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Preston R. Padden  
Executive Vice President  
Government Relations

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

August 16, 2000

Ms. Magalie Roman Salas  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

Re: *Ex Parte* Presentations  
FCC CS Docket No. 00-30

Dear Ms. Salas:

Pursuant to Section 1.1206 of the Commission's rules, The Walt Disney Company (the Company) hereby submits notice of two *ex parte* meetings. On August 15, 2000, Michael Eisner and the undersigned met with Chairman William Kennard and Deborah Lathen and discussed issues raised in the pending merger between AOL and Time Warner. On that same day, Michael Eisner, Bob Iger, Mitch Rose and Marsha MacBride met with Commissioner Susan Ness regarding the pending merger between AOL and Time Warner.

Discussed in those meetings were issues raised by the Company in statements and filings already on record in this proceeding. Specifically, the parties discussed the Company's concern regarding open access, and the ability of unaffiliated programming providers to obtain non-discriminatory treatment by the merged entity. Also discussed was interactive television and the need to obtain access on a non-discriminatory basis to the return path in order to offer competitive services. The Company raised its concern that the merged entity would favor its own programming content and limit competition in the interactive television market.

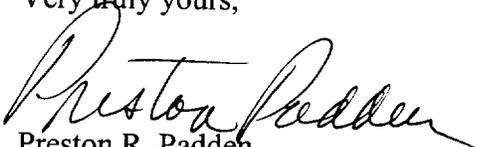
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Ms. Magalie Roman Salas  
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August 16, 2000

With respect to interactive television, filed with this notice is a copy of a report that was provided to Chairman Kennard, Deborah Lathen and to Commissioner Ness. The report, entitled "Interactive Television Outlook 2000," discusses the current status of the interactive television market.

Very truly yours,



Preston R. Paddeu

cc: Deborah Lathen  
William Johnson  
Royce Dickens  
Anne Levine  
Ben Golant  
Carl Kandutsch  
Peter Friedman  
Darryl Cooper  
James Bird  
Pieter van Leeuwen

MYERS Mediaenomics™

# Interactive Television Outlook 2000

Inside:

Prospects for  
Interactive Television

The World of  
Interactive Services

The ITV Rollout

The Interactive  
Advertising Experience

The Global Outlook

Produced in  
partnership with

**eMarketer™**

The Myers Group 120 West 45th Street, New York, New York 10036  
tel: 212-764-5566 • fax: 212-764-6919 • [www.myersreport.com](http://www.myersreport.com)

## **Mediaenomics:**

(media·ē·nomics), *n*; actionable & predictive  
applied research for media industry investment  
decisions. [2000]

**The Myers Group** 120 West 45th Street, New York, New York 10036  
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June 2000



Craig Leddy  
Senior VP-Market Analysis  
The Myers Group

Since the earliest days of television, countless attempts have been made to transform the medium from a passive to an interactive device. Today the prospects for interactive television have never been higher. ITV is receiving an unparalleled level of investment and involvement from a wide variety of major media and technology players. Driving this resurgence are digital technology innovations, increased prospects for interactive advertising and e-commerce, and a public that is growing accustomed to interactivity and its benefits of choice, convenience and control. These developments are fueling predictions that ITV, including enhanced broadcasting, internet over TV, and video-on-demand services, will generate annual revenues of more than \$25 billion by 2005.

But there are many challenges facing a business that in the past has seen its promises go unfulfilled. Questions abound over the development of the right platform, user interface and business models.

To assess the many promises and challenges, The Myers Group has conducted its own ITV research and also partnered with eMarketer, which aggregates and analyzes research data on internet and media markets. The first part of this report is based upon a Myers industry survey, Prospects for ITV 2000, and Myers' second Forum for Interactive Television Development, held in February. With eMarketer's resources, the report provides a wide array of publicly available industry data and marketplace analysis. It is our hope that this information will help executives in their strategic decision-making so that the long held promise of ITV will finally come to pass.

Craig Leddy  
Senior VP-Market Analysis  
The Myers Group

*Report written and edited by Craig Leddy with contributions by Jack Myers, chairman and chief economist, Myers; Geoff Ramsey, statsmaster, eMarketer; Brian Gilman, eMarketer; Gayle Kendall, coordinator of Myers ITV Forum; Gail Tirinato, GAMS & Associates; and publicly available data from sourced research companies. For more information, contact Myers: 212-764-5566 or eMarketer: 212-677-6300*



# **I. Prospects for Interactive Television**

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Prospects for Interactive Television

The World of Interactive Services

The ITV Rollout

The Interactive Advertising Experience

The Global Outlook

## A. Introduction

Interactive television is all the rage once again. The prospects are higher than ever before. Now can the industry deliver?

There's little question that media industry executives like their chances. In a Myers survey of high-level media executives conducted in a February-March timeframe, 61.7% said the prospects for ITV have increased significantly over the past year. That response is up from the 51.6% who said prospects have increased significantly in a Myers ITV survey conducted last fall.

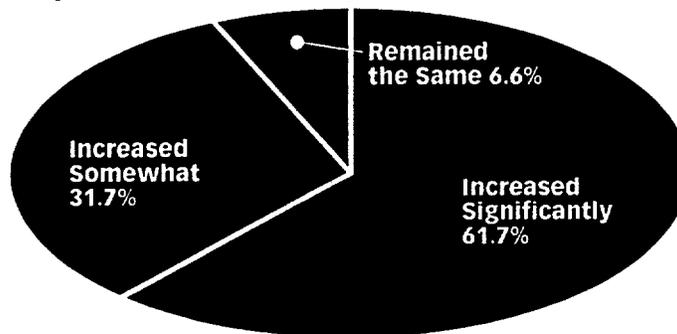
The Prospects for ITV 2000 Survey was conducted during and after Myers' second Forum for Interactive Television Development, held in New York on 1 February. Respondents to the written survey are all senior level executives and represent 60 major companies, including advertisers/agencies (28% of respondent base), internet/web companies (17%), cable networks (20%), cable operators (13%), content creators (7%), financial institutions (5%), broadcast networks (3%) and broadcast TV stations (3%).

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### Prospects for ITV

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% of Respondents who feel prospects have...



Source: Myers Group, Prospects for ITV, 2000

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There are many reasons for the optimism over ITV. Digital technology is providing new distribution options and innovative applications. The costs of deployment have dropped to a point where scalable rollouts are achievable. The growth of e-commerce on the web has renewed interest in interactive advertising and sparked a new industry term: "t-commerce" (television commerce). New ITV-oriented companies are springing up regularly—not as fast as dot-coms yet at a fairly steady clip. Consumers are getting accustomed to interactivity through their increasing web usage. Momentum is building across a variety of industries—cable, broadcasting, advertising, entertainment, online—that together are driving ITV forward with unprecedented force.

*"We're moving rapidly from Industrial Age technologies of mass production, mass marketing and mass media to Relationship Age technologies of interactive media, one-to-one marketing and personalized production."*

— Jack Myers, The Myers Group

*“When you read that consumers have rejected interactive television, it’s simply not true. There are lots of other problems in the history of interactive TV, mostly having to do with the technology, the cost, but it’s not the case that consumers rejected it.”*

— John Carey, Greystone Communications

Despite its newfound promise, interactive television has a rather ignominious past record of failures, false promises and dashed expectations. A lack of hype has never been a problem for ITV.

While there recently have been major advances in video-on-demand, internet-over-TV and enhanced TV applications, no singular technical platform or business model has engendered enough industry acceptance to serve as a de facto standard for widespread ITV deployment. Despite growing industry enthusiasm, there still is no overwhelming evidence that any of these services will be deployed on a mass scale approaching, say, the internet, VCRs or traditional television networks. As ITV developers have found time and again, great intentions do not guarantee great results.

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### What Is Interactive TV?

Definitions of interactive television have changed, expanded and blurred over the last several years. Now the term is used to cover a broad number of enhancements to the traditionally passive television experience.

The Myers Group includes a broad range of services that cause viewers to interact with their TV set, broken down by the categories of enhanced television, internet over TV and video-on-demand. Forrester Research uses a similar definition (“Any activity in which viewers use a remote to interact with information displayed on a TV screen”) and essentially divides services into the categories of enhanced broadcast TV and web-on-TV. eMarketer concurs with the Myers and Forrester viewpoints. Jupiter Communications has a somewhat narrower focus on ITV as a web and TV hybrid.

No matter how market observers try to slice it, the fact is that the lines dividing various forms of electronic media are blurring and will continue to blur further. For the purposes of this report, Myers is focusing on services that directly correspond to what’s transpiring on the TV screen.

Developments in media streaming and webcasting promise to bring video enhancements to the PC, which in turn could be distributed to the TV through broadband technologies. Some new media players are keeping one foot in ITV and another in the emerging business of broadband streaming to the PC, hoping that such a combination could represent the ultimate 21st Century distribution play. In future assessments of the market, even the broadened definition of interactive television may have to be discarded in order to encompass a wider category: interactive media.

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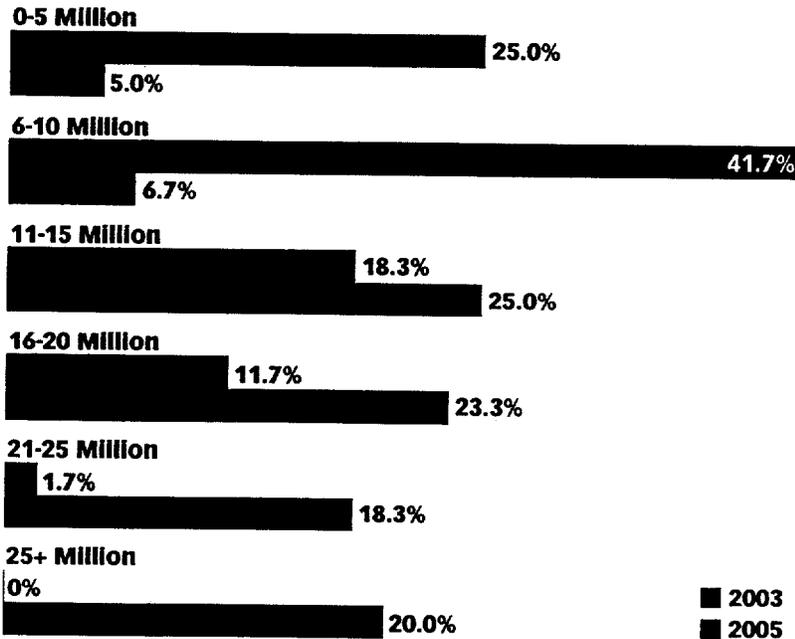
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## B. Market Forecasts of Users

The media industry itself is predicting big results for ITV over the next several years. More than one third of those surveyed believe there will be more than 20 million users of ITV by 2005. Twenty percent foresee more than 25 million users by then.

The survey asked respondents to make predictions for 2001, 2003 and 2005. By 2001, 51.7% see the number of users in the 1-5 million range while 36.7% say it will be under 1 million. By 2003, 41.7% foresee 6-10 million users.

### ITV Forecast: Consumers



Source: Myers Group, Prospects for ITV, 2000

Researchers predict a large ITV universe:

- Paul Kagan Associates forecasts that the number of interactive TV capable homes will reach more than 46 million by 2005 with a jump to over 60 million by 2010.
- Forrester Research predicts that by the end of 2005, 55 % of U.S. households will be able to participate in interactive television.
- Jupiter Communications sees a market for internet over TV services of 30 million homes by 2004.

One of the questions that has always dogged ITV developers is "Do consumers want it?" John Carey, director of Greystone Communications, a telecommunications research and planning firm, researched the history of ITV and found that most ITV failures were not the result of consumer ambivalence but rather a failure of technology or business models.

While the industry debates incessantly over whether consumers want to interact with their TV sets, consumers are becoming more accustomed to handling interactive applications through the web and other experiences. Game devices like Playstation and Nintendo are teaching a new generation to interact with their TVs. Small yet growing numbers of consumers are being introduced to interactive program guides from suppliers like TV Guide Networks; enhanced broadcasting from services like Wink; internet-on-TV services like WebTV; personal video recorders from TiVo and Replay; play-along games from Game Show Network; and true video-on-demand from cable operators like Time Warner Cable or Diva's cable affiliates.

*"The most important thing in terms of the mass public getting ready for interactivity is the remote. The remote has taught people how, in a very crude way, to interact with television and that's very, very important in terms of a mass public. They're ready to interact because the remote, which is now in all homes, has taught them, along with the PC, along with ATM machines and other devices."*

— John Carey, Greystone Communications

While no one can argue with TV's inherent status as a passive entertainment and information medium, these experiences together are demonstrating that TV may not be as docile as many naysayers think.

---

### TV vs. PC: Stop the Madness

At dozens of industry conferences, hours of time regularly are wasted in panel debates over whether the PC or the TV will be the ultimate vehicle for interactivity. Executives with a self-interest in advocating one device over the other end up vehemently defending their viewpoint.

Now some saner voices are adding to the debate by recognizing that the lines between the two devices are blurring. Each device will maintain its unique characteristics while borrowing corresponding attributes from the other. It's widely accepted that the TV primarily is an entertainment experience best utilized by leaning back and watching from 10 feet away, while the PC is a more informational experience conducted from a foot away. But each can successfully draw upon features of the other.

"It's really not either/or," Gary Lauder, ICTV's vice chairman, said of the PC/TV debate. "They're both going to grow." *continued*

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During Myers ITV Forum, Jim Louderback, editor of ZDTV, said, "What makes sense is that rather than thinking about 'lean forward/lean back,' put the medium on the delivery device that makes it best for what you're doing." To illustrate how devices can accommodate various functions, he showed off a Gemstar Rocketbook, a small wireless access device that could be used to interact with, say, a game show.

Chan Suh, chairman & CEO of agency.com, told Forum attendees that "consumers are going to be choosing the channels of their own at any time and you will never be able to predict when they want what. Interactive television is only one slice of this large interface cultures pie."

Multi-tasking gives credence to the argument that the PC and TV functionality can co-exist. Researcher John Carey said, "Everyone has their model of what [ITV] is or what it will be. It's very different when you actually see what real people do when they're interacting with television. It's not necessarily the model that's in your head. But this is the point: it's very common now to see a television and a PC in the same room, on at the same time, being used at the same time, but typically not for the same thing."

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Digital cable subscribers provide a solid audience for interactive features, according to CTAM, cables' marketing association. In a recent CTAM survey of digital cable subscribers, the percentages of those who said they "definitely would use" the following services ranked as follows.

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**Percent of Digital Cable Subscribers Who Would Definitely Use the following Services:**

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<b>Record programs without VCR</b>	<b>81%</b>
<b>Pause/rewind live programming</b>	<b>74%</b>
<b>Video-on-demand</b>	<b>73%</b>
<b>Record through EPG</b>	<b>67%</b>
<b>Purchase individual premium channels</b>	<b>58%</b>

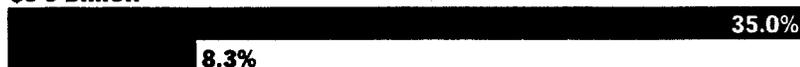
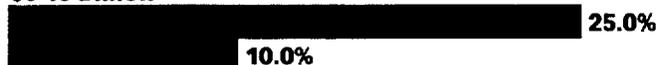
Source: CTAM

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## **C. Market Forecasts of Revenues**

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The majority of Myers survey respondents indicated that the growth in users would lead to revenues of more than \$15 billion by 2005, with 25% of the executives seeing revenues of over \$25 billion. The surveyed executives see a dramatic escalation between 2003 and 2005.

**ITV Forecast: Revenues****\$0-5 Billion****\$6-10 Billion****\$11-15 Billion****\$16-20 Billion****\$21-25 Billion****\$25+ Billion**

Source: Myers Group, *Prospects for ITV, 2000*

The Myers Group is issuing the following forecasts for Interactive Television Revenues based upon a composite and analysis of publicly available information. These forecasts, authored by Jack Myers, chairman and chief economist for The Myers Group, reflect an analysis of current projections for ITV distribution and three revenue streams: advertising, e-commerce and subscriptions. Myers has used Forrester Research data as a benchmark for 1999. All figures are in millions.

**ITV Revenues, 1999–2006, (Millions)**

	1999	2000	2001	2002	2003	2004	2005	2006
Advertising	\$94	\$180	\$350	\$960	\$2,190	\$4,900	\$7,400	\$11,500
eCommerce	\$168	\$260	\$560	\$1,400	\$2,760	\$5,600	\$8,200	\$13,400
Subscription	\$403	\$480	\$770	\$1,680	\$2,350	\$3,150	\$5,100	\$7,200
<b>Total</b>	<b>\$665</b>	<b>\$920</b>	<b>\$1,680</b>	<b>\$4,040</b>	<b>\$7,300</b>	<b>\$13,650</b>	<b>\$20,700</b>	<b>\$32,100</b>

Source: The Myers Group, 2000; Forrester Research for 1999 only.

The 2000 – 2002 forecasts are based on analysis of published forecasts, projections provided by multiple ITV technology and content providers, cable system operators, broadcasters, and Myers proprietary research conducted among industry executives. Forecasts for 2003 – 2006 are based upon Myers proprietary analysis of market growth, analyses of industry and consumer adoption rates for new technologies, total advertising market forecasts, and additional Myers marketplace analyses.

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For the purposes of these projections, Myers defines interactive television as any direct interaction by the viewer that influences program content and delivery, other than basic channel selection. This excludes pay-per-movie selection but includes subscription for enhanced television services, video-on-demand and internet delivery over the television. ITV advertising revenues includes all revenues that are generated directly to support ITV initiatives, including delivery of television/streaming video signals via the internet. Revenues for personal video recorders such as TiVo and Replay Networks are incorporated into these projections.

There is significant potential for overlap between ITV advertising and e-commerce revenue projections and basic internet/online advertising and e-commerce estimates. Based on its marketplace perspective, Myers estimates that internet and ITV advertising revenues will be heavily integrated by 2004, and that as much as 50% of ITV advertising revenues could also be incorporated into internet advertising revenue forecasts.

From 1999-2003, Myers projects that ITV advertising revenues will be incremental to established media spending and funding will derive from non-traditional advertising and media budgets, including direct marketing and sales promotion budgets. Initial funding of ITV campaigns will be drawn from corporate funds targeted for tests of new media and marketing opportunities and will not have any negative impact on traditional budgets.

Initial revenue growth of the ITV industry will depend heavily on subscription revenues, while e-commerce and advertising revenues will drive future expansion. While other forecasters project that ad revenues will exceed e-commerce revenues, Myers believes the unique advantage of ITV will be the combination of video with the purchase opportunity. These e-commerce projections have been moderated until market performance validates continuing consumer response.

Online and ITV ad revenues, as well as e-commerce and subscription models, will become increasingly integrated. It is likely that future forecasts such as these will be differentiated through alternative models and definitions. Additionally, ITV should be considered a program content form, rather than a medium that competes with other traditional media for consumer and advertising spending. ITV revenues will increasingly become a component of the revenues of broadcast stations and networks, cable operators and networks, program producers and distributors, satellite distributors, internet service providers, and other forms of media content and distribution. As ITV becomes an integrated component, advertising and subscription revenues targeted specifically for ITV applications may become increasingly difficult to differentiate. eCommerce business conducted via ITV will become largely indistinguishable from e-commerce conducted exclusively via the internet, as the two become seamless to the end consumer.

Although Myers has established these benchmark forecasts for evaluation and tracking purposes, it would be inappropriate for users to depend upon them for uses other than tracking. It is difficult to project ITV revenues since the industry is in such nascent form and revenue models are uncertain. Myers anticipates publishing future forecasts that will more clearly define internet/online and ITV revenues.

Other forecasts vary in the actual numbers projected, but they all see strong growth. Paul Kagan Associates estimates that interactive advertising revenues alone will pass the \$5 billion level by 2004, indicating a growth rate nearly equal to that of the internet, but surpassing cable, broadcast TV or radio. Jupiter Communications foresees an ITV market (which Jupiter describes as "a hybrid of web and television revenue and programming models") of \$10 billion in revenues by 2004.

According to analysis by eMarketer, Forrester Research predicts ITV revenues of more than \$15 billion by 2004, about two-thirds from enhanced broadcast TV and one-third from web-on-TV services. Forrester cut back its earlier projection of total ITV 2004 revenues of \$20 billion, including shaving its advertising revenue projection to \$7.7 billion from \$11 billion. Based upon new projections in November 1999, the following table shows how Forrester sees ITV revenue breaking down.

**Interactive TV Revenues, 1999–2004,  
in Millions of Dollars**

Revenue Source	1999	2000	2001	2002	2003	2004
Advertising	\$94	\$212	\$535	\$1,805	\$4,470	\$7,723
eCommerce	\$168	\$621	\$1,561	\$2,639	\$4,071	\$5,754
Subscriptions	\$403	\$822	\$1,413	\$1,550	\$1,721	\$1,912
Total	\$665	\$1,665	\$3,509	\$5,994	\$10,262	\$15,389

Source: Forrester Communications, 1999

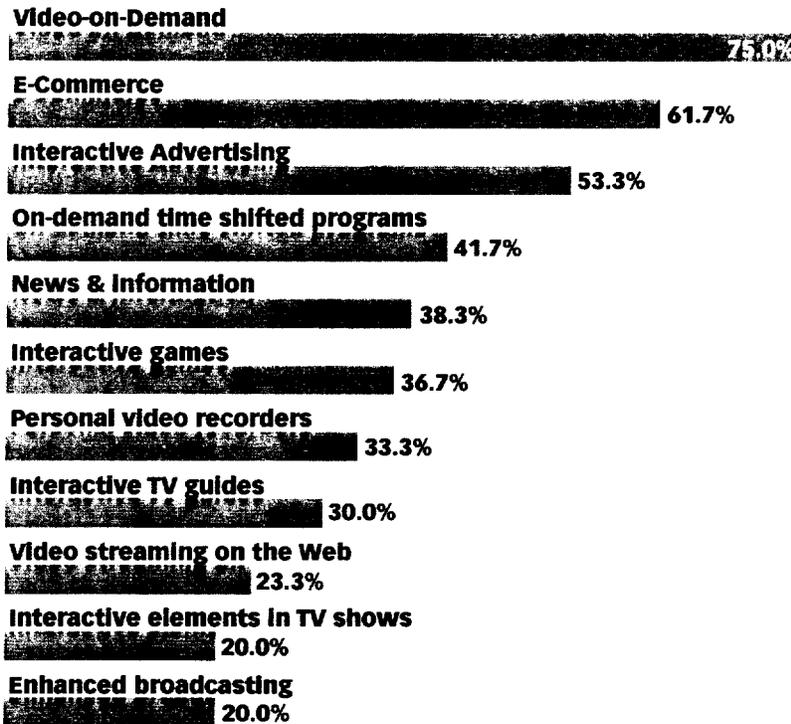
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- [The Interactive Advertising Experience](#)
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## D. Revenue Potential for ITV Services

Video-on-demand (VOD) has leapt into the lead as the top potential ITV revenue producer after placing third among ITV services in last fall's Myers survey. Interest in e-commerce and interactive advertising, which placed one-two last fall, remains strong.

### Revenue Potential for ITV Services

**% of respondents ranking revenue potential as high\***



*\*A ranking of a 6 or 7 on a 7-point scale.  
Source: Myers Group, Prospects for ITV, 2000*

The cable industry has taken renewed interest in on-demand movies, partly in response to satellite competition and partly due to lower costs-per-stream that are making scalable deployment attainable. At the Myers Forum for Interactive Television Development, Robert Rosentel, VP of new media for Cablevision Systems, said the driving forces for Cablevision's customers are VOD and electronic program guides. The reason: "Customers understand what it is." Cablevision's research shows "customers are not as interested in the internet on TV as some people think."

Only 15% of survey respondents felt that revenue potential for internet on TV was high, not enough to place it within the top 10 responses. That's surprising considering that many define internet over TV as a key ITV category. Much of the low response may have to do with the state of the internet today, which provides a rather static TV experience, and the fact that services like WebTV so far have not enjoyed high mass market popularity. All that may change as media streaming enhances video and audio web capabilities that can be distributed to the TV through broadband technology. Major players like WebTV and AOL TV can drive demand by providing interactive services that straddle the web and TV experience. Gary Lauder of ICTV believes demand will evolve because "all of these dot-coms are driving a lot of people, who don't today have internet access, to want it. It's not the issue that they want to do it on their TV, but that they want to do it."

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### ITV Advertising: Devil's In The Details

The advertising community, having seen the allure of e-commerce on the web, is taking a keen interest in ITV. But the parameters of an advertising business model are still largely unclear.

Panelists at the Myers ITV Forum agreed that, with the exception of a VOD service like movies-on-demand, an advertising-supported model would win out over subscription-based revenue models. As Robert Rosentel of Cablevision Systems put it, "One of the important things to think about is how these businesses evolve as personalized advertising. Targeted information to people that is of genuine interest to them is really a fundamental change for the advertising business."

Providing more targeted audiences could lead to higher cost-per-thousand prices for interactive advertising than traditional broadcast. Yet advertisers will have to be convinced of the value of an interactive advertisement before they're willing to pay a premium. In addition to ITV's targeting capabilities, media executives foresee other incremental value enhancements, including data mining of consumer information, direct marketing, sweepstakes and other promotions, couponing, and localized components (such as a car ad with an interactive tie-in to a local dealer). How advertisers are able to take advantage of the feedback on the viewer that is stored in interactive systems remains to be seen.

Clearly, advertisers, agencies and marketers are eager to embrace interactive advertising opportunities. Based upon Myers survey research:

- 92% of advertising executives consider opportunities to explore technology-based advertising opportunities such as WebTV to be important to them today
  - 70% of marketing executives place high levels of value on convergence marketing opportunities
  - 61% of advertising executives consider ITV to be of significant value to their companies in the next 48 months
-

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## E. Obstacles to ITV

Despite a high level of activity surrounding ITV, many observers find there are still significant obstacles to overcome. Nearly half of the survey respondents found lack of technical standards, incompatible platforms and lack of industry agreement to be the major roadblocks in the growth potential for ITV.

The ITV arena is becoming more populated each day with unique technologies and applications but there's no clear industry-wide consensus on a central, ubiquitous platform to distribute them all. The current, limited capability to deliver interactive television to the consumers is a direct result of these obstacles. These obstacles also have prevented participation by advertisers, broadcasters, cable operators and others on a wide scale.

### Biggest Obstacles to ITV

% of respondents ranking obstacles as high\*

**Lack of technical standards**

46.7%

**Incompatible platforms**

45.0%

**Lack of industry agreement**

45.0%

**Unproven business models**

31.7%

**Lack of distribution**

28.3%

**Regulatory Issues**

21.7%

**Inefficient or unaffordable technology**

18.3%

**Lack of research**

11.7%

\*A ranking of a 6 or 7 on a 7-point scale.  
Source: Myers Group, Prospects for ITV, 2000

While the lack of standardization is a problem for ITV developers and distributors, it is becoming an increasing annoyance for TV networks and other content providers. Most TV programmers have been willing to enter agreements to adapt content for ITV services, yet some are having to accommodate as many as 10-12 different platforms. Jim Louderback of ZDTV says "we still have to come to grips with how you develop content you can deploy on the internet, on television, and on these integrated boxes."

*"One of the reasons that standards have become an issue is because of the question of how do you take the content that you've already developed for one platform and use it on another platform?"*

— Beth Loughney, OpenTV

There are efforts to overcome these obstacles. Among recent activities:

- The FCC is working with the cable industry and TV manufacturers to determine standards needed to bring cable-compatible DTV sets to the market that would include a firewire connection necessary for two-way interactive services;
- Cable operators continue to roll out advanced digital set-tops that can provide a broadband platform for ITV services; eventually, boxes will include cable modems for high-speed Internet access. The major manufacturers—Motorola, Scientific-Atlanta and Pioneer—have substantially increased production of digital set-top boxes to meet the demand of cable systems upgrading to allow two-way data transfer;
- The Advanced Television Systems Committee of 200 broadcast and TV equipment manufacturers intends to make recommendations by the end of 2000 on the digital TV technical standards;
- Matsushita Electric Industrial Co. and OpenTV recently announced an alliance to develop hardware and software to strengthen the Multimedia Home Platform (based on Java technology being created by a group of 265 companies involved in the framework for the development of DTV), including specifications for interactive television.

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### Searching For ITV's Savior

Most ITV observers recognize that the industry is unlikely to fully succeed without an open technological platform and standards that can be used by multiple service providers. Yet the ability to create an industry consensus is difficult when there are many different players, each with their own visions, business strategies and profit motives.

Much will depend on ongoing consensus building efforts by such organizations as the Advanced Television Enhancement Forum (ATVEF), CableLab's OpenCable project and the Federal Communications Commission. Many of the efforts to standardize the delivery of digital television will have a major bearing on ITV. But building consensus can be a long, painstaking process.

As with many nascent industries, a single, dominant company or technology could provide a de facto standard that drives the entire business. When Microsoft Corp. purchased WebTV, many observers believed—and competitors feared—that Microsoft was on its way toward dictating the future of ITV. That hasn't happened, to the relief of competitors, but it has left ITV without the type of breakthrough market force that a Microsoft can provide. Microsoft's aspirations remain high, however, and its influence and contributions will continue to impact future ITV developments.

Many analysts foresee the America Online-Time Warner combination as a driving force for interactive media. Executives of the companies have pledged an allegiance to open platforms. The merged companies could spur ITV development by serving as a shepherd for the ITV flock, and by becoming a powerful inducement by competitors to seek to counter its potential dominance.

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## F. Greatest Potential Beneficiaries

Nearly 70% of those surveyed believe cable operators will reap the greatest benefits from ITV, almost double the results of last fall's Myers survey. The improved status for operators comes amid announcements by major cable companies to roll out more digital set-tops and embrace broadband technologies.

Content creators, the leaders in last fall's Myers survey, are still viewed as major beneficiaries. Placing third are internet/web companies, even though respondents do not think highly of the revenue potential of internet-over-TV services. Satellite companies more than doubled their fall percentage of 12.9%, which could be due to recent announcements by broadcast services to add enhanced or internet-oriented services. Theoretically, survey participants could give high marks to the industry in which they work, but the results do not suggest respondents were rooting for their home team. Among the respondents were advertisers/agencies (28% of respondent base), internet/web companies (17%), cable networks (20%), cable operators (13%), content creators (7%), financial institutions (5%), broadcast networks (3%) and broadcast TV stations (3%).

### Greatest Beneficiaries of ITV

% of respondents giving high rankings for media players\*

**Cable operators**

68.3%

**Content creators**

56.7%

**Internet/web companies**

46.7%

**Satellite companies**

35.0%

**Hardware providers**

33.3%

**Advertisers/agencies**

31.7%

**Computer software companies**

28.3%

**Cable networks**

25.0%

**Consumer electronics companies**

23.3%

\*A ranking of a 6 or 7 on a 7-point scale.

Source: Myers Group, Prospects for ITV, 2000

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## Don't Count Out Broadcasters

Conspicuously absent from the list of greatest ITV beneficiaries are broadcasters, who were listed on the survey but received only 15% high ratings (a 6 or 7 on a 7-point scale). For the second Myers ITV survey in a row, respondents left the broadcasting industry virtually off the charts. Why this lack of faith in the American broadcasting system?

The results could be partly attributable to a low number of broadcasters in the respondent base. Yet broadcasters will be disheartened to know that other major respondent groups, especially advertisers, give far more credence to the cable industry than broadcasting.

The result also could be partly attributable to timing. When the survey was first distributed at the Myers ITV Forum on 1 Feb., little was known publicly about specific digital plans. Though more than 100 stations are now digitally equipped, high-definition TV is rolling out very slowly and the industry is divided over whether digital standards need to be reworked. The day after the ITV Forum, during a forum co-sponsored by Myers and Bear Stearns, representatives of several major station groups revealed plans for broadcast applications using their digital spectrum. Public announcements soon followed. While most of the planned services are internet-oriented and do not fit a strict definition of ITV, their place in the digital media market cannot be ignored.

Making the biggest splash is **iBlast**, which will use broadcasters' digital spectrum and wireless antennas to provide over-the-air high-speed internet access and content services at what it claims are "guaranteed speeds" of more than five times that of DSL or cable modems. It counts agreements with 143 local stations owned by 12 major groups, including Tribune Company, Gannett and Cox.

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## A. Introduction

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The biggest development recently to hit the interactive market is the proposed merger of America Online and Time Warner. The announcement has spurred broad speculation about the effect on the future of digital convergence. As Jim Louderback of ZDTV commented at the Myers Forum for Interactive Television Development in February, the merger announcement “really was where the internet took its place at the media table as an equal with television and newspapers and radio, and all other media out there.” Ashley Dunn wrote in the Los Angeles Times that “the biggest force in the coming year may not be the combined AOL Time Warner itself, but rather the fear of a combined AOL Time Warner.”

Respondents to the Myers ITV Survey were asked to write in their opinion of the merger and the comments were overwhelmingly positive, with most seeing the merger as a boost for ITV.

Interactive television encompasses a broad array of services, some of which are likely to work in tandem to provide a new viewer experience. Donaldson, Lufkin & Jenrette, which has been tracking the ITV market, foresees ultimately a combination of a portal that will act as an on-screen “home page” and offer links to:

1. An interactive program guide that will let viewers search for programs, set program reminders and record shows
2. A fully functional internet web browser
3. A walled garden of local information and services
4. Enhanced television
5. eCommerce linked to particular programs and advertisements
6. Interactive home banking and brokerage services
7. Interactive video games
8. eMail and instant messaging
9. Other services to be determined, such as remote control of appliances

Three broad categories of services currently dominate interactive television activity. Each category is addressed in the pages that follow, including companies involved (in bold). Due to the large and increasing number of companies, there no doubt have been some that have inadvertently and regrettably been omitted. The information about companies listed in this report is as current as possible, effective 1 May 2000.

**Enhanced Television**—Interactive program guides, on-screen content enhancements, requests for information, t-commerce

**Internet over TV**—Websites on TV, channel hyperlinking, e-mail, e-commerce

**Video-on-Demand**—Movies, events on demand with VCR functionality, subscription VOD, personal video recorders, digital video downloads

### Slicing the ITV Market

The ITV market is amorphous and there are many ways to view it. During Myers' ITV Forum, Michael Collette, SVP of marketing for ICTV, offered his company's perceptions.

Broadcast TV	Cable Nets, Broadcast Nets, Local Nets
Enhanced TV	Interactive Graphics, Ads, eCommerce, Limited Content
Internet on TV	Surf on TV, eMail
Broadband Content	Bband, Interactive Content, Broadband Internet, Local IP Content, PC Games
Demand Content	Traditional Media distributed locally, Video on Demand, Music on Demand

Source: ICTV

The Yankee Group provides the following market breakdown.

### ITV Today Covers a Range of Services and Companies

Service	Features and Functions	Key Players
Interactive Program Guides (IPGs)	<ul style="list-style-type: none"> <li>■ One-touch access and scheduling</li> <li>■ Personalized channels</li> </ul>	Gemstar, Interactive Channel
Digital Video Recorders	<ul style="list-style-type: none"> <li>■ Live pause and rewind recording</li> <li>■ Personalized channels</li> </ul>	Replay Networks, TiVo
Enhanced TV Services	<ul style="list-style-type: none"> <li>■ Complementary data</li> <li>■ Updated news &amp; info.</li> <li>■ TV-based orders and commerce</li> </ul>	WebTV, Wink
TV-based Web Access	<ul style="list-style-type: none"> <li>■ Web browsing, eMail, eCommerce</li> </ul>	WebTV, WorldGate
Video-on-Demand Recorders	<ul style="list-style-type: none"> <li>■ Movies, Video, Music, commerce</li> </ul>	DIVA, Oracle, iMagicTV, Intertainer
ITV Platforms	<ul style="list-style-type: none"> <li>■ Tools and platforms for other applications</li> </ul>	Liberate Technologies, Microsoft, OpenTV

Source: The Yankee Group

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## More Players, Lower Odds

Will the ITV market be able to sustain all of the players that are entering it? The renewed promise of ITV is sure to draw more market entrants, but the odds are against all of them realizing their ambitions.

The winners are likely to be those with:

- Deep investment pockets to sustain slow initial rollout
- The ability to substantially capitalize on revenues from subscription, advertising or e-commerce, or all of those
- The ability to make sales propositions easy for consumers or advertisers
- Strong partnerships with major distributors (cable operators, broadcasters, online services, e.g.)
- Easy access and reasonable costs for content
- Patented intellectual property
- A technology that is easy for distributors and users to implement and maintain
- A compelling viewing experience that gives consumers choice, convenience and control

The number of ITV players will continue to expand and be joined by startups, traditional media players and online companies that are eager to serve the TV as well as the PC once greater broadband distribution rollouts are achieved. AOL Time Warner will have a major impact on the shape of the market. Its developments will prompt activities by media allies as well as competitors, all of which will increase the level of ITV business activity.

By late 2001 to early 2002, some players are likely to disappear through attrition and mergers and acquisitions. By that time, digital platform rollouts will have reached a point that ITV providers will have sufficient distribution agreements in hand (or not) and many will have seen the initial realization of their business models (or not).

The market already is seeing merger and acquisition activity on the software side. In the past several months, deals were announced in which OpenTV is acquiring Spyglass for \$2.5 billion in stock; Liberate Technologies is buying MoreCom for \$561 million in newly issued stock; Microsoft is buying Peach Networks, terms not announced; and PowerTV is merging applications provider Prasara into its company.

Of course, much also depends on the stock market and investors' willingness to support new media.

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Although Myers has established these benchmark forecasts for evaluation and tracking purposes, it would be inappropriate for users to depend upon them for uses other than tracking. It is difficult to project ITV revenues since the industry is in such nascent form and revenue models are uncertain. Myers anticipates publishing future forecasts that will more clearly define internet/online and ITV revenues.

Other forecasts vary in the actual numbers projected, but they all see strong growth. Paul Kagan Associates estimates that interactive advertising revenues alone will pass the \$5 billion level by 2004, indicating a growth rate nearly equal to that of the internet, but surpassing cable, broadcast TV or radio. Jupiter Communications foresees an ITV market (which Jupiter describes as "a hybrid of web and television revenue and programming models") of \$10 billion in revenues by 2004.

According to analysis by eMarketer, Forrester Research predicts ITV revenues of more than \$15 billion by 2004, about two-thirds from enhanced broadcast TV and one-third from web-on-TV services. Forrester cut back its earlier projection of total ITV 2004 revenues of \$20 billion, including shaving its advertising revenue projection to \$7.7 billion from \$11 billion. Based upon new projections in November 1999, the following table shows how Forrester sees ITV revenue breaking down.

**Interactive TV Revenues, 1999–2004,  
in Millions of Dollars**

Revenue Source	1999	2000	2001	2002	2003	2004
Advertising	\$94	\$212	\$535	\$1,805	\$4,470	\$7,723
eCommerce	\$168	\$621	\$1,561	\$2,639	\$4,071	\$5,754
Subscriptions	\$403	\$822	\$1,413	\$1,550	\$1,721	\$1,912
Total	\$665	\$1,665	\$3,509	\$5,994	\$10,262	\$15,389

Source: Forrester Communications, 1999

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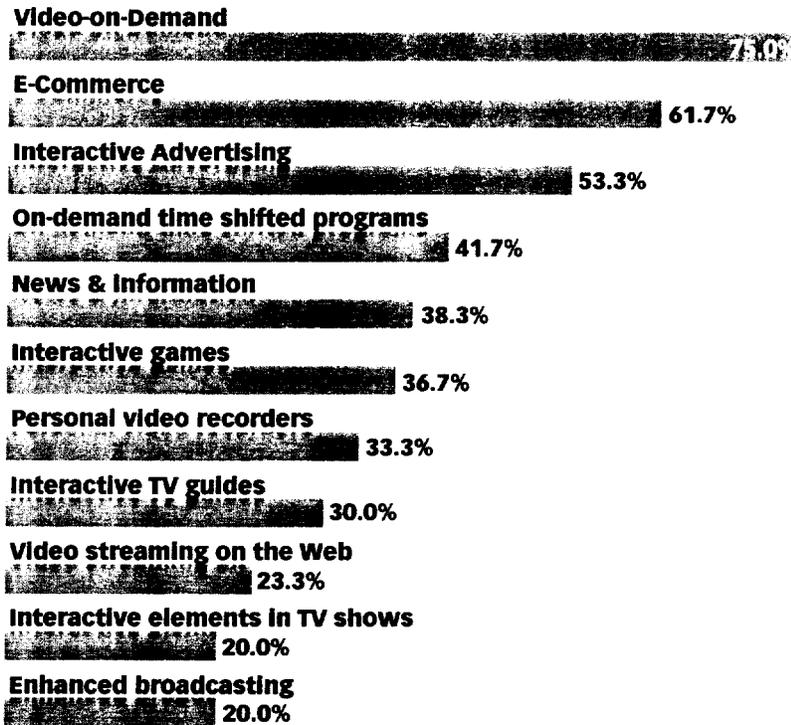
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## D. Revenue Potential for ITV Services

Video-on-demand (VOD) has leapt into the lead as the top potential ITV revenue producer after placing third among ITV services in last fall's Myers survey. Interest in e-commerce and interactive advertising, which placed one-two last fall, remains strong.

### Revenue Potential for ITV Services

**% of respondents ranking revenue potential as high\***



\*A ranking of a 6 or 7 on a 7-point scale.  
Source: Myers Group, Prospects for ITV, 2000

The cable industry has taken renewed interest in on-demand movies, partly in response to satellite competition and partly due to lower costs-per-stream that are making scalable deployment attainable. At the Myers Forum for Interactive Television Development, Robert Rosentel, VP of new media for Cablevision Systems, said the driving forces for Cablevision's customers are VOD and electronic program guides. The reason: "Customers understand what it is." Cablevision's research shows "customers are not as interested in the internet on TV as some people think."

Only 15% of survey respondents felt that revenue potential for internet on TV was high, not enough to place it within the top 10 responses. That's surprising considering that many define internet over TV as a key ITV category. Much of the low response may have to do with the state of the internet today, which provides a rather static TV experience, and the fact that services like WebTV so far have not enjoyed high mass market popularity. All that may change as media streaming enhances video and audio web capabilities that can be distributed to the TV through broadband technology. Major players like WebTV and AOL TV can drive demand by providing interactive services that straddle the web and TV experience. Gary Lauder of ICTV believes demand will evolve because "all of these dot-coms are driving a lot of people, who don't today have internet access, to want it. It's not the issue that they want to do it on their TV, but that they want to do it."

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### **ITV Advertising: Devil's In The Details**

The advertising community, having seen the allure of e-commerce on the web, is taking a keen interest in ITV. But the parameters of an advertising business model are still largely unclear.

Panelists at the Myers ITV Forum agreed that, with the exception of a VOD service like movies-on-demand, an advertising-supported model would win out over subscription-based revenue models. As Robert Rosentel of Cablevision Systems put it, "One of the important things to think about is how these businesses evolve as personalized advertising. Targeted information to people that is of genuine interest to them is really a fundamental change for the advertising business."

Providing more targeted audiences could lead to higher cost-per-thousand prices for interactive advertising than traditional broadcast. Yet advertisers will have to be convinced of the value of an interactive advertisement before they're willing to pay a premium. In addition to ITV's targeting capabilities, media executives foresee other incremental value enhancements, including data mining of consumer information, direct marketing, sweepstakes and other promotions, couponing, and localized components (such as a car ad with an interactive tie-in to a local dealer). How advertisers are able to take advantage of the feedback on the viewer that is stored in interactive systems remains to be seen.

Clearly, advertisers, agencies and marketers are eager to embrace interactive advertising opportunities. Based upon Myers survey research:

- 92% of advertising executives consider opportunities to explore technology-based advertising opportunities such as WebTV to be important to them today
  - 70% of marketing executives place high levels of value on convergence marketing opportunities
  - 61% of advertising executives consider ITV to be of significant value to their companies in the next 48 months
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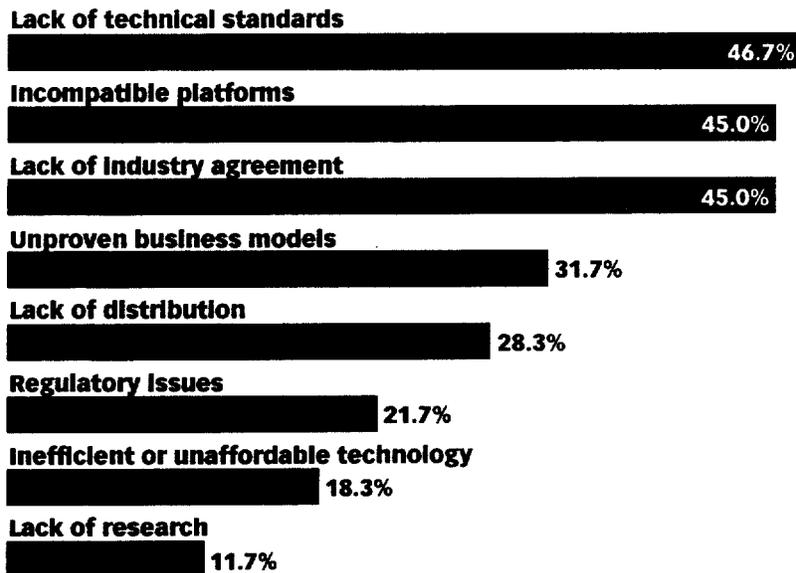
## E. Obstacles to ITV

Despite a high level of activity surrounding ITV, many observers find there are still significant obstacles to overcome. Nearly half of the survey respondents found lack of technical standards, incompatible platforms and lack of industry agreement to be the major roadblocks in the growth potential for ITV.

The ITV arena is becoming more populated each day with unique technologies and applications but there's no clear industry-wide consensus on a central, ubiquitous platform to distribute them all. The current, limited capability to deliver interactive television to the consumers is a direct result of these obstacles. These obstacles also have prevented participation by advertisers, broadcasters, cable operators and others on a wide scale.

### Biggest Obstacles to ITV

% of respondents ranking obstacles as high\*



\*A ranking of a 6 or 7 on a 7-point scale.  
Source: Myers Group, Prospects for ITV, 2000

While the lack of standardization is a problem for ITV developers and distributors, it is becoming an increasing annoyance for TV networks and other content providers. Most TV programmers have been willing to enter agreements to adapt content for ITV services, yet some are having to accommodate as many as 10-12 different platforms. Jim Louderback of ZDTV says "we still have to come to grips with how you develop content you can deploy on the internet, on television, and on these integrated boxes."

*"One of the reasons that standards have become an issue is because of the question of how do you take the content that you've already developed for one platform and use it on another platform?"*  
— Beth Loughney, OpenTV

There are efforts to overcome these obstacles. Among recent activities:

- The FCC is working with the cable industry and TV manufacturers to determine standards needed to bring cable-compatible DTV sets to the market that would include a firewire connection necessary for two-way interactive services;
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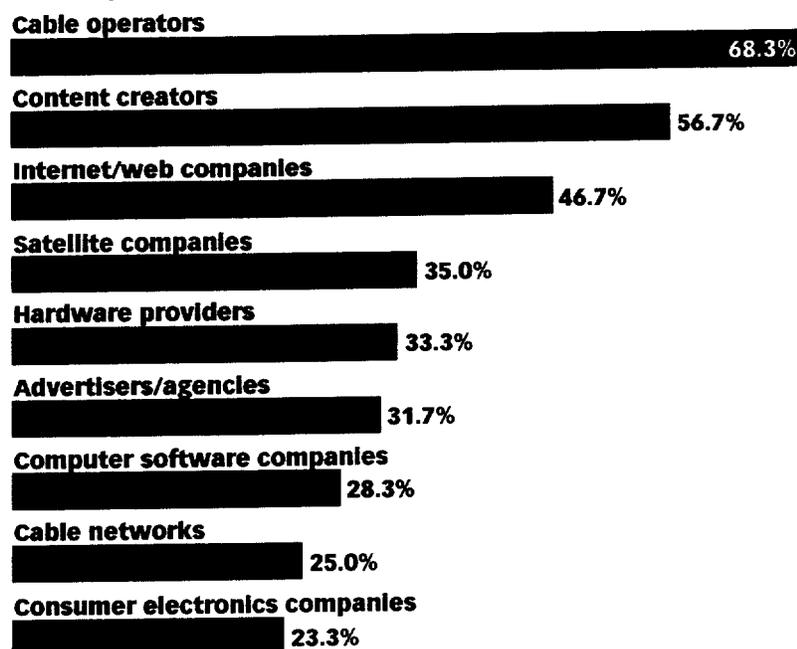
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Digital Video Recorders	<ul style="list-style-type: none"> <li>■ Live pause and rewind recording</li> <li>■ Personalized channels</li> </ul>	Replay Networks, TiVo
Enhanced TV Services	<ul style="list-style-type: none"> <li>■ Complementary data</li> <li>■ Updated news &amp; info.</li> <li>■ TV-based orders and commerce</li> </ul>	WebTV, Wink
TV-based Web Access	<ul style="list-style-type: none"> <li>■ Web browsing, eMail, eCommerce</li> </ul>	WebTV, WorldGate
Video-on-Demand Recorders	<ul style="list-style-type: none"> <li>■ Movies, Video, Music, commerce</li> </ul>	DIVA, Oracle, iMagicTV, Intertainer
ITV Platforms	<ul style="list-style-type: none"> <li>■ Tools and platforms for other applications</li> </ul>	Liberate Technologies, Microsoft, OpenTV

Source: The Yankee Group

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## More Players, Lower Odds

Will the ITV market be able to sustain all of the players that are entering it? The renewed promise of ITV is sure to draw more market entrants, but the odds are against all of them realizing their ambitions.

The winners are likely to be those with:

- Deep investment pockets to sustain slow initial rollout
- The ability to substantially capitalize on revenues from subscription, advertising or e-commerce, or all of those
- The ability to make sales propositions easy for consumers or advertisers
- Strong partnerships with major distributors (cable operators, broadcasters, online services, e.g.)
- Easy access and reasonable costs for content
- Patented intellectual property
- A technology that is easy for distributors and users to implement and maintain
- A compelling viewing experience that gives consumers choice, convenience and control

The number of ITV players will continue to expand and be joined by startups, traditional media players and online companies that are eager to serve the TV as well as the PC once greater broadband distribution rollouts are achieved. AOL Time Warner will have a major impact on the shape of the market. Its developments will prompt activities by media allies as well as competitors, all of which will increase the level of ITV business activity.

By late 2001 to early 2002, some players are likely to disappear through attrition and mergers and acquisitions. By that time, digital platform rollouts will have reached a point that ITV providers will have sufficient distribution agreements in hand (or not) and many will have seen the initial realization of their business models (or not).

The market already is seeing merger and acquisition activity on the software side. In the past several months, deals were announced in which OpenTV is acquiring Spyglass for \$2.5 billion in stock; Liberate Technologies is buying MoreCom for \$561 million in newly issued stock; Microsoft is buying Peach Networks, terms not announced; and PowerTV is merging applications provider Prasara into its company.

Of course, much also depends on the stock market and investors' willingness to support new media.

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## B. Enhanced Television

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Enhanced television includes a variety of applications in which viewers use their remote to access additional content that adds to the on-screen programming, usually in text form.

Electronic program guides represent one of the primary ways of creating viewer interaction. On-screen EPGs being provided by DirecTV and some cable operators enable viewers to click through program grids. Such guide capabilities have scored highly in consumer research and have been a well-regarded feature of direct-broadcast satellite and digital cable. Products that truly deserve the label of interactive program guide offer greater customization, such as the ability to sort by program genres, access favorite programs or select programs for video recording.

The interactive guide field is expected to be dominated by the merged Gemstar and TV Guide Inc. (the deal is expected to close about the end of June). **TV Guide Interactive**, a digital sister service of the analog TV Guide Channel, is in about 3.2 million homes and the company expects to have nearly 6 million by year's end, mostly on AT&T BIS cable systems. It's also testing a combination of TVGI and SeaChange's video-on-demand technology.

Despite TV Guide's strong position, others are seeking to provide guides, either on screen, through guides imbedded in set-tops or TVs, or through the web. Tribune Media Services, which provides TV listings through newspapers, is entering the interactive guide field through a service called **Zap2it**. Diva, a VOD provider, is also offering a guide. **Source Media** provides an interactive program guide and additional localized information.

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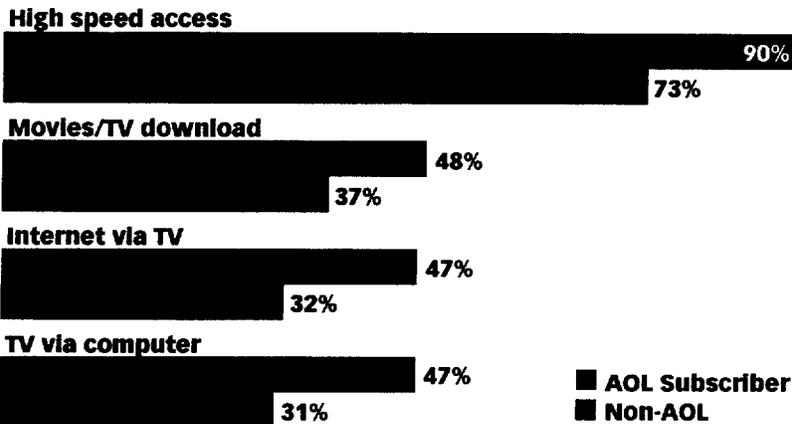
## AOL Merger Creates Convergence Chic

The AOL Time Warner merger will provide the company with a customer base that is ready and willing to explore new interactive services. A joint study by Greenfield Online and The Myers Group found that AOL customers had a higher level of interest than non-AOLers in high-speed access, movie/TV downloads, internet on TV and TV via the computer. The study, conducted in January shortly after the merger announcement, found:

- 1 of 4 internet users are AOL subscribers
- One-half of AOL subs expect the merger to have no effect on customer service
- 1 of 4 AOL subscribers feel the cost of service will rise
- 80% of non-AOL users do not plan to sign up for AOL
- Younger consumers—under 35—showed significant interest in potential media services that AOL Time Warner would be able to offer
- 75% of all those surveyed chose high-speed access as the most desirable service
- 84% of more affluent users are interested in high-speed access

## AOL's Importance to Convergence

Percent of consumers expressing high interest in:



Source: Myers/Greenfield

Other enhanced television applications include the ability to click for sports statistics, movie information, additional news content, etc. The Interactive Channel, owned principally by Source Media and carried on some Insight Communications cable systems, has focused on localized on-demand information and e-mail. ITV services with revenue potential include request-for-information (RFI) applications, allowing viewers to order information, samples and coupons when viewing commercials enhanced for interactivity, and t-commerce (a bastardized label for e-commerce) or DRTV (direct-response TV), allowing for more direct product sales.

***“The consumer has been ready for some time for this. The question is: can people deliver it at a reasonable price?”***

—John Carey, Greystone Communications

Wink Communications is a current front-runner in RFI-type content. In households where Wink is available, a Wink icon alerts the viewer that more information is available, either in programs and commercials, and to click to receive that information. Wink receives about \$1.50 per RFI and 12% of transaction revenues, according to DLJ. Procter and Gamble, AT&T, and Charles Schwab are among the major advertisers who are trying out Wink features in commercials. In April, Wink reported it has launched in more than 175,000 cable households and it expects a total of 750,000 by the end of the third quarter. Recently Wink has been engaged in an effort to promote ITV usage and advertising effectiveness measures.

Another company seeking to capitalize on interactive advertising is RespondTV, which provides hosting and development for advertisers, programmers and distributors. Through a trigger inside a regular video signal, any TV or set-top box (with ATVEF standards) can display RespondTV's interactive overlays. RespondTV charter advertisers include Nissan, Domino's Pizza, E-Loan and CondeNet's Epicurious. RespondTV is also selling software services to enable programmers to monitor and control enhanced content so that their digital spectrum is not “tagged” with enhancements without their knowledge. Another company taking a swipe at t-commerce is Commerce.TV, which provides an onscreen ordering interface.

Meanwhile, television programmers have been experimenting with interactive elements in a variety of ways. Game Show Network, a strong believer in ITV, recently told advertisers during an upfront presentation that it has been compiling a consumer data mine on interactivity through the information that GSN is required to collect from viewers who want to play along at home with its on-air games.

### C. Internet Over TV

Surfing the web on TV initially appeared as an attractive concept but so far the idea has lost something in practice. Only 15% of the Myers survey respondents felt that internet over TV offers high revenue potential.

Studies provide contradictory evidence as to how much people want to surf the web over their TVs. Some show that users are most comfortable when the TV and the PC are both on, while others suggest that the passive “lean-back” nature of TV will mix well with the “lean-forward” web surfing experience. Currently, the relatively static, text-based nature of websites lose much of their appeal when placed on a large TV set.

Yet all that is about to change as broadband streaming technologies take hold and major players such as AOL Time Warner and Microsoft Corp. seek to capitalize on digital convergence.

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AOL has plans to launch its AOL TV service this summer. The company promises to bring its online e-mail, web surfing, chat and instant messaging services to television screens. Using Time Warner's cable holdings as a distribution platform, many analysts expect that AOL TV's interface will shape the look and feel of other emerging systems as the service of choice among consumers. The service also will add digital video recording capabilities through a joint venture with TiVo and Liberate Technologies. Liberate will provide the software platform and TiVo will provide the digital video recorder.

Microsoft has long harbored ambitions of being the leading ITV platform provider. Its WebTV already is the leader in internet over TV with more than 1 million subscribers paying a monthly fee for access to the web. The service has broadened its array of interactive products and distribution outlets. For example, EchoStar's Dish Network set-top boxes will house a WebTV Plus terminal giving viewers access to online banking, shopping and programming storage on a hard drive.

Excite@Home is planning to enter the field later this year with @Home TV, described as a suite of high-speed interactive services, including e-mail and interactive advertising, for TVs. According to Forbes magazine, another major portal, Lycos, is entertaining thoughts of launching an interactive service called Lightning later this year.

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### ITV Platform Providers Crowd Stage

Several major players of ITV platforms are jockeying for position and diversifying their software in order to be able to provide a broader range of services to a broader range of distributors. Here are some of the major companies in this area and some recent moves:

- Microsoft recently announced the purchase of Peach Networks, enabling it to offer a WebTV platform to distributors who have not yet adopted advanced digital set-tops
- ICTV announced in November a new headend-based digital platform for high-speed internet access and broadband content for digital cable
- OpenTV, currently in 6 million set-top boxes worldwide, recently announced the purchase of Spyglass Inc., which licenses internet-access software and provides technology for wireless applications
- Liberate Technologies announced the purchase of MoreCom, a provider of software that enables delivery of interactive services via satellite and cable
- PowerTV, a Scientific-Atlanta subsidiary that has an operating system for digital set-tops and internet-leveraged platform for applications, is merging ITV applications provider Prasara into its operation
- Sun Microsystems is pushing its Java TV software as a standard application environment for digital TV

Joining the software fray is another major player, Canal+ Technologies, based in Paris. It's primarily a provider of middleware for digital and interactive applications. Its software currently is deployed in more than 6 million set-tops internationally and it recently announced its intentions to step up activities in the U.S. market.

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Another player in the field is **WorldGate Communications**, which provides Internet over cable for a monthly subscriber fee. It uses **Channel HyperLinking** to link a program or commercial to that content provider's web site. WorldGate's service is delivered from headend servers and takes up little room on the set-top box. WorldGate and Nielsen recently released research, backed by advertisers General Motors, Kraft, Sprint and Warner-Lambert, showing 22% of hyperlink users said they are more likely to interact during commercials, versus 15% each for sports and sitcoms.

Another new product is **HyperTV** developed by **ACTV**, a longtime ITV player that has made its mark principally by providing camera angles and other enhancements for sports events. **HyperTV** streams data to a PC that gets synchronized to a TV program, thus providing digital convergence applications for cable TV.

Others are trying to break into the field with software solutions for both cable and telephone companies, including **FutureTV** and **iMagicTV**, the latter of which is promoting delivery of internet access and pay-per-view programming using ADSL technology over telco copper lines.

Hyperlinks in television programming and even in commercials can be a double-edged sword for advertisers. Some TV programmers see hyperlinking as one more way for the viewer to leave TV and surf the internet. Despite the audience movement, some commercial broadcasters see a potential to generate additional revenues with the new technology.

Meanwhile, cable programmers are seeking to build bridges between their cable networks and websites. One of the more natural outlets for such convergence is **ZDTV**, a 24-hour cable channel dedicated to computing, the Internet and related technology. Using its web site to drive viewers to the cable channel and using the cable channel to drive people to the web site, **ZDTV** uses interactivity to create audience for its internet fare and cable programming. Through its **Netcam** network, viewers can participate in their shows as if they were in the studio.

Broadband growth eventually will provide greater opportunity to bring high-resolution, full-motion, interactive video from the web to the TV screen. This digital convergence will further blur the lines between the PC and TV while providing bold new options for content providers, distributors, advertisers and consumers.

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## D. Video-on-Demand

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VOD enables the ordering of programming for viewing when the viewer wants to see it, not on a set schedule. The decrease in the price of storage and video streaming, along with the continued upgrading of cable systems and advanced digital set-top boxes, is making VOD more of a reality.

For cable operators, VOD provides a strong counter to direct-broadcast satellite services, which currently provide far more pay-per-view hit movie start times than most cable systems. At a recent cable conference, AT&T Broadband CEO Dan Somers stated, "Video-on-demand is our opportunity to absolutely stop DBS."

Time Warner pioneered full-motion VOD during its Full Service Network trial in Orlando, Fla. in the mid-90s and found VOD to be a killer ap. The FSN service, rolled out to 4,000 subscribers, provided virtual VCR functionality, enabling viewers to order, play, pause and rewind movies as well as skip through in 10-minute intervals. While the company has kept the results of FSN private, executives publicly stated that the VOD service increased buy rates two to three times over traditional pay-per-view.

*"Ah, the big challenge—what's the challenge? And it comes out of all this research: It's content. It's having good dynamic content. People don't necessarily want to or have to be pushing buttons all the time. Video-on-demand is simply you go to a menu, pick out a movie, and you watch it for two hours. So you could have very low levels of interactivity and very high levels of interactivity. And there is an audience across this spectrum."*

—John Carey, Greystone Communications

Time Warner Cable currently is rolling out VOD in several markets while Diva Systems Corp., a full-service VOD provider, is offering service in various markets of cable affiliates. Among other suppliers of VOD content are In Demand, TVN Entertainment and Prasara, while those providing technology include Seachange International, nCube, Concurrent Computer Corp. (which last year acquired Vivid Technologies), Oracle Corp. and Unisys.

Intertainer is seeking to serve both the PC and TV markets by using high-speed phone or digital cable connections, via software in Motorola DCT 5000 or Scientific-Atlanta Explorer 2000 set-tops. Intertainer offers VOD movies, music and other interactive services and recommends content based on viewer preferences. Earlier this year, Microsoft announced it will invest \$56 million in Intertainer.

Personal video recorders can be considered VOD in that they allow for storage of programming for on-demand playback. TiVo and Replay Networks are the two manufacturers of PVRs (estimates of 33,000 recorders sold for 1999) offering this service. Both services are seeking to alleviate advertiser fears that they will be used to bypass commercials and to enlist advertisers in sponsorships. PVRs and digital download services are limited by the capacity of hard drives, which currently can store about 28-30 hours of programming, but they will be able to take advantage of expanded storage capabilities coming onto the market. On satellite, DirecTV is incorporating TiVo into its satellite receivers while Echostar has added PVR capability to its DishPlayer package, which also offers WebTV Plus.

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### The View From Capitol Hill

Interactive TV may be subject to many of the rules and regulations of the internet.

In a keynote address at Myers ITV Forum, Congressman Rick Boucher told the audience, "Convergence of the television set with the computer is soon going to enable a broad array of new services for viewers."

Activity has increased in Congress along with growth in membership of the House Internet Caucus. The goal is to "try to find better ways in which federal policy can promote the growth and development of the internet."

Boucher believes the "internet will become the medium of choice for the delivery of everything ...it truly is the internet through which interactive television will come of age."

Boucher outlined issues currently being addressed by the caucus:

- The promotion of deployment of broadband architectures into homes and businesses nationwide
  - The subject of privacy and the concern on the part of Americans that their Internet experience is vulnerable
  - The question of open access for internet service providers
  - Giving legal voice to ISPs to protect their facilities from spam
  - Whether the cable compulsory license will be available for multi-channel video and video-streaming on the internet
  - Congressional authorization of digital signatures for all commercial transactions cross the internet
  - The proper taxing environment for the internet
  - Addressing the so-called digital divide between those with and those without internet access capabilities
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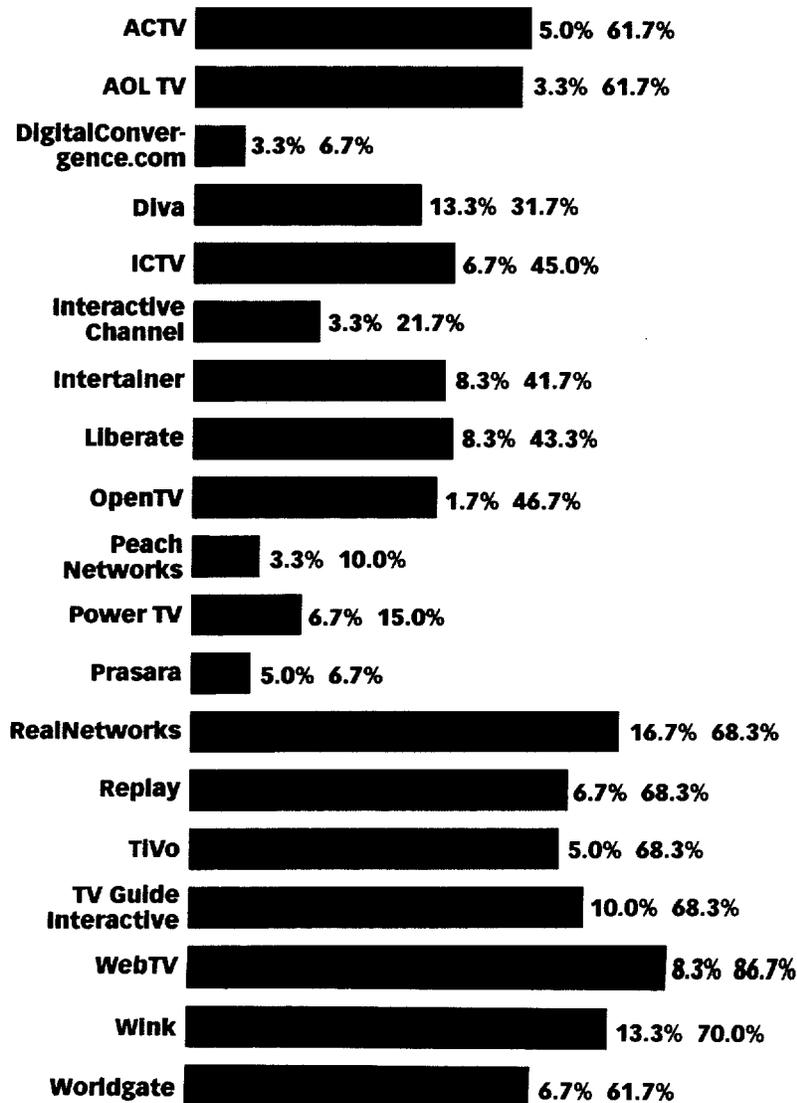
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## E. Market Awareness of ITV Services

Myers' ITV survey of 60 top media executives provides a measure of the media market's familiarity with various service providers. Respondents show great awareness of more established interactive services such as WebTV and Wink, but a fairly low level of business involvement at this stage. The list of surveyed companies is by no means all-inclusive, especially since new players continue to crop up, and it contains a couple players (DigitalConvergence.com, RealNetworks) that do not fit within the current ITV definition. The list is primarily comprised of established applications providers and companies that demonstrated at the Myers ITV Forum.

### Market Awareness of ITV Services



■ Do Business With ■ Awareness of company's technology

Source: Myers Group, Prospects for ITV, 2000