$32.8 billion in 2008. Thus, price competition for HSD services will be intense. Cable operators will need to differentiate their service to maintain their lead in subscribers and revenues.

Telecommunications carriers have been trying to win customers by cutting prices, with some companies offering DSL service for as low as \$19.95 a month, about half of cable's typical pricing of \$40 to \$50 per month. According to the Yankee Group, this strategy has allowed telecommunications carriers to increase their share of the residential HSD market in 2004 by approximately 5 percent.

In part, cable operators have responded to the situation by offering tiered broadband service. The cable industry has also invested in other ways to maintain subscriber growth and bolster revenue. The CableHome initiative, for instance, builds on the success of CableLabs' headend and cable modem standardization. It adds secure

home gateways that offer virtual private network (VPN), firewall, authentication, and quality-of-service features. The gateways can be remotely configured and managed by cable operators. Many homes now have multiple PCs and networked peripherals, and the industry can target the early adopters in this segment for home gateways.

Similarly, CableLabs' PacketCable initiative will enable multimedia Internet Protocol (IP) services such as interactive gaming, videoconferencing, and other applications through managed quality of service. Vendors such as ICTV, with its Headendware platform, that participate in the CableLabs efforts, are beginning to make it possible to offer high-resolution, full-motion games. Additionally, they allow multiple gamers to play with remote controls and thin-client set-top boxes, or, alternately, on their notebook PCs.

Given the high level of competition in HSD, operators may provide new service features at no extra cost to encourage subscriber retention. Comcast, for instance, launched its Video Mail service in August 2004, which it offers free to existing cable modem users. Potential users of Video Mail also have the opportunity to buy Webcams at discounted prices.

Over the next five years, cable operators will find it necessary to make available over HSD a wide range of entertainment, news, and business content. They will face increased competition from telecommunications carriers who partner with Internet portals like Yahoo!, for example, that have their own customer bases and service innovations, or wireless Internet services that can begin small and scale more easily than their wireline counterparts. ■

succeed in upgrading the significant numbers of analog subscribers to digital service. Migration of existing customers to the digital platform will release the analog spectrum, which can then be used for bandwidth-intensive content such as HDTV, increased throughput for HSD, and new services.

Growth in HSD is an early example of the digital services market's promise and challenges. In 2000, the cable industry had just fewer than 2 million HSD homes. By the first quarter of 2004, HSD cable customers had risen to 17.3 million homes. However, telecommunications carriers have begun to offer lower-priced digital subscriber line (DSL) services (often at \$19.95 per month) in most markets and cable operators are now attempting to retain their HSD market share.

Cable operators have tried to hold pricing for HSD service in the \$40-per-month range, arguing that cable HSD is twice as fast as DSL and therefore worth more to subscribers. In 2004, the telecommunications carriers' cost-cutting strategy worked, enabling them to add 48 percent more customers than they had at the end of 2003 to 10.7 million, according to the Yankee Group. Meanwhile, cable's residential HSD subscribers increased by only 21 percent in 2004 to 18 million, as more customers were attracted to lower DSL pricing.

#### ■ Cable Network Landscape

In the 1980s, broadcasters dismissed cable programming as a minor competitive annoyance that would never pose a serious threat to their business. By the 1990s, as cable continued to build audiences, the major networks started investing in cable programming. ABC had a controlling stake in ESPN and stakes in other networks such as Lifetime. NBC created CNBC and partnered with Microsoft to develop MSNBC.

As with the operator side, the cable network industry is heavily consolidated. Over the last decade, all of the independent broadcast networks were acquired by major production studios that were seeking outlets for their content, ushering in the era of the major media conglomerate. CBS is now owned by Viacom, which also owns many brand-name cable networks such as MTV, Nickelodeon, and Showtime. The Walt Disney Company owns ABC, ESPN, Disney Channel, and other cable networks. News Corporation created Fox Broadcasting, Fox Cable News, Fox Sports, and FX among others. Most recently, NBC merged with Vivendi Universal to create NBC Universal, whose holdings also include Bravo, USA, and Sci-Fi. As a result, the majority of the networks are owned by a handful of conglomerates. (See Table 2 on page 16 for an overview of the largest cable networks.)

The recent wave of consolidation has also prompted a move towards vertical integration. News Corp.'s acquisition of DIRECTV has brought cable distribution and networks under the same ownership. News Corp.'s acquisition of DIRECTV has profound implications for both cable networks and distributors, because News Corp has heavy investments in both sectors and competes aggressively in all of its businesses.

*Migration of existing customers to the digital platform will release the analog spectrum, which can then be used for bandwidth-intensive content such as HDTV, increased throughput for HSD, and new services.*

**Cable networks share a fundamental roadblock with cable operators: saturation of their core market. Escalating programming development costs and the resistance of operators and consumers to pay increased fees further aggravate the predicament.**

TABLE 2: CABLE NETWORKS BY HOUSEHOLD PENETRATION, 2003

Rank	Cable Network	Number of Households (Millions )*	Media Group or Majority Ownership Entity
1	Discovery	88.6	Liberty Media, Cox, Newhouse
2	ESPN	88.4	Disney, Hearst
3	TNT	88.2	Time Warner
4	CNN	88.2	Time Warner
5	USA	88.1	NBC Universal
6	C-SPAN	88.1	Non-profit (funded by cable industry)
7	TBS	88.1	Time Warner
8	Nickelodeon	87.9	Viacom
9	A&E	87.7	Hearst, Disney, NBC Universal
10	Lifetime	87.5	Hearst, Disney

Source: Kagan Research, LLC, 2005

Vertical integration has certain advantages: It provides producers with guaranteed distribution outlets for their programming. Without the need to negotiate rights, this structure also enables companies to try new methods of distribution, packaging, and pricing. Certain cost efficiencies can be achieved through vertical integration, as can added leverage when negotiating with business partners.

**REVENUE SOURCES**

Cable networks have two primary revenue sources: affiliate fees and advertising. Over the past few decades, the industry has grown on the strength of increasing both affiliate fees and advertising revenue. Networks charge distributors affiliate fees to distribute their content to subscribers. These fees are typically negotiated on a per-subscriber per-month basis. Distributors with large numbers of subscribers are generally able to negotiate better deals than those with smaller subscriber bases.

Affiliate fees made up 52 percent of total revenue and advertising made up about 45 percent of total cable network revenue in 2003, according to Kagan Research. Additional revenue streams like content syndication and brand merchandising made up the remaining 3 percent.

Advertising revenue growth for basic services will slow in 2004 through 2008, with a CAGR of 8.8 percent. This compares with a peak growth rate of 25 percent in 2000. Cable network advertising will total \$15.8 billion in 2004, up 12 percent from 2003, and by 2008, it will account for \$21.5 billion according to PricewaterhouseCoopers. (See Figure 4.)

For the top 10 cable networks, the affiliate and advertising revenue shares have been roughly equal. Recently, there has been considerable interest by networks to license their well-known brands to create awareness and market shows. Licensing is also less expensive—and less risky—than going into retailing, as licensees take on the

cost of manufacturing and distributing licensed goods. Companies such as Disney, Time Warner, and Viacom have exited the unsuccessful retail businesses that they had established for licensed goods in the 1990s.

### CHALLENGES FACING CABLE NETWORKS

As with cable operators, cable networks are being confronted with considerable challenges—and opportunities—in the short and long term.

#### Market Saturation and Resistance to Higher Affiliate Fees

Cable networks share a fundamental roadblock with cable operators: saturation of their core market. Escalating programming development costs and the resistance of operators and consumers to pay increased fees further aggravate the predicament.

Currently, 86 percent of households subscribe to multi-channel video, and by 2008, this figure will increase less than one percentage point to 87 percent of households, according to PricewaterhouseCoopers projections. Distributors can no longer rely on growing their subscriber bases to pay increases in cable network affiliate fees. As a result, cable operators are paying much stricter attention to costs as a way to maintain future profits. Nevertheless, development of compelling programming continues to require a sizable investment.

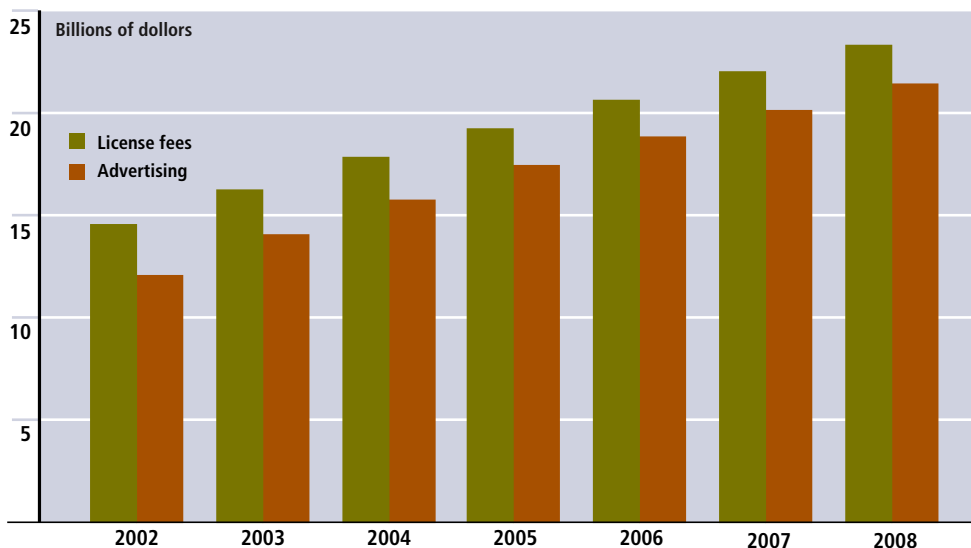
In the past, cable networks had recouped these cost increases by raising affiliate fees, and operators, in turn, passed the increases on to consumers. Consumer backlash has changed this situation and operators have resisted recent attempts by cable networks to further raise wholesale prices.

The consolidation of cable operators has resulted in a situation in which each operator's customer base represents a significant share of the total market, putting networks at a disadvantageous negotiating position. Cable networks that

***“If the entertainment companies have a vested interest in keeping the entertainment just the way it is today, they’ll miss out on what the next thing is. We should just be thinking about the world as one big digital playland.”***

***Geraldine Laybourne,  
Oxygen Media***

FIGURE 4: U.S. CABLE NETWORK REVENUE FORECAST BY SOURCE, 2002–2008



Source: PricewaterhouseCoopers, Universal McCann, Wilkofsky Gruen Associates, 2004

threaten not to issue a license because operators will not pay increased affiliate fees risk forfeiting a large audience.

Two recent examples demonstrate the changing dynamics. In 2004, both ESPN and Fox Sports encountered fierce resistance from cable operators when the networks tried to impose additional double-digit rate increases—increases that were consistent with past contract negotiations. Eventually, the networks accepted lower rate hikes (reportedly in the high single-digit range), but in exchange, received longer-term contracts than they were previously awarded.

Some arrangements also provide for lower rate hikes in return for carriage of startup networks. Other arrangements forego rate hikes in return for a share in new revenue streams being created by new services. For instance, Viacom was able to maintain the growth of its affiliate revenue base and secure long-term carriage by giving Comcast a share of the potential revenues on VoD and HD content.

#### **Difficulties in Launching Successful New Linear Channels**

With more than 300 cable networks in operation, there is little room to create successful, new networks. “It is undoubtedly much tougher to launch a new channel today than it was only a few years back. The marketplace is so fragmented that it is very difficult to stand out in any meaningful way,” says Frederick Huntsberry, chief financial officer and executive vice president of distribution for NBC Universal.

The statistics are sobering: According to Kagan Research, less than 10 percent of all national and regional TV networks are distributed to 90 percent or more of the U.S. cable TV homes. The Discovery Channel tops the list, reaching 97.8 percent of all cable homes in 2003. ESPN is number two with a 97.6 percent reach. Rounding out the top five are TNT, CNN, and USA respectively.

## **NETWORK CONVERGENCE: PROSPECTS FOR IP-BASED TELEVISION**

Since the introduction of television, the core delivery architecture for TV and cable services has been point-to-multipoint broadcast. This architecture has served the cable and direct broadcast satellite (DBS) operators favorably, allowing subscriber growth without affecting service reliability or quality. However, the push towards a converged delivery network for video, high-speed data (HSD), and telephony services will seek to transform the point-to-multipoint architecture to incorporate a point-to-point character.

Much has been reported on the benefits and efficiencies of a packet-based network that inherently has a point-to-point architecture. After many years of technological advancements, Voice over Internet Protocol (VoIP) deployment over high-speed data connections is finally converging the voice and HSD services on to a single data network. Such a network can be deployed over cable, copper or fiber.

This single data network can also be used to distribute multi-channel video content—a transport method referred to as Internet Protocol-based television (IPTV). IPTV defines only the transport for the video

content, but not the services that will be provided. It can be used to deliver all broadcast channels, as well as any on-demand services.

With IPTV, video transport will migrate from a broadcast network to a switched-video architecture. In a broadcast network, all content is delivered to the set-top box (STB) and when the user changes a channel, the STB’s tuner locates the appropriate channel. However, in IPTV, only the channel that is requested is sent to the STB from the video headend. When the user changes the channel, the STB sends a request to the headend for a particular stream of data packets. The headend acknowledges the request, switches to the requested channel, and begins streaming the appropriate data packets.

Over the long term, IPTV and VoIP adoption will result in a fully converged network in which voice, video, and HSD are sent over the same packet network to consumer homes. Telecommunications carriers who are now formulating their plans for developing a video-capable network are seriously evaluating IPTV, as this may

A decade ago, when cable operators were eager for original programming, a network with a fresh idea and financial backing could launch a new full-time channel without any constraints. The once easy task of launching a new channel is now a battle. Most cable networks have a slate of new networks they would like to launch as they look for new shows, formats, and genres with strong consumer appeal. However, operators are increasingly selective in the channels they clear as they try to rein costs. The inability to get fresh, compelling content in front of viewers is a severe limitation to market expansion and could also stifle industry innovation.

Even if cable networks are successful in adding new channels, they must consider the effect this has on further narrowing audiences. Audience fragmentation, a problem the broadcast networks have confronted for many years, has now also become an issue for cable networks. Each new program service that is launched potentially takes audiences away from existing networks. This makes the probability of launching a new successful cable network small. Additionally, selling advertising based on broad reach becomes more difficult. As a result, cable networks and operators alike must refine strategies for selling ads that target increasingly narrow audiences.

#### **New Technologies and Changing Consumer Behavior**

As content distribution becomes digital, new technologies are reshaping consumer behavior as to how, when, where, and on what device they access content. “Using the technology for more personalization, we think that’s the most dominant trend with consumers,” says Matt Blank, chief executive officer of Showtime Networks. These changes are forcing cable networks to develop new economic models, business models, and content strategies.

The industry has expressed a great deal of concern over the threat that digital video recorders (DVR) pose to the cable networks’ advertising revenue stream. The technologies allow viewers to quickly fast-forward through 30-second commercials.

*“Using the technology for more personalization, we think that’s the most dominant trend with consumers.”*

*Matt Blank,  
Showtime Networks*

allow them to advance ahead of cable operators at a technical level. For instance, in late 2004, SBC Communications announced plans to deploy Microsoft’s IPTV software to encode and decode TV programming so that it can be sent over a data network.

#### **Benefits of IPTV**

Besides the efficiencies and operational cost savings that could result from a single network, convergence will improve the prospects for service innovation and differentiation. With IPTV, implementing new service combinations and allowing deep integration across telephony, video, and HSD services will be possible. In an IPTV infrastructure, merely duplicating the range of services that have evolved from the point-to-multipoint infrastructure would be a lost opportunity.

In the video context, IP delivery creates opportunities such as:

- **Introducing higher levels of interactivity.** This includes the ability to interact with many distinct elements within certain programming or an advertisement. For example, a viewer

might be able to click on an actor in a movie scene to pause the playback, access background information on the actor, and then return to the movie.

- **Fully integrating broadcast content and Internet-based content.** For instance, a video message from family or friends sent over a data connection could be cached on an IP-enabled for viewing on a television.
- **Allowing users to create multi-panel/multi-source images, where they select different video streams for each panel.** For example, this capability could allow sports viewers to maintain a panel from the ESPN Web site showing scores from other events, alongside regular programming.

The business motivation for developing these and many other potentially disruptive new services will likely come from telecommunications carriers, who will be the first to adopt IPTV. ■

***“As the market continues to evolve, there will be—and are—other revenue streams that expand well beyond ESPN, the magazine; ESPN Radio; ESPN.com. There will be broadband products, video-on-demand products, interactive television products, and expanded pay-per-view products.”***

***Sean Bratches, ESPN***

Some early studies by DVR technology vendor TiVo showed that viewers who were playing back recorded shows skipped up to 70 percent of the ads. Nevertheless, it is unlikely that television advertisers will be unable to adjust to this change. Current models may evolve, but advertising will remain a stable revenue stream.

At the same time, the technologies bring opportunities for more targeted advertising, while continuing to provide the ability to reach broader audiences by way of widely distributed channels. For example, TiVo has been working with advertisers to develop ways to command viewer attention for ads during playback. With the help of interactive tags, a viewer can click on an icon that appears onscreen during a commercial for more information about a product or the opportunity to participate in a promotion. TiVo has also announced that 30 advertisers were participating in another new approach: When a viewer hits the fast-forward button on a commercial, a brand image or logo appears onscreen.

Longer term, cable networks must consider the possibility of new technologies ushering in the age of subscribers having significantly more control. Many industry executives see a future where viewers, equipped with mega-storage-capacity DVRs, will watch whatever programs they want whenever they want to. To the extent that the vision is realized, the conventional model of regularly scheduled channels, programmed 24-hours a day is thrown into question—if not rendered obsolete.

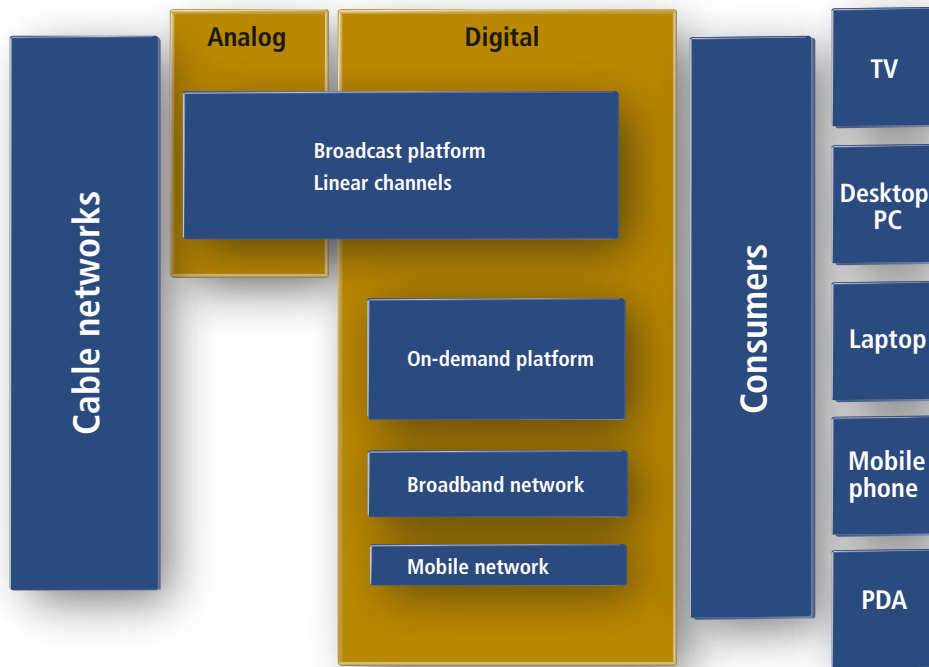
#### **More Content Outlets**

It used to be the case that video distribution began and ended with a one-way transmission path through a traditional cable, satellite, or terrestrial broadcast network. But broadcast networks are now being supplemented with on-demand, HSD, and wireless networks, each of which has unique characteristics that make it suitable for particular applications. For instance, it is unlikely that consumers would watch feature-length movies over a mobile phone or a handheld device, but the platforms have proven to be appropriate for news clips, ring tones, and sports highlights. Major League Baseball, for example, offers streamed highlight videos for a variety of devices at speeds of 56Kbps or 350Kbps.

The availability of more content outlets offers consumers greater convenience and flexibility in how, when, and where content is consumed. Multiple, synergistic outlets also create the opportunity to distribute appropriately formatted content across the outlets in order to stay in touch with consumers and maintain their loyalty. (See Figure 5.)

To leverage these synergies, cable networks must embrace new business models. The ESPN business model is a one such example of a multi-outlet strategy. “As the market continues to evolve, there will be—and are—other revenue streams that expand well beyond ESPN, the magazine; ESPN Radio; ESPN.com. There will be broadband products, video-on-demand products, interactive television products, and expanded pay-per-view products,” says Sean Bratches, executive vice president of affiliate sales and marketing for ESPN. In addition to nurturing video network brand extensions such as ESPNNews and ESPN Classic, the company is actively

FIGURE 5: VIDEO DISTRIBUTION OUTLETS



*The outlets for video distribution are increasing in the digital world. Also, devices over which video content is consumed are expanding beyond the television set.*

exploring the development of content for HSD, on-demand, and wireless viewing. It continues to expand HDTV and pay-per-view offerings, and is also developing video games for interactive television.

### ■ Opportunities for Future Revenue Growth

The cable industry is at a turning point: Cable operators and networks must make strategic investments today to help ensure sustainable growth in the future. Both industry sectors will focus on different short-term investments over the next 2 to 5 years. Longer term, over the next 5 to 10 years, they will both be investing in the development of the on-demand platform (see Table 3 on page 22). Well-conceived business and economic models that fully take advantage of a mature on-demand platform would provide mutual benefits to operators and networks alike. By complementing—not replacing—the linear channel distribution model in operation today, it would enable growth opportunities by expanding the overall pay video market.

### SHORT-TERM BETS FOR CABLE DISTRIBUTORS

For cable operators, revenue growth opportunities in the near term will come from non-video services. The immediate issue for cable distributors is how to most effectively compete in the battle for the living room, with compelling bundles of video, HSD, and telephony services. At the same time, distributors must increase their efforts to leverage HDTV and generate more local ad sales. For cable distributors, a combination of the following short-term bets provides many opportunities for growth.

*“The way to look at cable revenue is no longer by product lines, such as video or high-speed data, but as total revenue from the household. Where you place the discount really doesn’t matter. It can change to fit marketplace demands.”*

*Mark Harrad,  
Time Warner Cable*

**Dominate in the Battle of the Bundles**

The competition among cable operators, telecommunications carriers, and satellite operators to exclusively serve the communications and entertainment needs of U.S. households will be carried out—and won or lost—with the triple- or quad-play bundle. Packaging video, HSD, and telephony services benefits both consumers and service providers. Consumers benefit from discounts, as well as the convenience of a single bill and a single point of contact for all service issues. As a result, service providers will decrease churn, which will reduce operational and marketing expenses, and therefore improve profitability. For example, UBS Investment Bank found that subscriber churn rate at Cox declined 21 percent when two services were bundled, and by 50 percent when three services were bundled.

TABLE 3: CABLE INDUSTRY BETS FOR REVENUE GROWTH

Time Frame	Cable Operator Bets	Cable Network Bets
Short term (2-5 years)	Bundled Services <ul style="list-style-type: none"> <li>• video</li> <li>• high-speed data</li> <li>• wireless</li> <li>• telephony</li> </ul> Advertising HDTV	Advertising Brand extensions Syndication Internationalization
Long term (5-10 years)	Investing in on-demand platform: <ul style="list-style-type: none"> <li>• Complements linear channel distribution of multi-channel video</li> <li>• Expands the video consumption market and opens up niche potential</li> <li>• Positions the industry to respond to consumer expectations in how, when, where, and on what device to consume content</li> <li>• Increases advertising effectiveness by serving personalized ads</li> <li>• Lowers the barrier to bring new ideas and fresh content to paying consumers</li> <li>• Allows independent content developers to reach consumers without incurring high cost</li> <li>• Offers the potential to raise average revenue per user by developing and offering new content-rich services</li> </ul>	

Carriers and operators will compete against one another across multiple lines of service for the first time. Pressure to win the price war will compress margins. Each provider will seek to present its strengths against the weaknesses of the other. Customer service may be a decisive factor in this battle. Satellite’s initial success in the video market was, in large part, due to its ability to woo cable subscribers who had experienced customer service problems.

Growth prospects in triple-play offerings reflect the intense competition operators will be facing. Telephony, HSD, and on-demand bundle subscription revenues in the United States are forecasted to increase from \$130 billion in 2003 to \$160 billion in 2008, a CAGR of 3.5 percent according to Gartner. The addition of wireless voice to the triple-play bundle will make it a \$275 billion market in 2008, while increasing the CAGR to 4.5 percent.

Cable operators currently have the advantage in the battle of the bundles, with many more video and data subscribers than their competition. To capitalize on this lead, operators must introduce high-quality telephony services as quickly as possible.

Bundling is likely to succeed only if all services in the bundle are of acceptable quality. Telephony will be an integral part of such a bundle, and one in which quality of service is mandatory. Also, after HSD, telephony will be the next area of strong competition between the operators and telecommunications carriers. Operators should ensure that the quality of their voice service is adequate in order to acquire and retain telephony customers.

Cable's telephony business is still at an early stage. The industry is in the process of transitioning from circuit-switched technology to Internet Protocol-based (IP-based) phone service, which offers comparable transmission quality with easier deployment and lower cost. Cable industry phone customers totaled 2.7 million in the first quarter of 2004, according to the NCTA. PricewaterhouseCoopers forecasts that revenues from telephony service will grow at an annual rate of more than 25 percent, increasing from \$2 billion in 2004 to \$5.3 billion in 2008.

The success of bundling will be measured by the total revenue from the consumer rather than the revenue from individual services. Time Warner Cable's Harrad explains, "The way to look at cable revenue is no longer by product lines, such as video or high-speed data, but as total revenue from the household. Where you place the discount really doesn't matter. It can change to fit marketplace demands."

As bundled services gain widespread acceptance, operators should address the different needs of various market segments. "In service bundles, we are going to move from one-size-fits-all to several segments. Are you going to see something like three, five, or six segments really quickly? The answer is probably yes," says Luis Avila, vice president of corporate strategic planning for Scientific-Atlanta. For instance, a communications-focused bundle would be a combination of telephony and HSD services, whereas an entertainment-focused bundle would combine video and HSD services.

Without a bundle of services, satellite operators are at a disadvantage. To be competitive, they will explore opportunities to offer HSD and telephony services either through their own infrastructure or by extending their partnership with the telecommunications carriers. They will strengthen their video service, by continuing to focus on the total consumer experience based on price, customer service, and programming choices. They will also continue to take advantage of technologies like DVR and HDTV to differentiate themselves from other service providers.

The competition with telecommunications carriers will force cable operators into the wireless services industry. Carriers will bundle wireless service to create a quad-play bundle that cable operators cannot yet match. In addition, the carriers will create service differentiation by integrating wireline and wireless services. Cable operators will need a competitive response, and they too will consider collaborating with wireless operators or using new technologies like WiMAX to offer a bundle that incorporates wireless service. The merger of Sprint and Nextel creates a sizable carrier-independent wireless operator that could serve as a capable partner to cable operators.

***"In service bundles, we are going to move from one-size-fits-all to several segments. Are you going to see something like three, five, or six segments really quickly? The answer is probably yes."***

***Luis Avila,  
Scientific-Atlanta***

### **Grow Local Advertising Revenue**

For cable operators, advertising has always represented an important source of revenue. Typically, systems receive two minutes of advertising time per hour from operator networks as part of the carriage agreement. For a system carrying 50 to 70 networks, this totals thousands of minutes of time for sale each year, producing potentially millions of dollars in additional ad revenue. Comcast, for example, reported \$918 million in advertising sales for the first three quarters of 2004.

Cable operators can encourage growth by creating more advertising revenues. Local advertising is attractive to cable operators not only because it is a growing trend, but also because it yields high profit margins. Cable operators have been investing in local sales forces in recent years to take ad share away from local competitors, particularly broadcast TV.

In addition to augmenting local sales forces, operators have constructed local market interconnects, technical infrastructures that enable advertisers to purchase ads that cover entire TV markets. This ability makes the buying process easier for advertisers as they can partner with a single entity to cover an entire metro area. For example, Adlink, which manages the interconnect in Los Angeles, sells local ad time from 44 different cable networks. Interconnect systems were first established by Comcast and the Lenfest Group in Philadelphia in 1985 and are now available in 100 markets.

Improved ratings technology will help cable operators in the largest markets, where Nielsen Media Research is introducing its Local People Meter (LPM). The LPM replaces viewers' hand-written diaries, which are perceived to be inaccurate in an era in which the average household has 100 channels. When the LPM launched in New York in the

### **NIELSEN'S LOCAL PEOPLE METER**

As cable operators increase their efforts to sell local advertising, they will be aided by a new device that Nielsen Media Research has introduced to measure local television audiences. This device, the Local People Meter (LPM), is an adaptation of Nielsen's national ratings system that has been in place since 1986. The LPM is an electronic measurement system that replaces the hand-written diaries that Nielsen participants maintained and which were used to calculate viewership for TV programs.

The LPM, which will measure audiences in the top 10 television markets, has been a boon for both national cable networks and cable operators that sell local ads. In the five initial markets where the LPM has been introduced—Boston, Chicago, Los Angeles, New York, and San Francisco—cable audience levels were higher than the levels recorded under the old system. At the same time, viewership of broadcast television stations tended to drop.

The LPM is considered a more accurate measurement device than the diary method. With the diary method, typically one household member recorded the TV viewing for the entire family during a given week.

This task was usually performed after the TV viewing week ended—a difficult undertaking in the current 100-plus channel universe. With the LPM, viewers simply log-in with their remote control when they watch TV, and their viewing is automatically recorded by a meter that sits on top of the TV set.

Nielsen's timetable calls for the LPM to be deployed in the remaining top 10 markets by mid-2006. Given the generally lower ratings for over-the-air stations and higher ratings for cable programming, some broadcasters have objected to the new measurement system and have lobbied Nielsen to delay rollout plans. Fox, whose local stations have been particularly hard hit in the Nielsen ratings by the LPM, waged an aggressive public relations campaign to delay the rollout of the new service. Another broadcaster, Univision, even filed a lawsuit to prevent Nielsen from introducing the service. There are, however, also some cable operators that would like to see the devices rolled out to more TV markets beyond the initial 10, but Nielsen has not yet made any commitment to do so. ■

first half of 2004, early reports showed that a dozen cable networks posted a ratings increase, while six English-language broadcast stations showed a ratings decline. In Boston, the first market to launch the LPM, cable ratings remain higher than they were prior to the LPM launch in 2002, while broadcast station ratings remain lower.

Cable operators have also developed innovative approaches to stimulating local ad spending. Comcast, for example, works with local businesses to optimize and reduce their print ad spending—and then advises them on how best to spend the difference saved on cable ads. Operators will need to further refine these techniques and develop new ones to fully mine the potential of the local ad market. As a result of these developments, local cable ad sales will grow at a faster rate than local TV station sales over the four year period between 2004 and 2008. PricewaterhouseCoopers estimates that local cable sales for the period will grow at an annual rate of 8.5 percent, while TV station ad revenues will grow at a rate of 5.7 percent.

The sale of local ads presents a large opportunity for satellite operators, which have not yet utilized this advertising model. The satellite video platform currently lacks the ability to sell ads locally, but such a revenue stream would allow the satellite sector to add potentially billions of dollars to industry revenues over time. Local ad sales capability would also provide further incentive for local partners to aggressively sell satellite packages.

#### **Leverage High-Definition Television**

HDTV, which offers TV picture quality that is comparable to 35-millimeter film, is more than merely another opportunity brought on by the transition to digital technology. It is the gold standard in TV reception and will quickly gain critical mass as the price of HD receivers continues to drop. According to the research firm Yankee Group, there are approximately 8.3 million HD sets in use, about 8 percent of total TV homes. The number of HD sets in use is expected to reach 57.5 million by 2008, more than half of the nation's 109 million TV households.

As such, the cable industry must continue to incorporate HDTV into its services or risk losing more market share to satellite operators that have made HD a high priority. There are approximately two dozen HD channels of programming available, as of late 2004. In the next two years, that number will expand significantly. DIRECTV has already indicated that it will dedicate enough satellite space to broadcast 150 national HD channels by 2007, and plans enough capacity to transmit 500 local HDTV channels as well.

The challenge for cable operators surrounding HDTV is one of capacity. Operators will have to make technical or virtual upgrades to provide enough room on their systems for all the bandwidth-intensive HD channels. This can be achieved in one of two ways: a plant upgrade or a customer premises equipment (CPE) upgrade to digital set-top boxes (STBs) to reclaim the analog bandwidth.

According to Scientific-Atlanta's Avila, upgrading a cable plant is less expensive now than it was a decade ago, in the mid-1990s. His estimate: The cost to upgrade from 750MHz (the current capacity for an estimated half of the country's cable systems)

***The cable industry must continue to incorporate HDTV into its services or risk losing more market share to satellite operators that have made HD a high priority.***

***“High Definition television penetration is going to grow dramatically over the next few years due to the simple fact that consumers are now buying almost only HDTVs. And for us, if we opt to launch HD channels, we will be building brand equity for the future.”***

***Frederick Huntsberry,  
NBC Universal***

to 1GHz will be approximately \$35 per home. “In the past, network upgrades had to replace almost everything: cables, electronics, even the location of cabinets in the streets. It was all a very labor-intensive activity. Now, with advancements in technologies, we have the ability to just replace a few key electronic units, such as RF amplifiers, and the bandwidth and performance of the whole network is expanded. Instead of “plug and play”, it is almost “drop and play.”

The alternative to a plant upgrade is simply replacing all the analog STBs with digital STBs, which Comcast is in the process of doing. The cost of the box has come down to \$69 each, which makes it a feasible alternative. Every new box that Comcast installs in a home is a digital box, so that even if the customer wants only basic service he will be on the digital platform. At the point where the base of remaining analog box homes gets down to 5 or 10 percent—which some industry observers anticipate being as early as 2008 or 2009—Comcast will concurrently replace all of them with digital boxes. Comcast estimates that a 750MHz plant can accommodate 50 HD signals once the analog bandwidth is reclaimed.

Cable networks also see great potential in HDTV. As adoption grows from the current small base, HDTV offers the prospect of creating new brands that will have lasting influence. NBC Universal’s Huntsberry says, “High Definition television penetration is going to grow dramatically over the course of the next few years due to the simple fact that consumers are now buying almost only HDTVs at their local retail chains. And for us at NBC Universal, if we opt to launch HD channels, we will be building brand equity for the future.”

#### **SHORT-TERM BETS FOR NETWORKS**

Over the next two to five years, cable networks will focus on raising revenues by continuing to provide high quality programming and increasing non-affiliate revenues. This strategy includes boosting advertising revenue, as well as developing additional revenue streams through the expanded use of content libraries and brand extensions. The following discussion describes opportunities for growth in many areas over the short term. Continued focus on and investment in high-quality, innovative content that is aligned with consumer needs as well as increased distribution mechanisms will be important factors of revenue growth.

#### **Invest in the Highest-Quality Programming Content**

Cable networks have the opportunity to establish a distinctive, valuable brand and market reputation by developing and airing high-quality programming that appeals to targeted demographics. This strategy of developing original programming has considerable value. For instance, Fox’s F/X Network has developed several drama series, including *Nip/Tuck*, *The Shield*, and *Rescue Me* that have not only received critical acclaim, but have also established the network’s brand identity as a programmer that is capable of presenting mature subject matter in an intelligent, compelling way.

In addition to its positive impact on a cable network's brand and market value, the development of a small number of popular original programs can also have downstream revenue benefit in the form of syndication revenues.

### **Grow Advertising Revenues**

Widely distributed and successful networks see a strong growth opportunity in increasing their advertising revenues. Nick Davatzes, president and chief executive officer of A&E Television Networks says, "Pressure on affiliate-fee structures will only increase over time, particularly as [cable operators] consolidate further. But the advertising stream will grow for successful networks." Overall, advertising revenue growth between 2004 and 2008 will remain at 8.8 percent, according to PricewaterhouseCoopers forecasts.

Despite initial concerns about DVR technology's role in eroding advertising revenue, the industry now acknowledges that the effect will not be as extensive as previously assumed. However, the technology has had a significant impact on both the networks and the advertising industry. The traditional 30-second TV ad format needs to be refreshed and supplemented by new, more innovative forms of sponsorship and marketing.

Broadcast and cable networks, advertising and media-buying agencies, talent agencies, and corporate marketers have already begun to innovate in this area. Early efforts have used techniques such as in-program product placement, sponsored programming, and non-traditional content productions. In addition to generating new advertising revenues for the cable networks, these techniques could change the traditional concept of TV advertising by promoting the new method of advertising as creative content that consumers will choose to watch.

Over the long term, cable networks and advertisers should continue to make advertising more effective by refining techniques to reach more targeted consumer groups through emerging applications, while continuing to reach broader audiences through conventionally delivered programming.

### **Cultivate Brand Extensions and Syndication**

Mature cable networks can also offset declining affiliate fees through brand extension, syndication, and internationalization. Given the difficulty of launching new channels, cultivating these other ventures will become crucial for networks. Brands can be extended through spin-off channels, for example, such as ESPN2 or ESPNU (college sports). However, in the present environment, these new channels will likely be carried only on digital platforms or satellite, which have the capacity to accommodate them.

Brands can also be leveraged by merchandising, licensing, or by developing new branded services. For example, ESPN has announced that it will offer branded wireless phone service in partnership with Sprint's wireless division, and it will also use this relationship to deliver the channel's content on the mobile platform. Additionally, ESPN is syndicating its program library domestically and creating new networks, such as a Spanish-language one, in international markets.

***Cable networks have the opportunity to establish a distinctive, valuable brand and market reputation by developing and airing high-quality programming that appeals to targeted demographics.***

***“We continue to make new brands and whether those brands are linear or interactive, get determined by the needs of the customer. The big thing is to constantly be focused on the needs of customers and then make it work for your partners, your investors, your fellow employees.”***

***Nick Davatzes,  
A&E Television Networks***

A&E is another example of a network that is pursuing this strategy. In 2004, affiliate fees and advertising accounted for about 88 percent of its revenues. The remaining 12 percent came from domestic syndication of A&E library material and the export of the A&E networks through various international ventures. In addition, the company has extended mature brands through new channels such as its Biography Channel, which was spun-out of its A&E Network channel, and its History International channel, an offshoot of The History Channel.

“Those newer businesses—syndication, international, and brand extensions—will be the biggest growth drivers in the next five to seven years, accounting for between 25 percent to 40 percent of the company’s revenues by 2011,” according to A&E’s Davatzes.

Newer networks also are betting on syndication and internationalization. Geraldine Laybourne, chief executive officer of Oxygen Media, says that “There will be both international and syndication revenue in our future. It’s not what we primarily rely on today but we do have both of them today. And that will grow.”

Extending existing brands on new outlets is another important strategy. The largest networks are already beginning to deliver existing programming over HSD, HDTV, on-demand, interactive television products, and expanded pay-per-view. Networks should understand the unique characteristics of the various outlets and develop strategies for capturing the synergies across them. ESPN, for example, has launched two HD channels and is developing video games for the interactive TV and online platforms. It is evaluating applications for wireless phone and e-mail delivery as well.

#### **LONG-TERM BET: THE ON-DEMAND PLATFORM**

The cable industry’s next growth phase—over the next decade—will be brought on by the maturation of the on-demand platform. In this model, large amounts of programming content are staged over the delivery network, where it can then be accessed by consumers using a variety of mechanisms. On request, the selected content is delivered to the consumer’s television or other viewing platform.

Rather than a replacement of the existing linear-channel delivery platform, on-demand should be viewed as an important complement to it. The on-demand platform expands the role for pay-video and the modes in which content can be consumed. In this way, on-demand may actually increase TV viewing times, as consumers will be able to increasingly find the content they want. When consumers can easily find content that they are interested in, they are likely to consume more of it. This practice increases audience loyalty and reduces network and operator churn.

“On-demand increases access to the product, so it increases viewing. It also increases knowledge about the product because people use the menu guide feature. With on-demand, the consumer’s average length of tune-in to our original programming is longer, and they’re more aware of our original programming,” says

Showtime's Blank. "It reduces digital churn when you've got that on-demand package in the home. We know it reduces Showtime churn. We know that if they view more, we have more satisfied consumers."

PricewaterhouseCoopers forecasts that cable operator revenue from on-demand services will grow at a CAGR of 18.5 percent from a base of \$720 million in 2003 to \$1.7 billion in 2008, making it the fastest growing category for operators.

Cable and satellite operators will take different approaches in the deployment of the on-demand platform. Cable operators will pursue a network-based approach, while satellite operators will rely on local-storage technologies to provide on-demand functionality.

The on-demand platform will provide growth potential by addressing many of the challenges that the industry now faces due to the maturation of the linear-channel platform. In particular, the on-demand platform will expand the pay-video market, lower the barrier to entry for new programming content, and make advertising more effective. Above all, on-demand will become a growing source of revenue as new services and new business models are introduced that take advantage of new technologies and address changing consumer behavior.

#### **Expands the Pay-TV Market**

The on-demand platform can expand the market for pay video by making it possible to create an economic model for addressing smaller audiences profitably. Linear channels succeed by doing the opposite: garnering wide distribution and aggregating audiences with compelling programming. As niches become smaller, distributors will need lower-cost deployment strategies and networks will need to create cost-effective content that will attract niche audiences.

In the on-demand video environment, the cable industry can develop mechanisms to stimulate demand for its large library of content, particularly for content that has been difficult to monetize because it has not had mainstream appeal. For lessons in



*For a discussion of on-demand deployment models, see "On-Demand: Comparison of Network- and DVR-Based Approaches," page 31.*

## **THE ON-DEMAND PLATFORM AND TELECOMMUNICATIONS CARRIERS**

In the current duopoly that pits cable operators against satellite operators, there have been a number of factors delaying the aggressive deployment of a network-based on-demand platform by either incumbent. Cable operators have had a sizable market-share lead in the linear channel scheme, while satellite operators have been successful at eroding that lead with their own linear channels, augmented by customer-owned digital video recorders (DVRs). In essence, the on-demand platform could be viewed as an unnecessary disruption—and with unknown consequences—to the existing, successful business models.

However, as the telecommunications carriers enter the market with their new video services, they will be looking for a strong differentiator with which to attack the saturated video-services market. Merely providing a new way to receive linear channels is unlikely to be effective at stealing market share. For telecommunications carriers,

the most obvious way to advance ahead of—or "leapfrog"—cable and satellite is with a comprehensive, unique, on-demand platform, supported by massive marketing efforts to persuade audiences to change their viewing behavior and adopt the on-demand model.

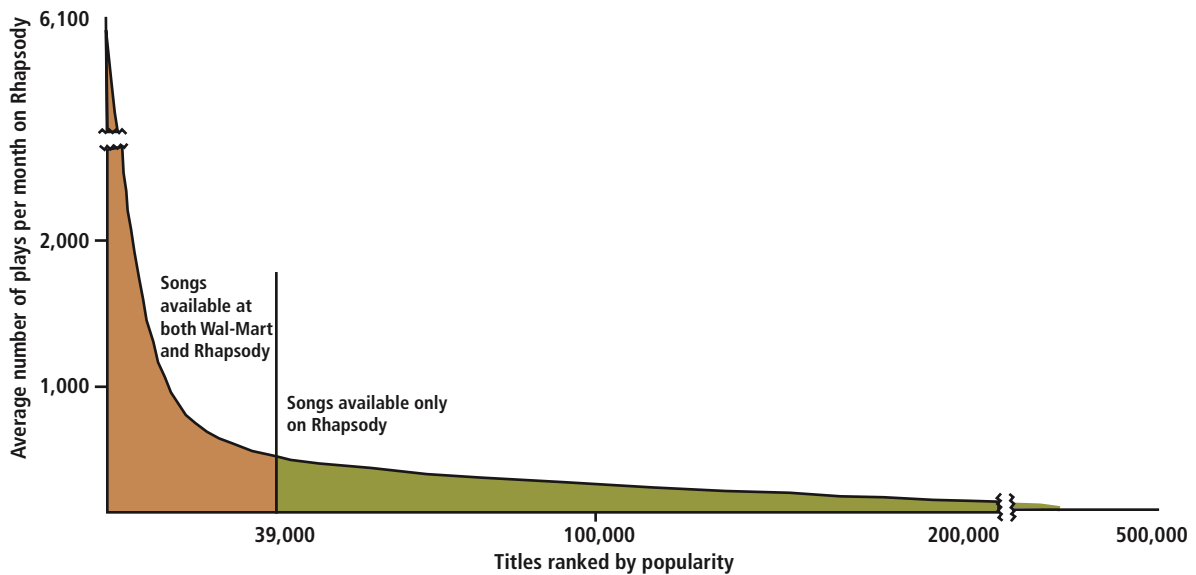
Carriers will encounter a number of obstacles in pursuing this leapfrog strategy, including a number of difficult copyright and licensing issues. But from their starting position of nearly non-existent market share, they will be highly motivated. As they seek competitive differentiation in the marketplace, carriers are expected to aggregate the best technologies, offer the most comprehensive and user-friendly on-demand platform, and push content owners to liberalize their licensing restrictions and demands. Their aggressive push for on-demand, will force cable and satellite operators to follow suit in order to remain competitive. ■

The so-called "long tail" is the niche market approach that is viable in a digital world. The figure illustrates its use by Internet music retailer Rhapsody, which is able to offer consumers 19 times as many titles as brick-and-mortar retailer Wal-Mart. Taking a similar approach via the on-demand platform, cable operators and networks have the opportunity to serve expanded markets.

this approach, the cable industry can look to the world of online retailing. A study published in *Wired* magazine in October 2004, indicated that many online businesses, such as Amazon, Netflix, and Rhapsody can earn profits by selling content of interest to small audience segments. Because the cost of staging large amounts of content is minimal in the online environment, these online retailers can stimulate niche demand using newly developed techniques that are less expensive than widespread promotions.

Popularity rankings, for instance, can be generated and posted automatically for other site visitors to peruse. Collaborative filtering, in which viewers can see what others with similar tastes are watching, is a related technique, one that facilitates targeted advertising. Such methods make it possible for consumers to find content that they might not otherwise have discovered—implying that new viewer niches can be exploited. This niche approach is referred to as "the long tail" model. (See Figure 6.)

FIGURE 6: THE LONG TAIL: NICHE MARKET POTENTIAL



Source: *Wired Magazine*, 2004

Technologies for inexpensively staging large amounts of content in an on-demand environment are becoming available. A combination of Moore's Law (more affordable and faster digital processing), better compression algorithms, and a growing market for online storage is contributing to greatly reduced costs for storing thousands of hours of on-demand content in cable headends. Thus, service providers can expect to double the hours of programming available every 18 to 24 months, at the same or lower cost.

The substantially lower costs of staging content make applying online retailers' niche marketing techniques feasible for the cable industry. For comparison, Amazon, an online retailer, spends considerably less money to carry a title than a physical store such as Barnes & Noble does. Amazon is therefore able to offer more than 2 million

books in its catalog, whereas a typical, physical brick-and-mortar store carries about 130,000 titles. As a result of this ability, more than half of Amazon's sales come from outside of the top 130,000 titles, a market not viable for traditional bookstore retailers.

Similarly, online music service Rhapsody's inventory of 735,000 songs surpasses that of a typical large music retailer like Wal-Mart, which stocks about 39,000 songs available on the most popular CDs. With lower costs and virtually unlimited storage space, Rhapsody can carry all the popular mainstream songs, as well as less popular and obscure music. Such music selections that are not available in a retail outlet, account for more than 20 percent of sales at Rhapsody—again demonstrating the viability of a niche market model.

With considerable storage capacity available through a network-based, on-demand model, cable operators and cable networks have the opportunity to create a more comprehensive catalog of accessible content than is possible today. This vast catalog, when coupled with marketing techniques such as search and retrieval, usage

**ON DEMAND: COMPARISON OF NETWORK- AND DVR-BASED APPROACHES**

The on-demand platform can be enabled in several ways, but the primary methods are network- or digital video recorder-based (DVR-based). These two methods are not mutually exclusive and can be used in complementary ways, but they differ significantly in their capabilities and the services they make possible. The table on the right compares the two approaches.

The network-based approach requires a synchronous network, which most of the cable operators now have. By contrast, satellite operators, because they presently lack a two-way network, have been limited to on-demand via the DVR. These devices allow consumers to conveniently record broadcast programming on a local hard drive and watch that programming at their leisure, often referred to as time-shifting.

Satellite operators were early adopters of set-top boxes (STBs) that contained hard drives and have used these competitively against cable operators. Additionally, DIRECTV has incorporated TiVo functionality into its STBs and is the largest TiVo reseller. It is reported that during the first half of 2005, the company will also offer an alternative DVR product and service. NDS Group, a company also controlled by News Corp., plans to deliver newly developed software for this alternative DVR service to DIRECTV. NDS asserts it will be easier and faster to use than TiVo, more cost effective for the operator, and will have the capability to record several programs simultaneously.

Despite the differences between the two approaches, they share the same primary benefit that on-demand provides to operators and networks: the ability to collect detailed data about the viewing habits of consumers. On-demand technology can measure what programming is being watched at what time and by how many people. These data can be used by advertisers to precisely target their message and improve the value and effectiveness of advertising. ■

**CAPABILITIES AND LIMITATIONS OF NETWORK- AND DVR-BASED ON-DEMAND SYSTEMS**

	Network-Based	DVR-Based
<b>Mode of interaction</b>	Content requested from server located on the network.	Broadcast content cached on the local hard drive, based on consumer selection as well as system recommendations.
<b>Amount of staged content</b>	Unlimited, as the headend can be equipped with multiple terabytes of staged storage.	Limited to the size of the hard drive in the DVR, currently about 200 MB, but doubling every year.
<b>Business model</b>	Allows for more flexibility in development of services and associated business models. Can be subscription, transactional, and ad-supported. Will enable new economic models based on niche content and smaller audiences.	Limited to time-shifting, subscription, and targeted advertising. Transactional model can be enabled by return channel on a phone line or Internet connection. Economic model limited to content that addresses large audiences.
<b>Advertising model</b>	Can be a lot more targeted with personalized ads for each subscriber.	Because of the broadcast nature of the content, personalization of ads will be difficult, but not impossible.
<b>Who will deploy approach</b>	Cable operators will deploy both network-based and DVR-based solutions. Operators will use superior on-demand capabilities as a competitive edge over satellite.	Satellite operators have used DVRs as a competitive advantage and will continue to use it to compete with cable on-demand programming.

tracking, collaborative filtering, and popularity rankings, will create profitable markets for niche content consumption. The market opportunity is potentially a sizable one. Thus, with a large inventory of both mainstream and niche content, the on-demand platform has the potential to expand the overall pay-video market by tapping into unmet demand.

**Lowers Barriers to Entry for New Content Offerings**

The on-demand platform significantly lowers content-distribution barriers. New content can simply be staged on the network and appropriately indexed so that consumers can find it via a search, popularity rankings, filtering, or other methods. Launching a new channel, carrying the expense of building a new brand, or occupying valuable space on existing channels to introduce new content will no longer be necessary.

This change will benefit both independent and established cable networks. With cable operators motivated to stage new content on their platform, independents

**ON-DEMAND PLATFORM: THE UNTAPPED POTENTIAL**

The on-demand platform is an evolving concept whose potential has yet to be realized. It has been primarily deployed in the form of movies on demand, and as a network-resident version of a Digital Video Recorder (DVR) that records and makes available—on demand—some of a cable operator's video content. The limited demonstrated success of on-demand as a revenue generator or mechanism for garnering market share is a reflection of several factors, including the high cost of systems, their limited storage capacity, and the content licensing demands of networks.

Arguably, however, with some creative effort, hardware vendors, cable operators, and cable networks could conceive new ways to use the on-demand platform and harness its potential. The following scenarios describe a few on-demand value propositions that have yet to be fully explored.

**More Effective Advertising**

Advertising could be much more effective in an on-demand world. For example, by aggregating content into themes, on-demand collections could be sponsored by advertisers and tightly associated with a specific theme. Some obvious examples include travel-related companies sponsoring movies about Paris, sports equipment retailers sponsoring TV shows about skiing, or book sellers sponsoring a collection of talk shows discussing the same book.

The important consideration is to re-think television advertising in terms of the Google paid-search model in which pay-for-performance becomes the norm (advertisers pay only when viewers watch). Because viewers have chosen to view a themed collection, advertisers will find audiences more inclined to purchase their products and services. Cable operators would be able charge premium rates, just as Google charges higher rates for paid-search than can be charged for Web banner advertisements.

**Better Audience Formation**

On-demand could help cultivate loyal audience bases for new shows over time. As with other media like music, audiences often assemble over time, through word of mouth and critical review. By storing all of the early episodes of new shows in the on-demand platform, audiences who start viewing a program late in its season can start at the beginning, allowing individual episodes to be more interconnected and compelling.

**Platform for Independent Content**

Cable networks are finding it increasingly difficult to find distribution for new linear channels on cable or satellite distribution platforms. Negotiations between consolidated cable network groups and large cable distributors often involve terms where an established, desirable channel is leveraged to position carriage for a new channel. In this scenario, the independent network is left out. Cable operators and independents could disintermediate the larger networks by offering carriage of new content as part of their own on-demand service. By going straight to independents, operators would be in a better position to retain on-demand rights to such content for a longer period of time. And independents could capture more of the license fees paid, not having to share with a content consolidator.

These are just a few examples of the many opportunities that cable operators and networks can consider. From the operator's perspective, there is another reason to take immediate action on new on-demand propositions. TV delivered over data networks by telecommunications carriers is highly likely to move rapidly into on-demand business models, owing to the nature of the carrier's network-switched architecture. Also, carriers will be more likely to take large risks in this area, as they search for differentiators to enter an entrenched and saturated pay-TV market. ■

can seek mutually beneficial terms. Without concerns over distribution prospects, they will be able to focus on developing new ideas and more targeted content.

“The idea that the only way to launch new content is through new linear cable channels is passing ” says Time Warner Cable’s Harrad. “You’re going to see more launches of unique on-demand programs and not simply an on-demand version of a linear channel.”

While the on-demand platform will be the vehicle for launching new content, it will also enable networks to repackage content from its vast libraries in new ways. The potential for leveraging content on the on-demand platform is substantial. The on-demand platform also has the potential for industry disintermediation. This scenario is possible because the operators could contract directly with independent networks for content, bypassing the large cable networks. This disintermediation opportunity has existed since VoD first appeared several years ago. Operators have resisted such exclusive relationships with new content suppliers for the on-demand platform, due in part to the operators being wholly or partially owned by major media conglomerates. However, the telecommunications carriers have no such conflict; as such, it is highly likely that carriers will pursue this strategy in partnership with independent programmers.

#### **Enables More Effective Advertising**

The on-demand platform promises to make advertising more effective—and therefore more valuable—to advertisers, content developers, and cable distributors.

Because content is essentially selected by consumers in an on-demand environment, distributors are in a position to better track content consumption and preferences. This information can be used to target advertising and thereby make it more effective.

“VoD is a great opportunity for advertisers. There’s an opportunity to do something more than a 30-second spot, and an opportunity to directly target smaller audiences. If you look at the print world, you see how motivated their audiences are and how loyal their audiences are. In a VoD world you can create a similar model,” notes Lisa Gersh Hall, president and chief operating officer of Oxygen Media.

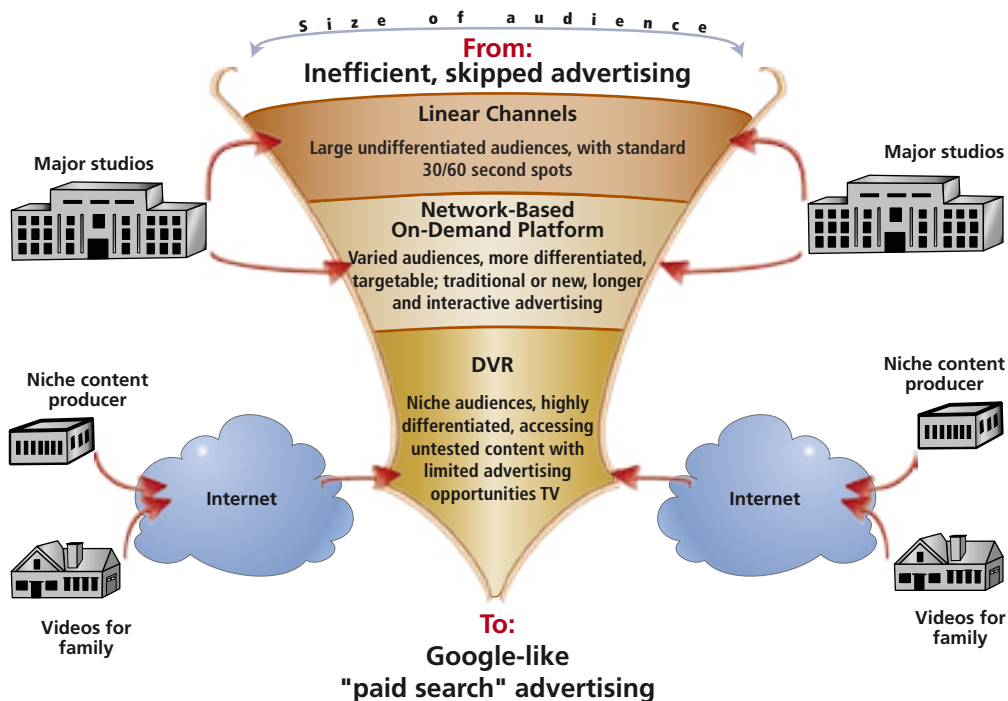
By pursuing pay-for-performance advertising models, the industry can expand the advertising market for the video platform. This approach makes advertising accessible to a larger pool of advertisers, similar to the way in which Google has made Internet advertising more accessible to individuals, along with small and medium-size businesses. (See Figure 7 on page 34.)

To realize this goal, the industry will need to create new forms of advertising that are more suitable to an environment in which the consumer is in control. The on-demand platform can be a vital outlet for techniques that position advertising as a form of creative content that consumers actively choose to watch. With the benefits of consumer targeting and opportunities for new forms of advertising, the on-demand platform could provide tremendous growth for the cable industry.

***“VoD is a great opportunity for advertisers. There’s an opportunity to do something more than a 30-second spot, and an opportunity to directly target smaller audiences.”***

***Lisa Gersh Hall,  
Oxygen Media***

FIGURE 7: ON-DEMAND PLATFORM'S POTENTIAL TO TRANSFORM TV ADVERTISING



The on-demand platform will allow advertisers to target niche audiences of video content in new ways. For example, a screen displaying content search results can also display links to relevant ads, much like Google's AdSense on the Web. The pool of potential advertisers becomes larger when niche content becomes more accessible and small-space advertising more plentiful.

**Adapts to Changing Consumer Behaviors**

Consumer behavior is evolving, the result of new technologies that enable more choices through more end-user devices. Today's generation of young adult and teen-aged consumers, who will be new paying cable subscribers over the next decade, exhibits many new and different behaviors towards the use of multimedia. "You can be downloading music, you can be instant-messaging your buddies, and watching the football game at the same time on the same device," explains Neil Dickson, partner of the media and entertainment group for Lord, Bissell & Brook.

Additionally, all consumers are increasingly demanding personalization and flexibility in how, when, where, and on what device they consume content. At the same time, the number of outlets over which video content is distributed is increasing. Besides the broadcast network, video content is also accessed over HSD and wireless networks. The on-demand platform positions the industry to better respond to consumer behavioral changes and demands of personalization and flexibility.

**Challenges to Developing the On-Demand Platform**

Most cable operators and networks agree that new linear channel launches are unlikely in the future—and that is where the agreement ends. Major contention revolves around the value of on-demand programming. Divergent views on the value of the programming rights, how such services are best deployed, and appropriate business models that yield a satisfactory return for both operators and networks have stymied the development of original programming for on-demand services.

Networks are cautious because of the difficulty in attracting viewers to newly added content and the lack of sufficient understanding of interactive viewer behavior. “Consumers can be terrified of video-on-demand. They think if they hold the remote in their hand and they press a button, it’s going to cost them something, or they’re going to disturb their entire television delivery system. So, we’ve created a whole new philosophy about launching new brands in VoD,” says Oxygen’s Laybourne.

The following actions must be taken in order for the cable industry to fully exploit the on-demand platform:

- **Agree on economic models.** Operators have to work with networks to fully exploit the potential that on-demand offers. Expecting to receive on-demand rights for existing channels without paying additional fees is unrealistic. This expectation does not provide content developers with the economic incentive needed to create new on-demand program formats. Networks should likewise be willing to offer their content for the on-demand platform under appropriate terms that allow them to have a share in new revenue streams.
- **Promote the platform.** Operators must also develop and communicate the value proposition of the on-demand platform to both consumers and networks. They should educate consumers on its benefits and allow programmers to participate in the creation of new revenue streams that will result from this platform. Operators must also expand the coverage of the on-demand platform in their territories.
- **Develop programming and advertising that leverage the platform.** Networks should develop new and creative programming for the on-demand platform that leverages its interactive nature. They should also engage advertisers in the value of targeted advertising on the on-demand platform.
- **Adopt new technologies and techniques to improve the consumer experience.** Many new approaches will need to be introduced to enrich the user experience and stimulate demands unmet by the linear-channel platform. Operators and networks should take advantage of commonly used Internet techniques, such as collaborative filtering, personalized recommendations, and organizing content with ease of use in mind.

## ■ Conclusion

The U.S. cable TV industry comprises a complex web of inter-relationships and competitive forces, interwoven by regulatory threads that represent both constraints and potential opportunities. The industry’s primary sectors, cable operators and cable networks, are in agreement about the fundamental status of the industry in early 2005. These core assessments include the following:

- The period of high growth driven by selling ever-more linear channels to previously unconnected households has ended, as space for new channels is limited and most households have been reached.

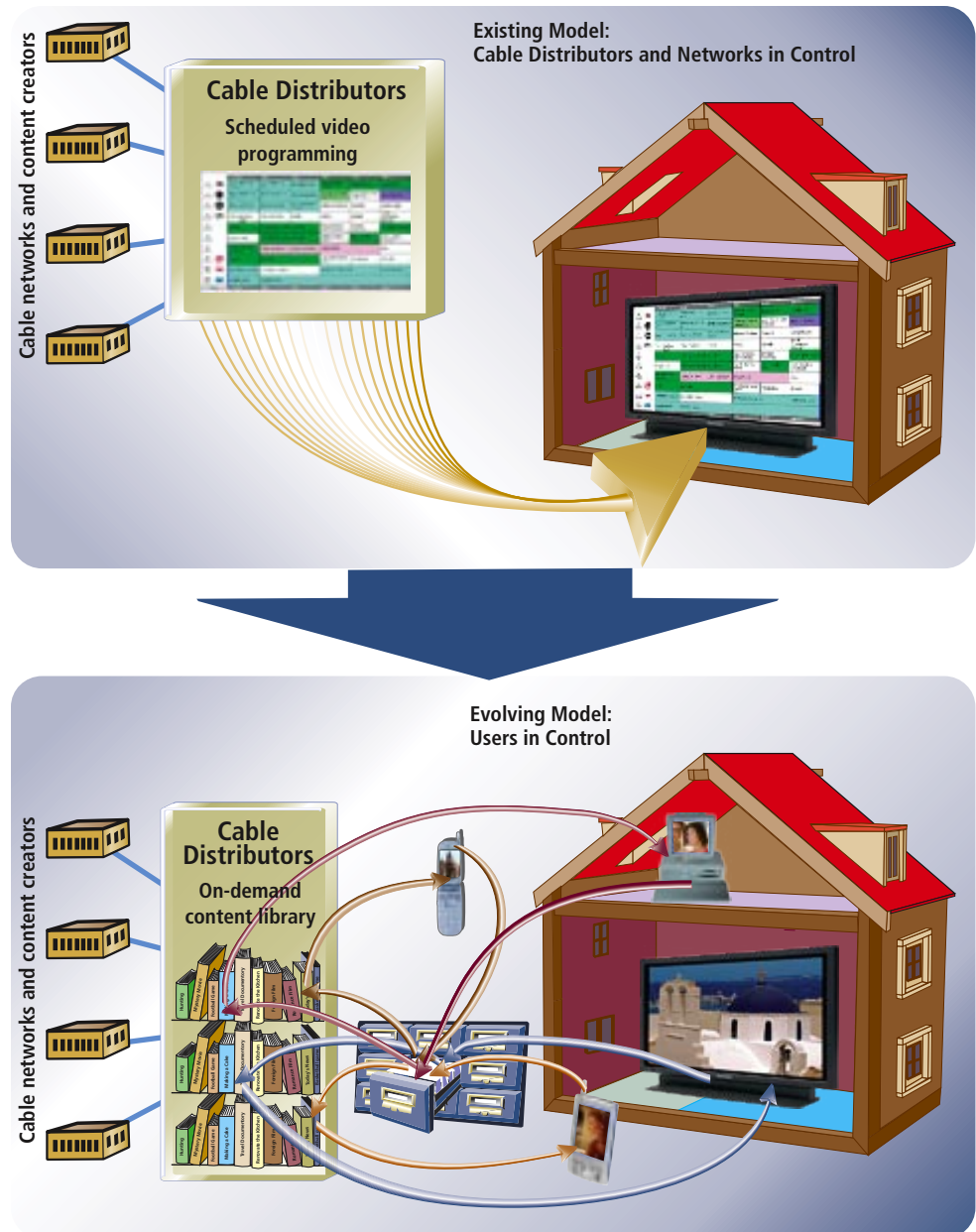
*“You can be downloading music, you can be instant-messaging your buddies, and watching the football game at the same time on the same device.”*

*Neil Dickson,  
Lord, Bissell & Brook*

- Near-term growth prospects for distributors are not in video services, but instead may come from HSD service, local advertising revenue, and telephony services delivered using rapidly improving VoIP technology.
- Large networks have the best prospects for developing new channels by negotiating carriage with distributors as part of a package that includes well-established channels; in the short term, opportunities for small, independent networks are quite limited.

FIGURE 8: CHANGING DYNAMICS OF CONTROL IN THE CABLE TV INDUSTRY

*Increased competition in the multi-channel video market, disruptive technologies, and demographic shifts are transforming cable industry dynamics. The result is a shift in control from cable distributors and networks to consumers. In the traditional model, viewers were limited by TV programming schedules dictated by the distributors and networks. In the evolving model, consumers are empowered with the choice of new video outlets like mobile phones, as well as virtually unlimited content libraries made available via the on-demand platform.*



- Audience fragmentation continues to dilute the traditional business model in which broadcasters have brought together large, undifferentiated groups of viewers for which advertisers have paid high rates.

The introduction of DVR technology, network-based on-demand services, HDTV, and emerging competition for video customers from telecommunications carriers could all possibly be highly disruptive forces. Combined with demographic shifts, such as young males spending more time playing video games than watching TV, and HSD as an alternative video delivery platform, one dimension that captures the changing industry dynamics is the concept of “control.” (See Figure 8.)

The cable industry must fully understand the implications of this transition from an environment in which service providers are in control to one in which consumers are empowered. If cable consumers achieve a sense of control, they will exercise choice. In the near term, choice is likely to be exercised in the area of telephony services.

Cable operators must deliver telephony services of superior quality, with levels of customer service far exceeding what they have previously provided. Otherwise, the large financial opportunity represented by voice services will be lost. If operators succeed with telephony, they can establish first-mover advantage in bundled services, and dismiss claims of poor customer service historically associated with cable services.

In the longer term, the entire cable industry must re-position itself to be in better harmony with a consumer that exercises control. The on-demand platform represents the best vehicle for empowering consumers. At the same time, it raises many issues regarding copyright and licensing terms, advertising modalities and revenue sharing, and concerns about cannibalization of existing business models. Absent the potentially huge impact of a new entrant in the video market—the telecommunications carriers—this combination of challenges would likely delay the on-demand revolution.

But given that competition from the carriers is real and operators see the importance of acting quickly, the first operators to fully empower consumers with a compelling, easy-to-use, content-rich on-demand platform could be the ultimate winners in owning both the consumer and the home.

## ABOUT PRICEWATERHOUSECOOPERS

PricewaterhouseCoopers ([www.pwc.com](http://www.pwc.com)) provides industry-focused assurance, tax, and advisory services for public and private clients. More than 120,000 people in 139 countries connect their thinking, experience, and solutions to build public trust and enhance value for clients and their stakeholders. (“PricewaterhouseCoopers” refers to the network of member firms of PricewaterhouseCoopers International Limited, each of which is a separate and independent legal entity.)

### About the Global Technology Centre

The PricewaterhouseCoopers Global Technology Centre provides leading-edge research and analysis of technology trends and their effects on companies, industries, and markets. The Technology Centre comprises technology veterans who have extensive experience in advanced applications of existing technologies and knowledge of potential uses of emerging technologies. The Technology Centre is widely known for its *Technology Forecast* publications and for delivering insightful briefings on technology trends to PricewaterhouseCoopers clients and industry leaders around the world. Recent publications include *The Broadband Future: Interactive, Networked, and Personalized*; *Competition in the First Mile: Why Fiber to the Premises is not the Issue*; and *XBRL: Improving Business Reporting Through Standardization*. To obtain copies of publications, please visit [www.pwc.com/techcentre](http://www.pwc.com/techcentre).

### About the Global Entertainment and Media Practice

PricewaterhouseCoopers’ Entertainment and Media (E&M) practice is comprised of a network of more than 3,000 practitioners providing audit, advisory, and tax services to help clients manage risk, maximize shareholder value, and support M&A activities. It addresses business challenges for its clients, including developing business strategies to leverage digital technology; marketplace positioning in industries characterized by consolidation and convergence; and identifying new sources of financing. Known as an industry thought leader, the E&M practice publishes the annual *Global Entertainment and Media Outlook* and other surveys and white papers highlighting current and future trends in the industry.

The E&M practice is a part of PricewaterhouseCoopers’ Technology, InfoComm, and Entertainment & Media (TICE) practice. To get in touch with a TICE partner in your area, please call our TICE Hotline at 1-877-PwC-TICE in the U.S. or 01-617-530-5292 outside of the U.S. Or visit us on the Web:

[www.pwc.com/e&m](http://www.pwc.com/e&m) (Entertainment & Media)

[www.pwc.com/technology](http://www.pwc.com/technology) (Technology)

[www.telecomdirectnews.com](http://www.telecomdirectnews.com) (InfoComm)

### Key Contacts:

**R. Wayne Jackson**  
Global Leader  
Entertainment and Media Practice  
New York  
+1-646-471-0611

**Deborah K. Bothun**  
Partner, U.S. Advisory Leader  
Entertainment and Media Practice  
Los Angeles  
+1-213-217 3302

**Peter Winkler**  
Director Global Marketing  
Entertainment and Media Practice  
New York  
+1-646-471-3137

