



## OPENTV ADVERTISE™

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▷ **Leading** Interactive TV into the Future.

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## EXECUTIVE SUMMARY

Television advertising is transforming. The proliferation of channels and the advent of interactive television are creating a new landscape for advertisers. Many advertisers point to iTV advertising as a key tool to reach audiences in this changing environment. The interactive and personalized nature of iTV lends itself well to targeted advertising and lead generation. This new era of television marketing combines the power of direct marketing with the emotional and visual impact of TV advertising. In addition, it opens the door to numerous technological and business opportunities for network operators, advertisers, broadcasters and television content providers.

Once a network operator has decided to offer interactive services, advertising within those applications (services) can create new revenue streams. Banner advertising is but one type of interactive ad that is easy to produce. However, existing methods of inserting ads into interactive applications are awkward and time-consuming. Consequently, network operators have begun searching for other ways to manage ad sales, scheduling and billing. There are a number of factors to consider when evaluating the options. Network operators must first choose whether to build an advertising management system in-house or purchase a complete solution from a technology vendor. In contrast to the months-long process of developing and testing a customized ad management system, an off-the-shelf software solution can be installed and deployed within a matter of weeks.

In response to this need, OpenTV Advertise™ was created. Part of OpenTV Enterprise Solutions, OpenTV Advertise is a scalable end-to-end solution that can be deployed quickly to help simplify a network operator's iTV business. By delivering advertising, marketing and promotions to OpenTV middleware-based interactive applications, OpenTV Advertise allows network and channel operators to increase and generate additional advertising ARPU's (average revenue per unit). This tool relieves network operators from worrying about technology or complex, inefficient iTV advertising sales and billing processes. Furthermore, by streamlining their advertising operations with OpenTV Advertise, operators can focus more resources on selling ad space and growing their revenue base.

OpenTV Advertise is the vital element that allows network operators to take advantage of iTV advertising and unleash new revenue opportunities.

## ITV ADVERTISING INDUSTRY: NEW OPPORTUNITIES, NEW CHALLENGES

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### *Background: From Traditional TV Ads to iTV Advertising*

Due to media fragmentation and proliferation, reaching target audiences with television advertising is becoming increasingly difficult and expensive. While channel counts have increased dramatically, TV advertising effectiveness is actually dropping and advertisers are demanding greater accountability and ROI. Ad budgets are being reallocated into direct marketing campaigns and other more “measurable” media.

In the midst of the ad industry’s transformation, a new form of television marketing has appeared: iTV advertising. Formats range from banner ads in iTV applications (e.g., Electronic Program Guide (EPG), weather or soccer) allowing viewers to respond to a promotion; enhanced traditional 30-second advertising spots with a link to an advertiser’s micro site; and even more advanced Personal Video Recorder (PVR) spots pushed to the hard drive on a viewer’s set-top box. iTV advertising combines the power of targeted, direct marketing with the emotional and visual impact of TV advertising, transforming the visual-only brand experience into a customer interaction and sales opportunity. Furthermore, iTV offers advertisers new, less intrusive ways to communicate with consumers. Advertisers can become content providers, developing their own iTV applications, thus allowing viewers to interact with their brand anytime.

Perhaps one of the most important distinctions between interactive media and traditional television is the response mechanism. As a one-to-one communications vehicle between the advertiser and audience, advertisers can issue a call to action with interactive TV advertising. Traditional television, on the other hand, is a “one-to-many” approach that reaches a passive viewer who has no immediate means of responding. In an interactive media environment, network operators are often able to obtain user profiles and/or viewer addresses for follow up sales efforts or lead generation and can sell that information back to the advertiser.

iTV advertising also allows more precise pricing. In advertiser-supported broadcasting, the all-important “rating” of a program is dictated as much by its content as by its place in the schedule. Airtime costs for television spots are based on GRPs (Gross Rating Points), which equal Frequency multiplied by Reach. Generally indicating household rating points, GRP offers a description of total audience delivery without regard to duplication or repeat

exposure to the media. Individuals or homes are counted as many times as they are exposed to the advertising (thus the word ‘gross’). GRP and reach are then translated into the currency of the business – the cost per thousand or CPM used to charge the advertiser who is funding the programming. For interactive media, CPM can be directly measured by an ad management system. The very nature of iTV advertising allows network operators, advertisers and content providers to gain an accurate ‘picture’ of iTV application users and TV users in general.

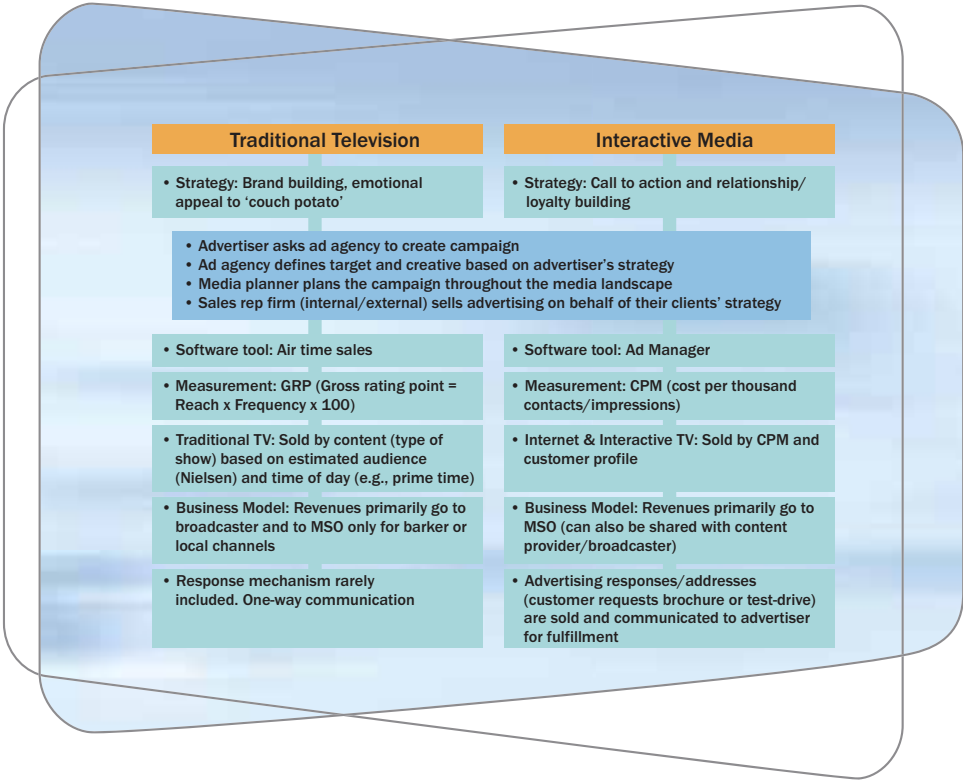


Figure 1: Traditional vs. Interactive Advertising

### *iTV Advertising: Opportunity for Operators*

iTV advertising is a still nascent, yet high-growth industry. Revenues for iTV advertising are expected to grow considerably in 2003 and 2004. Optimistic revenue forecasts for all forms of iTV advertising such as iTV banners, enhanced ads, and direct marketing, on all platforms (e.g., Wink or OpenTV), through all media properties (e.g., BSKYB or Gemstar TV Guide), suggest growth from \$137 million in the US in 2002 to \$4.7 billion in 2007. In Europe, iTV ad dollars are predicted to grow from \$189 million in 2002 to \$2.2 billion in 2007.

In 2002, iTV banner advertising is expected to make up 35% of all iTV ad revenues with enhanced TV advertising representing 25% of the total. With good reason, iTV advertising is increasingly positioning itself as an important source of iTV revenues. In most markets, direct marketing is worth twice the amount of traditional advertising.

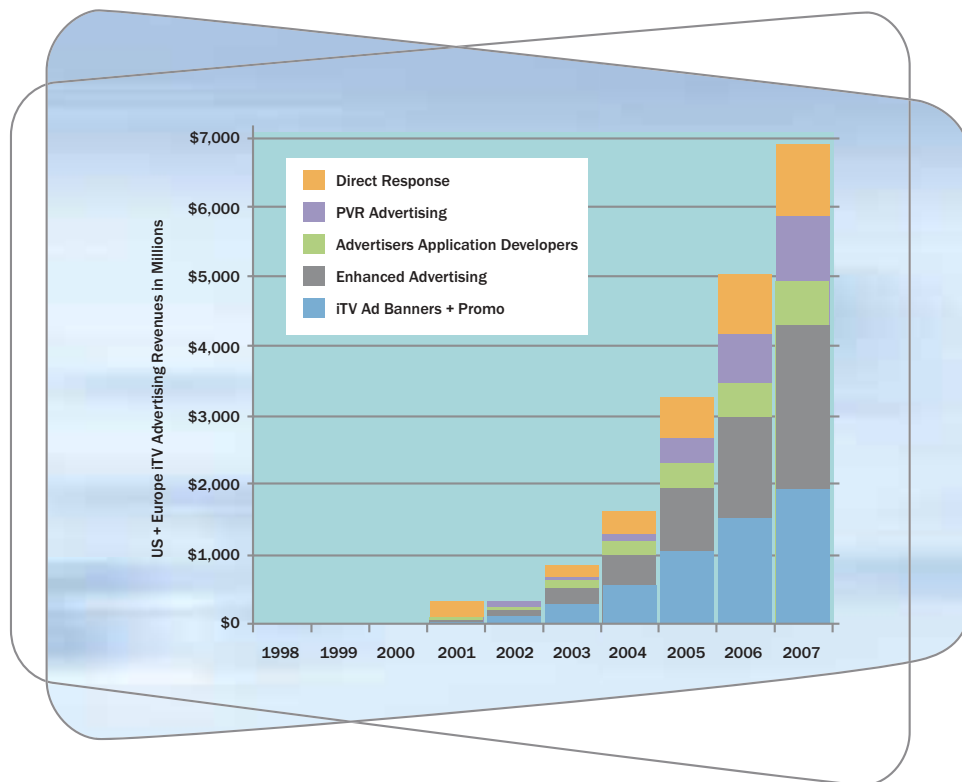


Figure 2: US + Europe iTV Advertising Revenues

In 2001, TPS Interactif, the interactive arm of French pay-TV operator TPS (La Television Par Satellite), reported €76 million (\$75 million USD) in revenues for its interactive services. 24% of this was attributed to iTV advertising (ad banners and enhanced advertising) and 9% to direct response advertising. Over time, the TPS average CPM (cost per thousand impressions) has remained at approximately €5.5 million (\$5.4 million USD) with a consistently high fill rate on popular applications such as EPG, weather or games (Bandiagara).

EPG, sometimes referred to as IPG, or Interactive Program Guide, tends to be the most widely used application in interactive television. For Gemstar/TV Guide: “The opportunity for both advertisers and EPG providers lies with the fact that users of the EPG typically visit the guide four times per hour and visit three pages within the guide each visit.” According to Deutsche Banc Alex. Brown, there is the potential for nearly 92,000 ads to be delivered per household, per year, through the EPG. For example, the Gemstar TV Guide reaches 27% of the US television audience with a CPM of \$6 and household advertising revenue of \$149 per year.

#### *What are Advertisers Looking For?*

With so many benefits, iTV advertising may be perceived as the holy grail of the marketing industry. So why are advertisers waiting to invest heavily in iTV advertising? Shuvo Saha, Interactive Marketing Manager at Procter & Gamble, answers the question: “At P&G we have been exploring iTV advertising with nice early success like the P&G Pampers campaign which ran on BSkyB in the UK. We are strong believers in iTV advertising, so why not do even more? An advertiser needs more flexibility to explore all the possibilities. We need to reduce the costs/complexity and to develop the tools to prove it can work. The Marketing community will still look for some proof that using iTV is a smart financial decision.”

Most network operators and technology providers recognize that advertising objectives remain twofold, with brand building (reach/awareness, recall, response, trial, loyalty, etc.) on one side and business building (sales, short-term ROI, long-term ROI) on the other. iTV advertising must bridge these two objectives.

“The iTV advertising proposition needs to be a creative engagement with direct response,” replies Marco Keir, Interactive Group Director at Saatchi & Saatchi Vision. In order to gain mass acceptance and unleash the full potential of the medium, iTV advertising needs to tackle these issues seriously and offer a comprehensive solution to the marketing and

advertising industry. With the right tools, iTV will enable advertisers to accurately measure the effectiveness of ad campaigns. In essence, network operators and advertisers will be able to close the loop and provide accurate advertising ROI estimates.

### *iTV Advertising Revenue Models*

Advertisers and operators rely on a number of approaches to buy and sell iTV advertising. Budgets, vehicles (such as a particular application), target audiences and messages may necessitate different revenue models for advertisers, agencies and network operators. For these reasons, network operators may wish to sell their inventory using a variety of pricing models. Understandably, an ideal advertising management system would support these different models.

The value chain for iTV banner advertising provides multiple business options and a good deal of flexibility for advertisers to broadcast ads to TV viewers. While many of the relationships and interactions are familiar to television advertisers, others are specific to

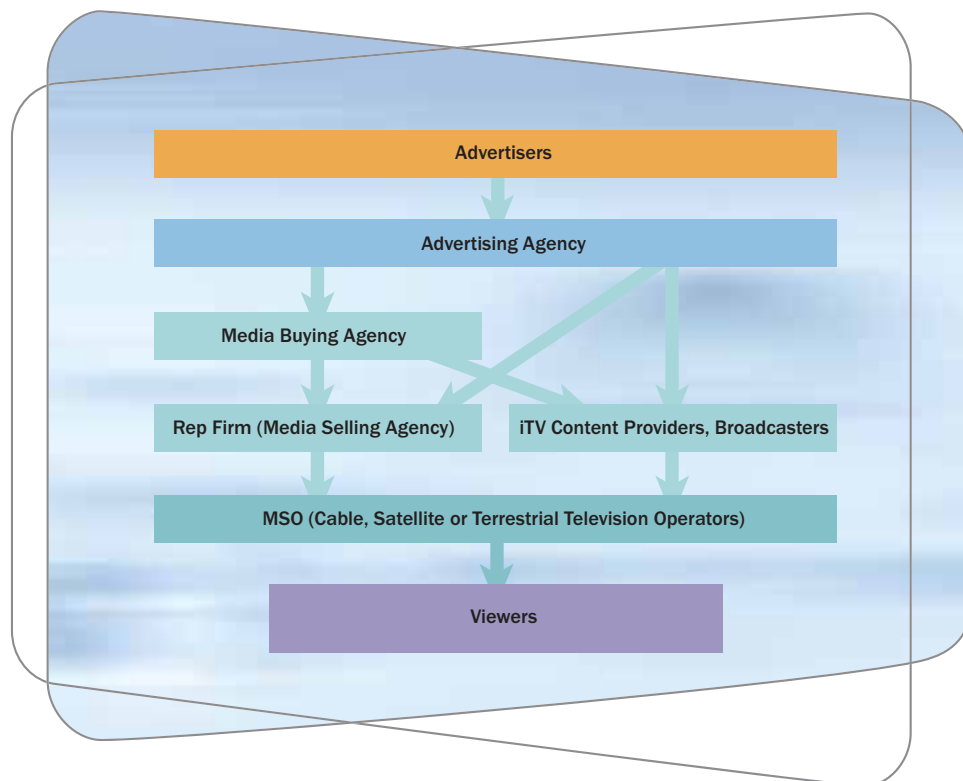


Figure 3: iTV Banner Advertising Value Chain



the interactive television industry. Operators play an even greater role in interactive television because they own and manage the iTV infrastructure.

Pricing models take into consideration the more complex “route” that the advertiser might take to ultimately reach a viewer in an interactive television environment:

**Sponsorship:** The advertising sponsorship model is currently the model most commonly used by leading iTV providers (such as TPS or DIRECTV Latin America), in which an ad is placed on an ad avail, within an application, for a certain period of time. For example, an advertiser can ‘sponsor’ a given area within the EPG every evening between 8 pm and 10 pm.

**Pay-per-Impression:** In this model, advertisers pay the ad agency based on how many consumers see their promotions. This model allows for better optimization of the space and more ad inventory to be sold. For example, an ad management system may use a method of calculating impressions called ‘estimated impressions per day.’ For a given application, the number of impressions sold to advertisers is based on an estimate of the number of ad banners viewed.

**Pay-per-Click:** While challenging for network operators and agencies, the pay-per-click ad model allows advertisers to pay ad agencies and iTV network operators based on how many consumers clicked on a promotion. This model may be well suited for ad agencies because it forces them to create successful campaigns. On the other hand, content providers may want to avoid this type of model because their ad revenues are tied directly to the success of a given campaign. Moreover, MSOs and broadcasters do not have any influence on the creative of the ad campaign and, in turn, on its success. Sweepstakes and give-aways usually increase the number of click-throughs and therefore, revenues.

**Pay-per-Sale:** In this model, advertisers pay the ad agencies based on how many consumers actually make a purchase as a direct result of the promotion. Like pay-per-click, content providers do not really have any means to influence the success of the campaign.

**Lead Generation:** Lead generation marketing tactics have the potential to become the pot of gold at the end of the digital television rainbow. Today, leading iTV network operators sell responders’ names and address from a campaign to the corresponding advertiser for an additional amount (outside of the costs to run the campaign). The average price ranges from \$1 to \$2 per address for a one-time follow-up use.

Advertising TV micro sites are often used as a ‘call to action’ marketing tactic. The follow-on action of “jumping” to a micro site often enhances the viewer’s brand experience. Advertisers may offer viewers a brochure, test-drive, sweepstakes entry, product sample or even a purchase opportunity in order to generate new leads and build their businesses. Micro site functionality can even add new revenue streams to a network operator’s business. For instance, the network operator can charge the viewer (subscriber) for the phone cost incurred when visiting the micro site.

### ***iTV Ad Management Systems or Manual Advertising Operation***

In broadcast television, video spots are typically scheduled, cued and inserted in the broadcast stream using automation software known as an Air Time Sales System. By contrast, most iTV network operators manually place iTV ads within an application. Ad Operations (or AdOps) is responsible for managing the inventory, scheduling ads and billing/invoicing advertisers and ad agencies. This manual “system” is cumbersome and can lead to ineffective selling of ad inventory. Typical tracking mechanisms, such as common spreadsheets with matrices of information including advertisers, applications, IOs (insertion orders) and run dates, are also awkward. Tracking the number of impressions in this way yields unpredictable and often inaccurate results.

To make matters more complex, the AdOps team has no way of managing a multi-ad campaign for advertisers wishing to run several ads at once across different applications, launch different banners at various points within an application, or run several related ads in rotation. Not only is managing the insertion difficult, there are almost no specialized tools to generate meaningful reports that track the number of impressions within specific parameters (such as campaign dates or ads running in more than one application) or to check and modify ad rotation for a particular advertiser. The tasks of ad tracking, rotation, billing and reporting for iTV banner ads could become a full-time job for several people. In a digital age, this level of inefficiency is unwarranted.

An advertising management system would greatly simplify a network operator’s business, increasing the revenue potential from ad sales and reducing AdOps’ personnel costs. A good advertising management solution makes building and supporting iTV advertising services easy and efficient. Depending on engineering resources, building a software-based advertising management system internally might take anywhere from eight to twelve months of development (not including testing and installation). This kind of solution would lack the support or economies of scale of a packaged, off-the-shelf product. Not only would this

entail a substantial upfront development cost, the significant investment of time required would lead to missing approximately one year of advertising revenues.

With a packaged ad management solution, a network operator could be “up and running” in a matter of weeks. This represents considerable savings over in-house development and deployment costs.

Once an operator has made the decision to purchase an ad management system, the next question is: Which one?

## THE SOLUTION: OPENTV ADVERTISE

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OpenTV Advertise is a fully automated, end-to-end ad management software system that streamlines the advertising process and allows operators to efficiently sell and deliver banner ads on interactive applications. The system allows networks operators, broadcasters and content providers to manage, schedule and broadcast banner ads and promotions to OpenTV-based interactive applications, whether developed in-house or by third parties. Applications might include EPG, virtual channels and enhanced TV programs, or any other interactive application (e.g., weather, sports or news). Ads may be produced in either MPEG or bitmap format to meet the display requirements of the target applications.

The foundation for OpenTV Advertise is based on the successful Internet model developed by OpenTV technology partner Predictive Networks. Using OpenTV software, the entire process of managing and delivering multiple advertising campaigns is controlled from a simple to use, Web-based interface. OpenTV Advertise offers tools for inventory forecasting, dynamic and instant insertion of advertisements into ad-enabled applications, storage of ad assets and reporting. The system generates comprehensive reports that allow AdOps to make well-informed decisions and ultimately increase yields on ad sales. Further, OpenTV Advertise allows network operators to preview, manage and store thousands of advertisements linked to advertiser contact and industry information.



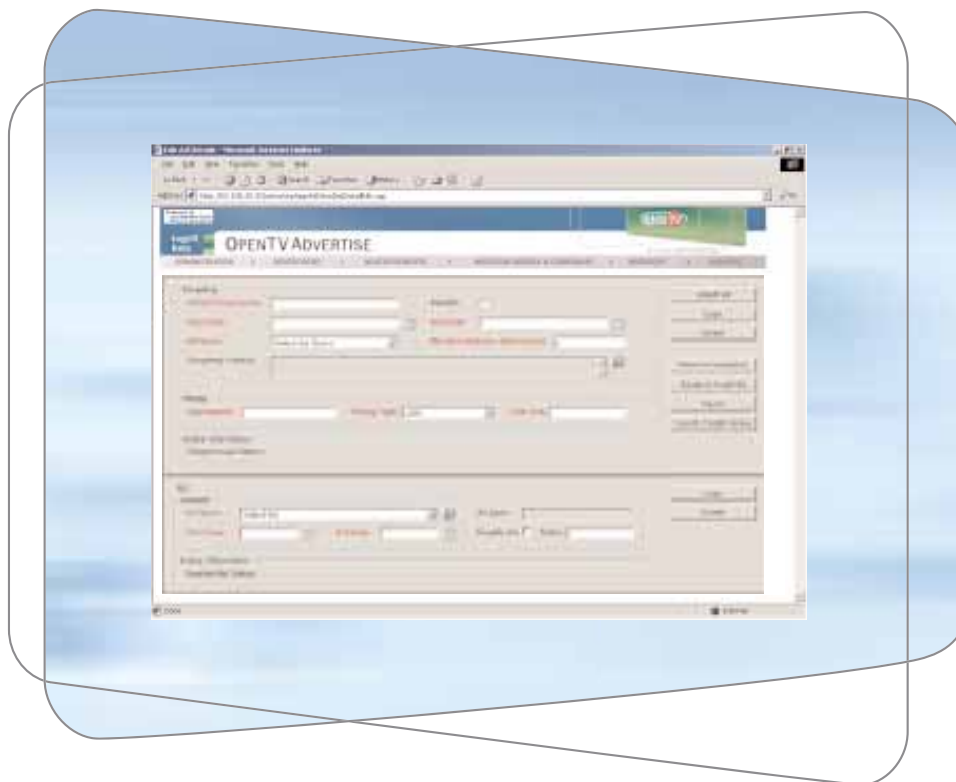
*Figure 4: Dynamic Insertion of Advertisement into Broadcast Stream*

### **Meeting Advertiser Needs**

OpenTV Advertise provides key tools to meet the needs of advertisers:

**Flexible Targeting Options Across Multiple Avails:** An advertiser may choose to target its ads by inserting them into applications that are likely to appeal to its target demographic. For instance, a banner ad for a soft drink or casual clothing line might appear within a games application while a banner ad for a national daily newspaper might run within a weather application. Meanwhile, the network operator could run a banner ad for the latest movie on pay-per-view across multiple applications.

OpenTV Advertise users can also add “click-through” functionality to link a banner ad to an advertiser’s micro site for direct response marketing campaigns, such as lead or demand generation. The software also supports ad click-through to applications to TV channels.



*Figure 5: OpenTV Advertise Insertion Order - Targeting*

**Accountability and Campaign Fulfillment:** OpenTV Advertise automatically fills ad avails based on desired scheduling, ensuring target impressions for each banner ad campaign are met. Network operators can poll real-time data to determine whether an ad has met the advertiser's required number of impressions. OpenTV Advertise provides numerous reporting options for advertisers, finance, sales, AdOps and system administrators. The system provides extensive reporting for all campaign deliveries, advertising revenue, sales activity, campaign priorities, inventory, subscriber counts and applications. Any report can be customized according to specific needs.

Advertiser	Advertiser Code	Insertion Order #	Insertion Order Name	Advertiser Insertion Order	Currency	USD		
Application Instance	Ad AppId	Ad AppId	Ad Name	Start Date	End Date	Impressions Delivered	Price Type	Spots Revenue
Campaign	Advertiser Campaign 1			29-Jun-2001	30-Nov-2001			
Target Group	Advertiser Target 1			29-Jun-2001	30-Aug-2001			
Jeopardy Overlay 1.2 EchoStar 7:00 PM-7:30 PM MTWTF--	256x256	256x256	Get Hiking	25-Jun-2001	10-Aug-2001	176,925	15.90 CPM	2,475.00
Jeopardy Overlay 1.2 EchoStar 7:00 PM-7:30 PM MTWTF--	256x256	256x256	Green Skirt	18-Jul-2001	10-Aug-2001	1,094,225	15.90 CPM	15,475.00
Jeopardy Overlay 1.2 EchoStar 7:00 PM-7:30 PM MTWTF--	256x256	256x256	Rh RP3 Player	29-Jun-2001	10-Aug-2001	907,500	15.90 CPM	13,200.00
Jeopardy Application 1.5 EchoStar 12:10 AM-11:30 PM MTWTF--	256x256	256x256	Get Hiking	25-Jun-2001	10-Aug-2001	56,270,940	15.90 CPM	942,875.00
Jeopardy Application 1.5 EchoStar 12:10 AM-11:30 PM MTWTF--	256x256	256x256	Green Skirt	18-Jul-2001	10-Aug-2001	59,624,850	15.90 CPM	954,300.00
Jeopardy Application 1.5 EchoStar 12:10 AM-11:30 PM MTWTF--	256x256	256x256	Rh RP3 Player	29-Jun-2001	10-Aug-2001	3,563,910	15.90 CPM	50,325.00
Target Group Subtotal:						121,439,359		1,915,950.00
Campaign Subtotal:						121,439,359		1,915,950.00
Insertion Order Subtotal:						121,439,359		1,915,950.00

Figure 6: OpenTV Advertise Reporting

**Flexible Campaign Management:** Within a campaign, OpenTV Advertise allows operators to organize and target advertisements according to applications, time of day, day of week and/or location. Using the campaign management tool, campaigns can be created and reserved prior to the availability of the ad creative. In addition, multiple ads can be rotated for each campaign and target audience, and then changed mid-flight to prevent “burn out” if necessary.

**Multiple Pricing Options:** OpenTV Advertise supports a number of different pricing models – from sponsorship to impression-based to cost-per-thousand. Another product from OpenTV Enterprise Solutions, OpenTV Account™, allows operators to maintain a single sign-on and e-wallet solution for all their iTV operations and facilitate the collection and communication of these addresses to advertisers and merchants alike for fulfillment.

**Improve Sales Management and Promote Sales Team Efficiency:** In addition, OpenTV Advertise offers operational and economic benefits to network operators:

- Provides timely and accurate reports on available, reserved and sold inventory
- Tracks insertion order status from 'Open' to 'Completed,' keeping managers apprised of sales
- Web interface allows remote access to facilitate report generation, inventory requests and creation of contracts

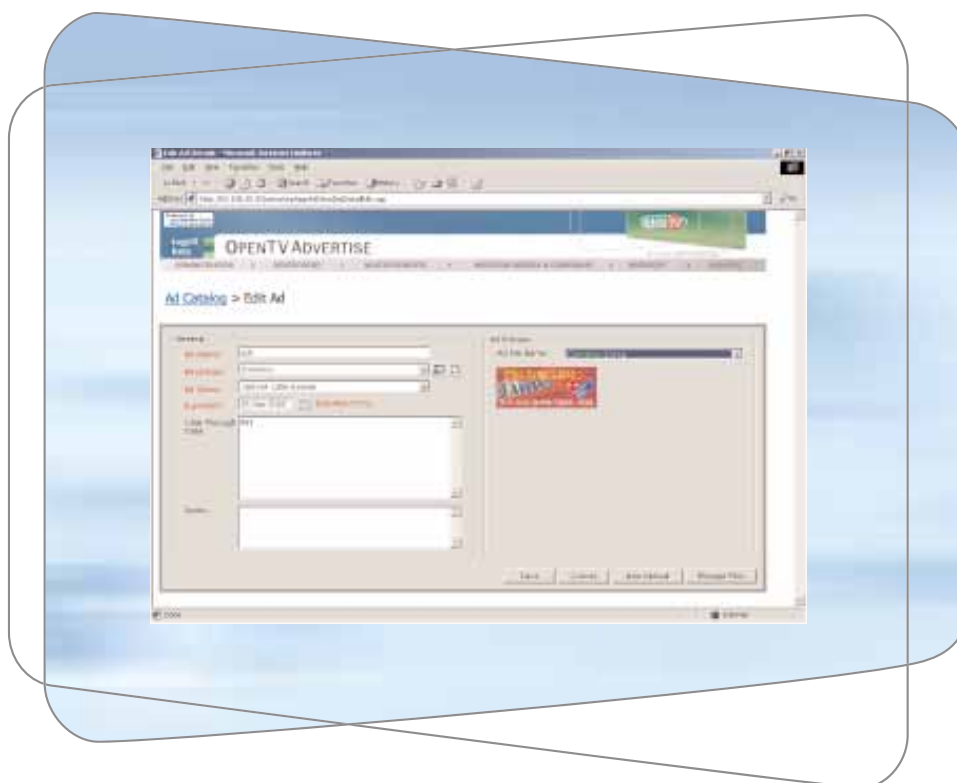


Figure 7: OpenTV Advertise Ad Catalog

**Maximize the Value of Ad Inventory:** OpenTV Advertise provides automated scheduling and delivery that:

- Maximize yields on premium avails
- Increase available inventory through ad banner rotation
- Generate comprehensive reports that allow AdOps to make well-informed decisions and increase yields
- Reduce the risk of over booking

**Reduce Costly and Embarrassing Errors:** OpenTV Advertise saves operators from losing time and revenue by preventing competing ads or advertisers from appearing on the same page and by prohibiting inappropriate content from appearing on specific applications.

#### ***OpenTV Advertise Business Model***

OpenTV Advertise increases iTV ad banner and promotion revenues in several ways:

1. The advertising inventory fill rate is increased because Ad Sales can accept an order from any location at the last minute and insert a new campaign rapidly and efficiently (see Fill Rate in % in figure 9).
2. The resources required to sell iTV ad banner advertising are less demanding (see Ad Operation Costs in figure 9).
3. Ad banner impressions are increased because all promotions can be rotated dynamically and updated in real-time, increasing inventory while maintaining flexibility.
4. CPM price is slightly increased due to the greater flexibility for insertion orders and ease of targeting using ad management software. Last-minute changes and modifications can be executed in real-time, allowing Ad Operations (or AdOps) to satisfy almost all advertisers' requests.

To illustrate the OpenTV Advertise business model, the following assumptions were made: Using standard iTV operation numbers, the model takes a 1 million subscriber network operation, with five ad-enabled applications. Usage figures are derived from average audience numbers as observed in Europe, the US and Latin America. Advertising revenues are tightly linked to the reach of the supported media. Popular applications



such as an EPG, weather or games demonstrate strong advertising revenue potential. The average number of page views per launch stands at 2.5 screens per visit. Ad banner rotation is increased from 1 in a manual operation to 1.5 with an ad management system. The graph below illustrates the typical reach and impression calculations for different applications for an MSO, as observed in current deployments.

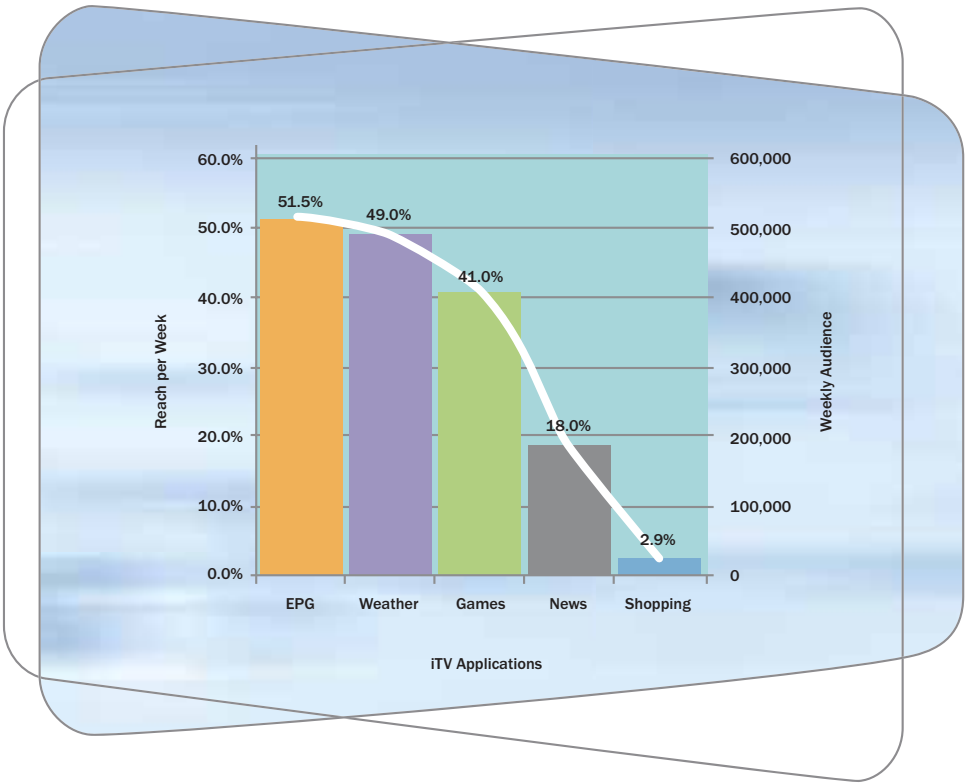


Figure 8: iTV Application Usage Curve

Because ad space is a limited commodity, an ad management system offers tremendous flexibility in reserving and managing inventory. This allows careful yet responsive inventory management, so advertising sales people can accept and fulfill advertiser requests easily. This, in turn, leads to a higher percentage of ad space sold (see Fill Rate in figure 9).

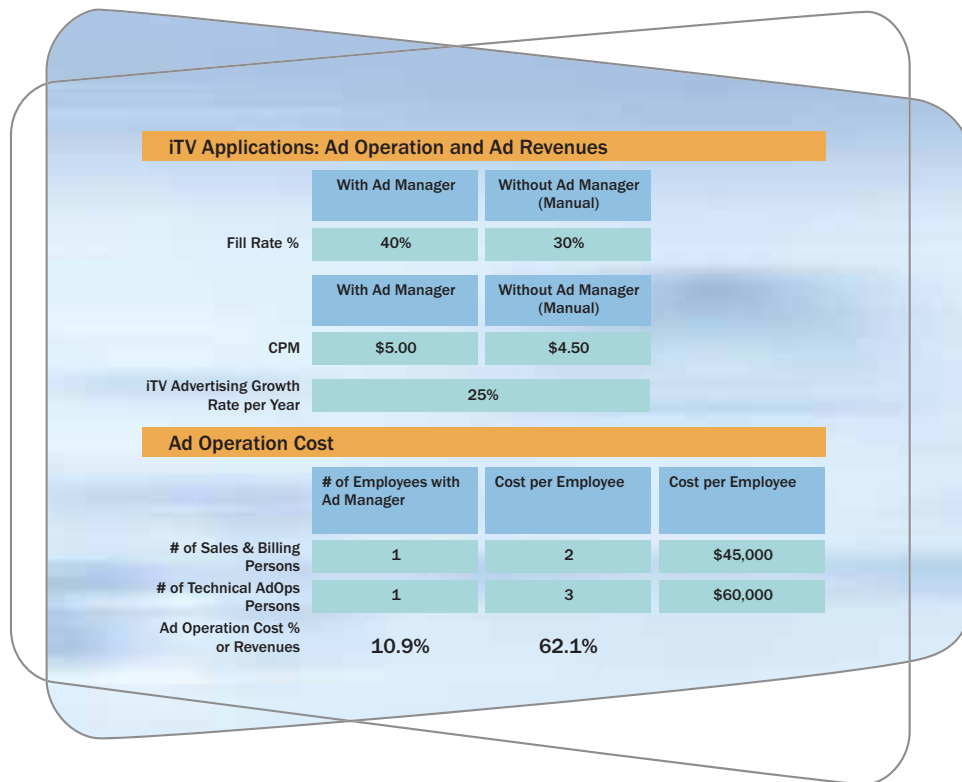


Figure 9: Cost Comparison for iTV Ad Management Solutions

Another important benefit of OpenTV Advertising is the decrease in ad operation costs. Because an ad management system automatically delivers ads at the designated time, to the targeted ad avail, it saves a great deal of time over tedious manual operations. In the current business model, ad operation costs without an ad management solution may be as high as 62% of the revenues generated compared to a much lower 11% when using an ad management solution. An ad management solution allows the advertising team to concentrate more fully on selling ads instead of being distracted with technology and processes.

Using this information, compare advertising gross profits growth, in three different scenarios:

- 1. With an ad management solution
- 2. With a manual ad operation process
- 3. With an internally developed and built ad management solution

As illustrated in the graph below, a manual ad operation returns only slightly increasing gross profits over the years, because the difficult manual operation does not allow AdOps to pursue all revenue opportunities.

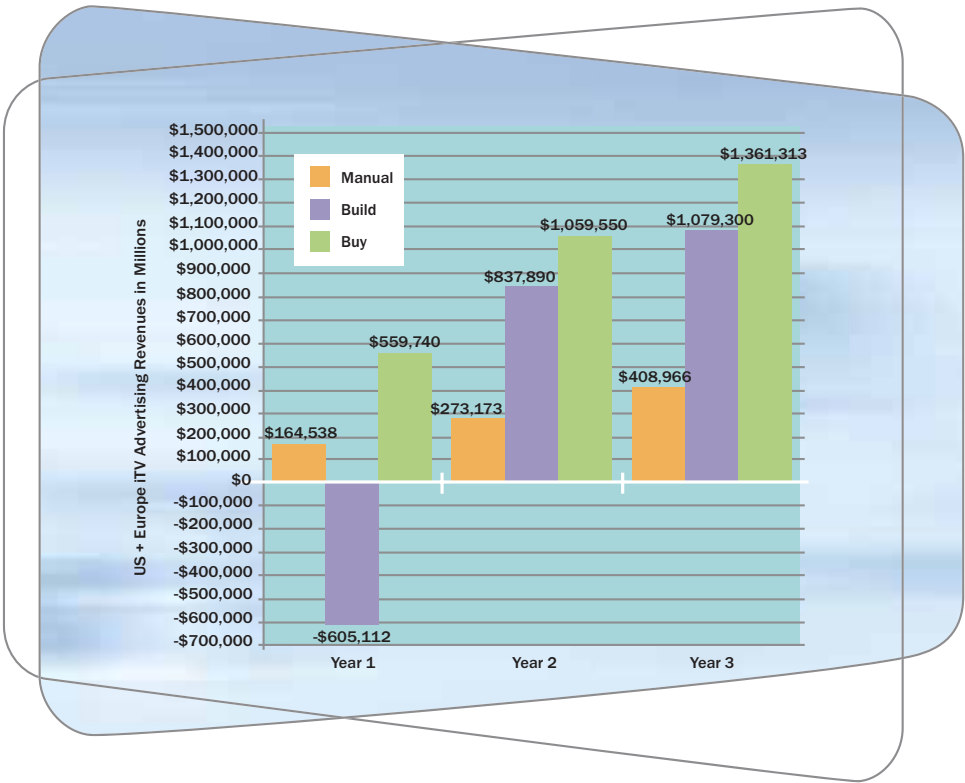


Figure 10: OpenTV Advertise Business Model Gross Profit

With an ad management solution such as OpenTV Advertise, the investment recovery period stands at five months. In contrast, building an internal ad solution brings investment recovery to almost 35 months with a large up-front investment (see figure 10). The model demonstrates that in order to take full advantage of all advertising revenue opportunities, the purchase of an ad management solution offers the greatest economic benefit.

By purchasing an ad management system, an iTV operator or content provider benefits in the following ways:

- It is less expensive than building an internal solution.
- Investment recovery is quicker and deployment costs are lower.
- Time to market is faster, allowing an operator to generate more revenue sooner.
- Product upgrades cost less. An outside vendor can concentrate on product support and new feature development, allowing a network operator to focus on his business.
- The cost of selling iTV ads decreases because the ad management system addresses the entire advertising sales cycle from insertion order to billing. It also includes the actual delivery of the ads.
- A network operator can increase the inventory sold because the AdOps team can concentrate fully on selling iTV advertising.

## EXAMPLES OF ITV ADVERTISING CAMPAIGNS

A number of network operators are finding success with iTV banner advertising. Advertisers, as well, are becoming more and more comfortable with the medium. Below are several examples of successful iTV advertising campaigns.



Figure 11: Pampers iTV Campaign

### *Procter & Gamble (UK, BSkyB):*

This innovative campaign attracted viewers through an aggressive ad banner campaign on Sky Active and other Sky properties with click-through ad banners leading to a Pampers micro site. This type of application blurred the distinction between advertiser and content provider. A major breakthrough of the Pampers interactive application was to use the iTV medium not just to deliver a commercial message but a brand message.

The campaign was based on celebrating a baby's development and offered helpful advice to mothers, particularly those seeking information. The application also allowed viewers to join an e-mail list and helped P&G enhance their lead generation database for follow-up use.



Figure 12: Domino's Pizza iTV Campaign

### *Domino's Pizza (UK, BSkyB):*

Using iTV as a sales and marketing channel, Domino's Pizza reported that iTV sales made up 8% of its revenue in the UK. Domino's Pizza interactive ad banners on the Sky portal link directly to the company's e-commerce application or "shop," where a viewer can order pizza or other Domino's Pizza products. According to Sky, Domino's use of interactive ads has led to a 27% increase in pizza orders through the iTV platform. Today, some 60% of Domino's e-commerce revenues are

generated through the service on Sky. Currently e-commerce accounts for £250k (\$391k U.S.) per month, equal to 8 Domino's stores.



*Figure 13: Ford Focus iTV Campaign*

#### ***Ford Focus (France, TPS):***

For the Ford Focus launch, an interactive application was broadcast on the TPS platform. Clicking on a link during a video spot or on an ad banner in the TPS interactive applications (EPG, games, etc.), brought the viewer into a Ford branded site. Options allowed the viewer to construct their own Ford Focus. After choosing a base model,

viewers could select airbags, paint, stereo systems and other features, calculating an “on the road” price quote as they went through the process. Like many advertisers’ micro sites, viewers could contact Ford to book a test drive and request a brochure directly via the iTV application.

#### ***Gemstar Interactive Program Guide (US Cable):***

American Home Products, AOL, Blockbuster Video, Bristol-Meyers, Century 21, Daimler-Chrysler, Domino's Pizza, Excedrin, General Motors, Hallmark, Liz Claiborne, MBNA and many other advertisers are using Gemstar’s interactive program guide (EPG) to promote their products and services. The EPG is laid out with advertising display panels on the left and program listing on the right. Listings can be sorted by themes, genre, etc. When an ad or program is selected, additional information is displayed, and a call to action (e.g., watch the show, buy the product) is offered.

## CONCLUSION

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Network operators are only beginning to realize the opportunities and potential returns that interactive television promises. For marketers, interactive advertising promises more accurate targeting of messages, more efficient pricing and the potential for a new world of lead generation. The format and personalized nature of iTV is a near-perfect medium for advertising and brand building. However, from a network operator's perspective, the administration of iTV advertising is quite a challenge.

OpenTV Advertise is a software-based ad management solution that addresses network operators' needs for practical advertising management tools and meets advertisers' needs for simplified ad buying. The software simplifies the process of generating additional revenue from iTV advertising by managing, scheduling and broadcasting banner ads to all iTV applications. In addition, OpenTV Advertise helps ad sales reps generate more advertising dollars by automatically delivering the ads into all iTV applications and by helping reps gain a clear understanding of the ad inventory sold. OpenTV Advertise can produce a variety of standard reports necessary to run and manage multiple campaigns. A range of reporting options helps give a clear picture of audience measurement to keep ad agencies and advertisers coming back to sample iTV application opportunities.

OpenTV Advertise has been developed using the experience gained from deploying more than 50 digital cable, satellite and terrestrial networks worldwide. It is part of OpenTV's end-to-end solution that simplifies the business of iTV by integrating essential features into a single operating platform. Ultimately, OpenTV Advertise helps network operators leverage their iTV deployment investment.

## APPENDIX: DEFINITION OF TERMS

<i>Term:</i>	<i>Definition:</i>
<b>Ad Operations</b>	Also known as “AdOps,” Ad Operations is responsible for ensuring that the Advertise system runs without any problems. Ad Ops is required to approve insertion orders as they are received, continually review the ongoing delivery to ensure that all campaigns are completed, and consistently report to and answer questions from both the sales force and advertisers.
<b>Ad Avail</b>	An ad avail is a location within an application that is available for advertising. An application developer may choose to place a single ad avail on multiple pages within the application, but each of those locations must have the same ad spec and cannot be targeted separately by an advertiser. A single ad avail cannot belong to more than one application.
<b>Ad Spec</b>	An ad spec defines the external dimensions of a particular ad avail and ad creative. Specific ad avails are supported by each particular application. In order for an ad to run, it must be targeted to an ad avail with the same ad spec dimensions.
<b>Application</b>	An application is a logical grouping of functionality that will make sense to a subscriber. This may include pure iTV applications and enhanced TV applications. Examples include an interactive weather application, an enhanced Ford commercial, an interactive news channel, and the Domino’s Pizza-by-TV service. Each application may contain a number of different ad avails, which are available for advertising. Applications must run on a specific channel within an MSO’s headend.
<b>Campaign</b>	A campaign is a logical grouping of target groups within an insertion order. For example, Ford may have an end of year marketing campaign running designed to sell their old model Explorer. That campaign may include multiple ads running with different targets over different time periods. All of these would be logically grouped under a campaign. A campaign must belong to a single insertion order.



<b><i>Term:</i></b>	<b><i>Definition:</i></b>
<b>Channel</b>	A channel is the actual channel that a subscriber would tune to in order to receive the associated content. This content could be typical television content (e.g., NBC, Discovery Channel) or interactive applications (e.g. weather, e-mail).
<b>Click-Through</b>	A click-through is defined as an impression that a viewer has proactively responded to, usually in the form of “clicking-through” on the creative itself.
<b>CPM</b>	Cost Per Thousand impressions. This is a specific model for pricing the delivery of advertisements. CPM requires that the delivery of advertisements be billed based on the number of times the ad was shown on a subscriber’s television. For example, if an insertion order specifies a CPM of \$10, this means that for every 1000 impressions delivered to any subscribers, the advertiser would pay the operator \$10.
<b>Creative</b>	Creative refers to the actual artwork to be displayed within an ad avail on a specific subscriber’s television. Creative must conform to the ad size and type (e.g., JPEG, MPEG-1 or GIF) specified by the MSO and application developer.
<b>Enhanced TV</b>	Enhanced TV is a common television broadcast that has added interactive content, creating greater value to the viewer. For example, the Shopping Channel may enhance their broadcast with a means for viewing additional information or making an online direct purchase.
<b>Electronic Program Guide (EPG)</b>	On-screen television listing of program information with, in some cases, Pay Per View or Video On Demand movie listings. It enables consumers to navigate, sort through, select and schedule television programming for viewing and recording. More advanced guides offer chatting or even e-mail. It usually keeps track of viewers’ favorite channels, offers a “reminder” service that advises when favorite shows are coming on, children protection or access restriction, and even a television search engine that can search for types of shows or themes in shows.

<b>Term:</b>	<b>Definition:</b>
<b>Estimated Impressions</b>	If an MSO's network does not include a return path, it is impossible to calculate the actual number of times that a particular advertisement was viewed by subscribers. Therefore, it is common for the MSO to estimate the viewing population for each particular application and thus calculate estimated numbers of impressions for an advertisement.
<b>Headend</b>	A headend is the physical location within a television distribution system directly at the center of the broadcast medium (i.e. cable, satellite, terrestrial). For the purposes of OpenTV Advertise, the headend is where the application streamers are physically located.
<b>Impression</b>	An impression is defined as a single view of an advertisement. The ad impression is the metric a site uses for measuring inventory. Different definitions exist for this term: 1. The viewing of a page or ad(s) by the user. The assumption is that the page or ad images were successfully downloaded and the user viewed ads on the screen whether or not a user clicks on an ad. 2.The request for a page or ad. Agencies usually collect a fee for every thousand impressions (hence the term CPM - cost per thousand).
<b>Insertion Order</b>	An Insertion Order (IO) is analogous to a purchase order. It is a demand on the operator of the OpenTV Advertise system to run the specified ad using the specified parameters. An individual insertion order belongs to a single advertiser, but may contain multiple campaigns.
<b>Inventory</b>	The number of ads available for sale. Ad inventory is determined by the number of ads on a page, the number of pages containing ad space and the number of page requests.
<b>MSO</b>	Multiple Systems Operator, i.e., a company that owns multiple cable systems.
<b>Network Operator</b>	A network operator runs a television distribution system. Each network operator may have a unique suite of iTV applications running over its system and a unique set of subscribers who receive those applications. Large-scale operators are sometimes referred to as MSOs.

<b>Term:</b>	<b>Definition:</b>
<b>Pay-per-Click</b>	An advertising pricing model in which advertisers pay agencies based on how many consumers clicked on a promotion.
<b>Pay-per-Impression</b>	An advertising pricing model in which advertisers pay agencies based on how many consumers see their promotions.
<b>Pay-per-Sale</b>	An advertising pricing model in which advertisers pay agencies based on how many consumers actually buy something as a direct result of the promotion.
<b>Return Path</b>	The return path is the means by which the set-top box communicates back to the headend with important data. Return paths come in two basic formats. The first is the periodic return path. In this mode, the connection back to the MSO is periodic (e.g., a phone connection made in the middle of the night) and therefore data must be queued up on the set-top box. The second is the “always-on” return path. In this mode, the set-top box has a constant connection back to the operator headend (e.g., through a DSL connection or directly through a cable connection).
<b>Target Demographic</b>	A target demographic is a means of targeting to a subscriber’s demographics. Examples include: sex, age, income and occupation.
<b>Target Group</b>	A target group represents a specific group at which a particular campaign or ad creative is directed. These targets may include demographics, psychographics, and geographic location, MSOs, applications, ad avails or date ranges. Target groups may consist of many different individual ads, but the targeting for those ads will all be the same. Target groups belong to a specific campaign within a specific insertion order.



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# OPENTV ADVERTISE

## Marketing White Paper

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