



## *Wild About Widgets*

*Differentiating Video Platforms in the Age of Internet TV*

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## *Wild About Widgets – Differentiating Video Platforms in the Age of Internet TV*

### Setting the Stage

The Internet is finally coming to the TV – this time for real and forever. It is no longer a possibility; it is inevitability. It will arrive either directly, embedded within the TV, or indirectly via ancillary platforms such as Blu-ray players, DVRs, game consoles, and set-top boxes. And once it gets there, it will fundamentally alter how consumers experience TV – what it does for them and how. It will also impact the business of consumer electronics, requiring a major shift in how companies go about designing, manufacturing, and monetizing their video platforms.

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The question for CE OEMs, then, is not “if?” to embed Internet connectivity in new video platforms, but “in what form?” to do so. The challenge is to identify the right solutions to enhance the living room TV experience without introducing unwarranted complexity.

This paper will present TDG’s latest primary consumer research regarding consumer demand for Internet-enabled TV platforms, as well as discuss the advantages of a widget-based approach in delivering such experiences. It will also identify the benefits that OEMs can expect when offering a widget-based interface within their video platforms.

### Consumer Electronics in the Internet Age – Competitive Realities

Sony may not have started the mass-market push for embedded Internet connectivity in CE platforms, but it did succeed in reminding the industry that the time for delivering this functionality is now. In mid-2008, Sony announced that by 2010 close to 90% of their platforms would be Internet-enabled.<sup>1</sup> In 2009, every major CE OEM will introduce new video platforms which feature embedded Internet connectivity. (We’re talking about mainstream devices for mainstream consumers.) As this happens, competitive pressures will shift from merely including web support to doing so in way that convincingly differentiates one’s products in an increasingly crowded field.

*The inclusion of Internet applications and content within the TV experience is no longer a possibility; it is inevitability.*

Given the rush to embed Internet and digital media support into new video platforms – not to mention consumer expectations regarding platform lifecycles – merely supporting simple information-push applications such as on-demand weather, sports, or news information will not be enough to differentiate one’s video platforms, much less keep up with rapidly evolving usage models. In this environment, OEMs must be wary of inexpensive solutions that do not have the horsepower or headroom to support the types of web-based TV applications that consumers demand.

Identifying the optimal embedded solution is complicated by a number of variables. For example, the pace of innovation in this space is such that premature commoditization occurs among the newest platforms, causing retail prices to deteriorate faster than expected and making it difficult for consumers to differentiate between models and brands of platforms. High-definition TV and Blu-ray are both excellent examples of how rapidly this can occur. In such a “white box” environment, distinguishing

<sup>1</sup> From CEO Howard Stringer’s presentation on Sony’s mid-term corporate strategy given in Tokyo on June 26, 2008 ([http://www.sony.net/SonyInfo/IR/info/Strategy/pdf/presen\\_01.pdf](http://www.sony.net/SonyInfo/IR/info/Strategy/pdf/presen_01.pdf)).

one's products is extraordinarily difficult. The same technology that empowers one OEM is likely already in the hands of one's competitors (if not, it will be soon).

These market conditions – combined with growing consumer use of and demand for Internet-enabled media platforms – have created a competitive context in which OEMs have little choice but to embed web support in their mainstream video platforms. Again, the challenge is to identify the optimal solution.

### **The Shift to Embedded Web Support**

Five years ago, TDG predicted that the tipping point for CE-embedded Internet support would materialize in 2010; a time at which the appeal of web-enabled media applications became main stream and vendors no longer questioned its competitive necessity. It appears that this transition point is now upon us.

In designing new web-enabled platforms, no doubt some CE vendors will target the least-expensive solution, one that does “just enough” so that they can legally advertise the platform has Internet support. These are the Minimalists, OEMs concerned more about placing the phrase “Internet-enabled” on a product than enabling a robust web-enabled experience. In stark contrast are the Pacesetters, those focused on delivering advanced functionality and compelling features to mainstream consumers at the best prices. These are the market leaders that will define the future of web-enabled TV and ultimately enjoy a dominant market share.

Yes, both Minimalists and Pacesetters have had a role to play in the CE marketplace. Those pushing “low-end” experiences had little problem finding a market, while “high-end” vendors had little difficulty differentiating their more advanced platforms. Both benefited by relatively straightforward design and expectations and usage parameters. For example, regardless of the features, a DVD player was designed to do one thing – play DVDs. Though it may be in use for five or more years, consumer expectations of the platform did not change during its lifetime.

*Minimalist OEMs that go with an entry-level embedded solution will face shorted product life cycles, alienated buyers, and a deterioration of brand credibility.*

In the age of Internet-enabled CE, however, products will be expected to evolve as new web-based services and applications are introduced. In other words, the bar for all products (entry-level or not) will be much higher than before and the limitations of poorly-equipped hardware will be more rapidly exposed. Even worse, because of their desire to go with the most basic configurations, Minimalists will be unable to tap into new forms of non-hardware revenue that a robust Internet solution uniquely enables – all at a time of abrupt commoditization and thinning margins. In this market environment, going with the “cheapest” solution can mean forfeiting market share and revenue, not just today but for years in the future.

When it comes to web-enabled TVs, for example, selecting hardware and software that supports only the most basic applications (e.g., “information push” apps such as weather, news, sports, and stock updates) might be fine for the first year of use, but as more compelling applications become available, consumers will expect their web-enabled TV to support them. When these platforms come up short, the consequences will be dire. (We're talking about a TV, not a mobile phone.) Minimalists that chose an entry-level embedded solution will face shortened product life cycles, alienated buyers, and a deterioration of brand credibility. What separates the winners from the losers in such a rapidly evolving market space? Selecting an embedded solution that has the power and headroom to support those applications consumers find most compelling – both today and tomorrow.

In making these decisions, OEMs must walk a fine line between (a) surviving cutthroat pricing competition in a commodity retail setting, and (b) offering cutting-edge features that can help distinguish their platforms from other manufacturers in a “white box” marketplace. While a difficult balance to achieve, it can be done – with the right solution and the right partner.

## **Identifying the Right Solution**

Success means identifying and supporting the most compelling applications but doing so in a simple, easy-to-use format. Yes, the experience must be robust, but merely “dumping the Internet on the TV” will not work. Unwarranted complexity can kill the deal (remember WebTV?), while an innovative interface can push surprising levels of functionality onto everyday devices without the slightest of complexity.

For OEMs, selecting the right solution means doing your homework, evaluating:

- The appeal of the platform in itself and relative to competitors;
- The nature of the experience delivered relative to spend (cost vs. benefit);
- The impact on revenues and profits (and not just from hardware sales); and ultimately
- Long-term brand integrity, which can itself be transposed into the visual experience and thus set the stage for new service relationships and additional revenue.

To ensure that the outcome is positive (and convincingly so), OEMs must assess a number of specific variables, the most important of which include:

- The interface – the way in which “the Internet” is presented to the consumer and incorporated into the TV experience;
- The applications – what the “power of the Internet” actually brings to TV viewing; and
- The solution – the types of hardware and software required to deliver high-quality, high-demand TV-based Internet applications.

So, let’s begin with a discussion of the interface.

## **The Right Interface – the Widget Toolbar**

As previously mentioned, attempts to deliver the Internet to the TV are not new. We’ve seen a variety of fits and starts in this space, none of which has successfully diffused beyond a handful of early adopters. This is very similar to what has transpired in the mobile web space. Solutions and services were available for years before consumers finally picked up on the message. Why? If asked to point to one factor that “changed the game” for mobile web usage, most observers would point to the arrival of Apple’s iPhone.

Only a few years ago, web-enabled mobile devices were bulky and complex to use, not to mention the applications were primarily business-oriented. Regardless of marketing and messaging, the mobile web was neither perceived as compelling nor cool, meaning mainstream consumers had no problem living without it. Not surprisingly, mobile web usage languished, even as PC-based web usage was evolving rapidly from information and productivity applications to digital media.

Enter Apple’s iPhone and the widget-based interface.

### **The iPhone as a Proxy for TV-Based Widgets**

The arrival of the iPhone heralded a tipping point in how consumers perceive and use the mobile web. Why? Because of its ingenious use of *widgets*, small icons that when clicked immediately launch a specific application without requiring the use of a web browser or URLs. In lieu of a browser-based interface, Apple chose widgets to serve as graphical references for specific web-based applications. Though widgets themselves are rarely viewed as a groundbreaking innovation – from a consumer perspective, a widget is just a repurposed icon – their selection as an interface helped to drive mobile web use and subsequently changed how we think about the Internet as a non-PC medium. Within a very

short period of time, mobile web usage in the U.S. grew from virtually nothing to an audience of 41 million weekly users, more than double that of just one year ago.<sup>2</sup>

The relevance of this discussion? TDG believes that the iPhone and its use of widgets provide an excellent lens through which to view the future of widget-enabled web TV; an exemplar for how the CE industry should (and will) go about (re)introducing consumers to the idea of engaging the Internet on the living room TV.

### **Wild About TV-Based Widgets – The Consumer Responds**

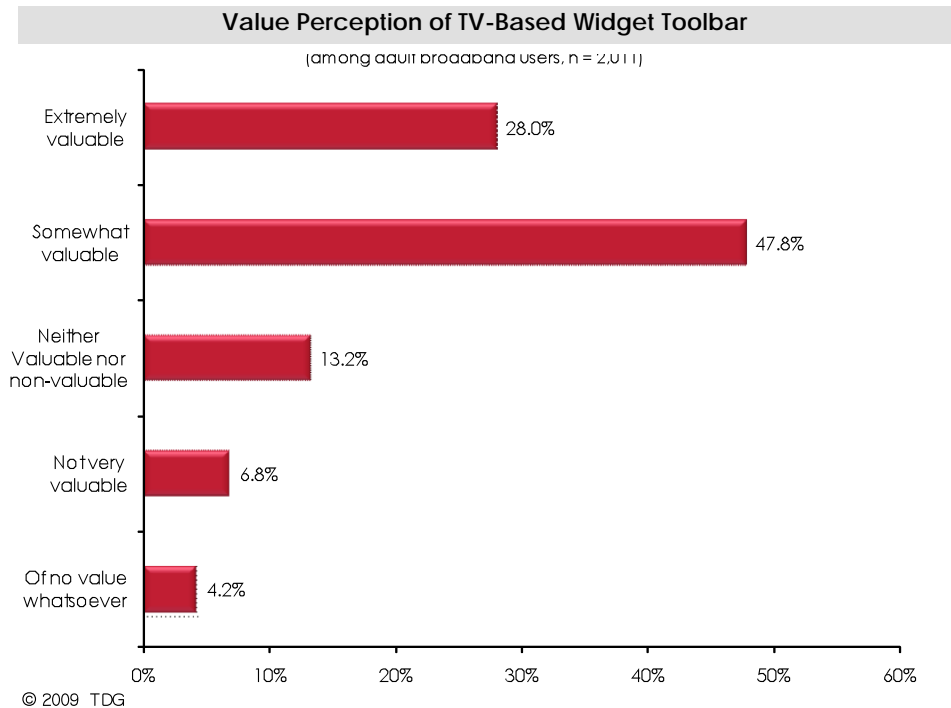
To test this hypothesis, in December 2008 TDG queried more than 2,000 adult broadband users regarding the value of a “widget toolbar” as an interface for TV-based web applications. The responses were overwhelmingly positive, as illustrated on the right.

Approximately three-fourths of consumers found the widget toolbar to be to various degrees valuable (48% “somewhat valuable” and 28% “extremely valuable”). Only 11% responded negatively. Rarely in quantitative consumer research does a new product or feature receive such strong support. The message? Consumers get it – they understand the value of having widget-based applications on their primary TV.

TDG’s research establishes convincingly that not only are consumers ready for web-enabled TVs, but a widget-based interface is optimal for engaging web-based TV applications. In fact, positive proclivities were evident across all segments, even those with limited exposure to the widget concept or its benefits. It seems that the concept and value of widgets have diffused far beyond actual usage – a rarity in consumer technology and a privilege reserved for only the most successful new products and services.

As was the case with mobile widgets, TV-based widgets will be a “game changer” for web-enabled TV applications. For both consumers and vendors, widgets provide a simple, easy-to-use way of “packaging” specific aspects of the Internet for presentation on the TV. As such, widgets help to avoid the complexities associated with “dumping the Internet” on the TV or requiring consumers to interact with a PC-like browser or URLs – a death sentence for any web TV effort.

That being said, all widget-based solutions are not created equal. Assuming they are all easy for the consumer to use (which is quite an assumption), their distinct value depends on the nature of the applications enabled. It is to this subject that we next turn.



<sup>2</sup> “Mobile Internet Becoming a Reality,” comScore press release, March 16, 2009 (<http://www.comscore.com/press/release.asp?press=2752>).

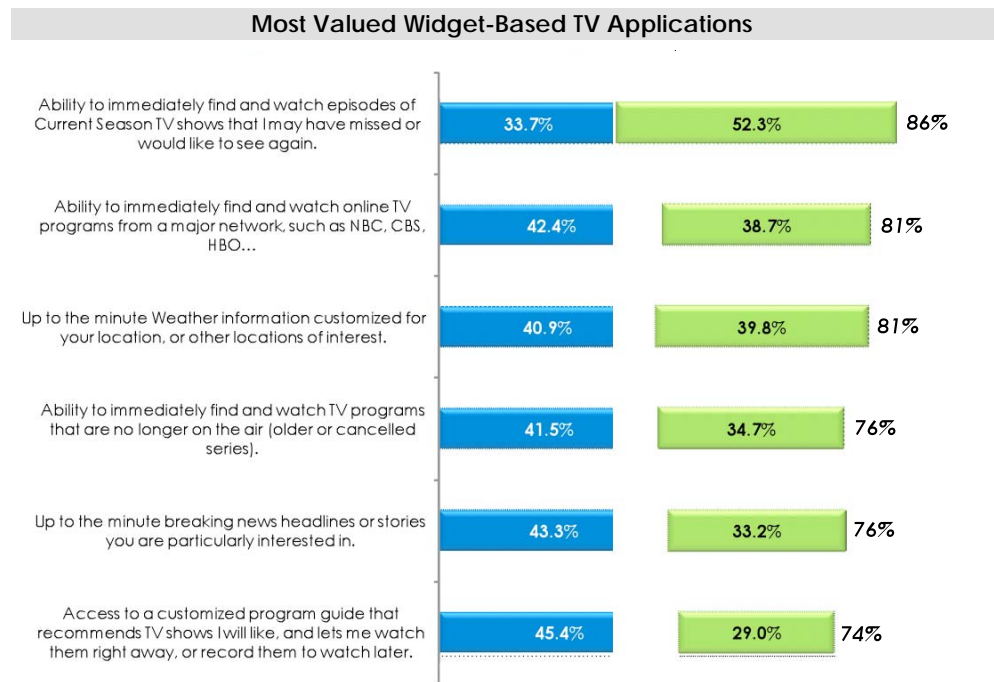
## The Right Applications – More than Just On-Demand Information

TDG tested 26 different widget-based TV applications, both to assess their general value and determine which applications consumers would most like to have featured on a widget toolbar. Among the key insights produced by this research was the following: while simple “information push” applications such as on-demand weather and news rank highly, it is the metadata and media-intensive applications that consumers consider most valuable.

*TV-based web functionality is most valued as a tool for enabling a better TV experience, not necessarily Internet-specific content or applications such as social networks or online-only video content.*

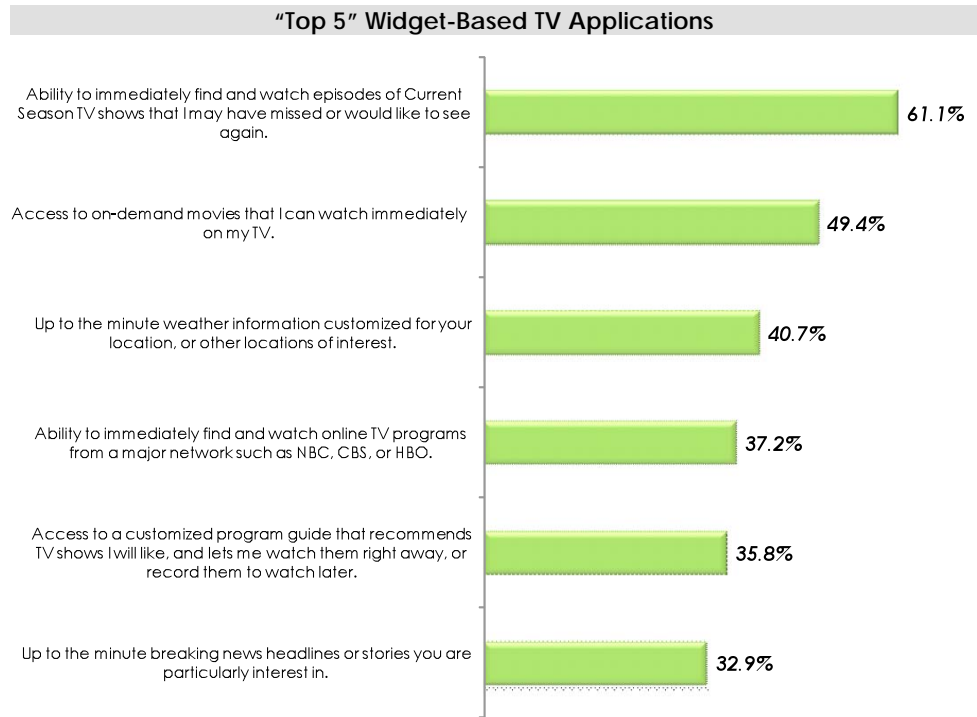
In terms of the types of applications TDG evaluated, primary categories include video, photo, and music services; real-time information updates; product-related inquiries and purchases; and a variety of “new media” applications such as simultaneous chat and social networking. The table below lists in descending order those applications that placed in the top value quartile (that is, those apps which 75% or more of consumers ranked as either “somewhat valuable” or “extremely valuable”).

Note that of the six applications that achieved at least a 75% value rankings, only two are simple “information push” applications – in this case, on-demand weather ranked third and on-demand news fifth. These are what TDG refers to as “default” or “entry-level” web applications (apps which will be included in even the most basic widget-enabled video platforms). The remaining four are video-related applications, each of which requires a powerful media processor capable of, among other things, robust metadata management (search and discovery of content, recommendation engines, dynamic programming guides, etc).



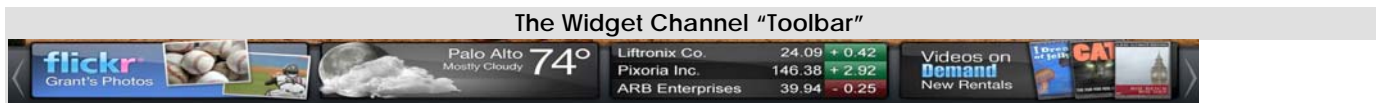
When asked to limit their list to their “Top 5” favorite widget-enabled apps, respondents replied similarly.

As illustrated below, approximately two-thirds of consumers selected a “virtual DVR” widget to be in their Top 5, followed by approximately one-half (49%) who selected on-demand movies. As before, two information-push apps (weather and news) were highly ranked, compared with four video-specific applications. Interestingly, this runs contrary to the today’s “received wisdom” regarding TV-based web applications; that simple apps like weather or news updates will suffice for first-generation platforms. At the same time, it is not at all surprising to TDG: prior research on TV-based Internet apps produced similar results.



Framed another way, regardless of the array of applications tested, those which rose to the top favored current TV or movie content as opposed to Internet-related video content or applications. In such cases, the Internet is viewed as a tool for enabling a better TV experience, not necessarily the means by which to access Internet-specific content or applications such as social networks or online-only video content. This insight is very important for those deciding which applications their platforms should support – both in terms of the applications themselves and in terms of the hardware and software required to power these applications.

To meet such diverse, evolving usage models, OEMs must identify a suitable “widget library” solution that features a wide variety of TV-ready applications. An excellent example of such a solution is the *Widget Channel* software framework.



Co-developed by Intel® and Yahoo!®, the Widget Channel offers an ever-growing variety of widget-based web applications from which consumers can select. It also includes an elegant interface that is intuitive for the consumer and ready-made for the OEM to implement.

As seen on the right, the UI (when activated) only takes a small part of the viewing surface either at the bottom of the screen or as a sidebar. The user can easily navigate the interface using simple remote control commands.



In the end, consumers will demand access to such a wide range of TV-based applications. OEMs that fail to deliver a robust and constantly-updated “widget library” will not only be unable to compete in the marketplace. They will forfeit additional revenue sharing opportunities associated with the more robust video-intensive applications.

If Apple’s experience is any indication, the variety of widget-based TV applications demanded by consumers will exceed expectations. Subsequently, consumer usage behavior will quickly outstrip the capacity of bargain-basement hardware to deliver such experiences. Pacesetter OEMs cannot afford to let this happen to their new Internet-enabled video platforms. Underestimating consumer appetite for widget-based applications will lead to costly mistakes in design, manufacturing, and retail sales, undermine the ability of the platform to generate additional revenue, and ultimately diminish brand credibility.

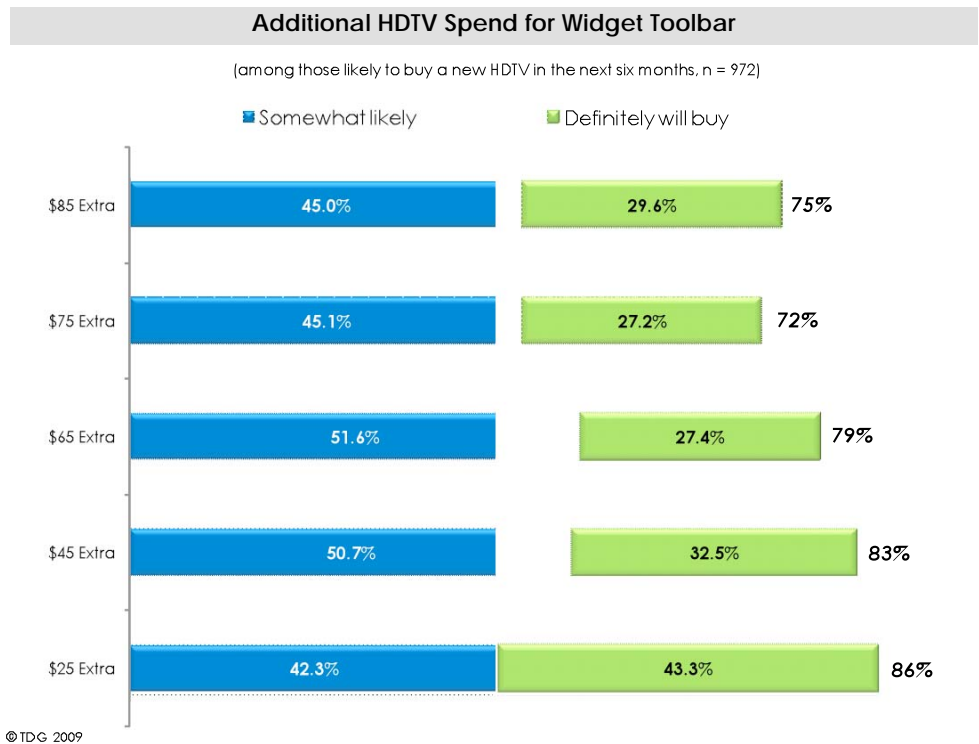
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**New Revenue Opportunities**

By incorporating a “library” solution such as the Widget Channel, OEMs will have the flexibility to respond to market pressures and evolving consumer demand by adding or expanding the types of applications supported (assuming, of course, that the hardware has appropriate headroom to support such expansion). With this capacity onboard, not only will the platforms be more appealing to consumers; they will also drive greater spend. A properly-equipped widget-enabled video platform can create a variety of new revenue opportunities – both at retail and from ongoing app-related service revenue.

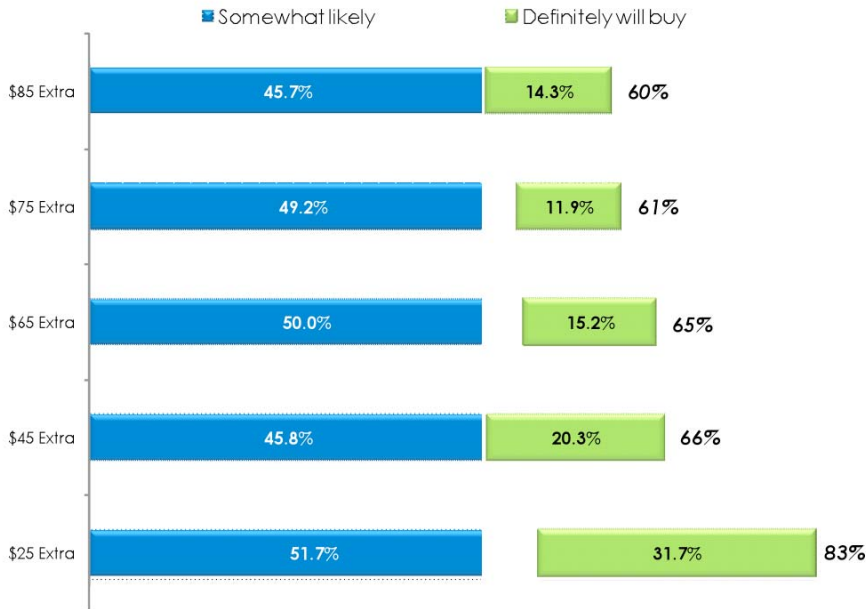
**Additional Spend for Widget Functionality**

First, TDG’s research found that consumers will spend more to have their favorite widget functionality built into new video-enabled devices. As illustrated, there seems to be a lack of price sensitivity toward the additional cost of the widget toolbar. While 86% of HDTV Intenders are to some degree likely to spend an additional \$25 for this feature, 76% are to some degree willing to spend an additional \$85 for this feature. Yes, strength of willingness declines as the additional spend increases: 43% stated they “definitely would buy” an HDTV with widgets for \$25 extra, compared with 30% at \$85 extra. However, general positive proclivity (total of those answering “somewhat likely” or “definitely will buy”) remains intact, indicative of solid demand regardless of price.



### Additional Blu-ray Spend for Widget Toolbar

(among those likely to buy a new Blu-ray player in the next six months, n = 294)



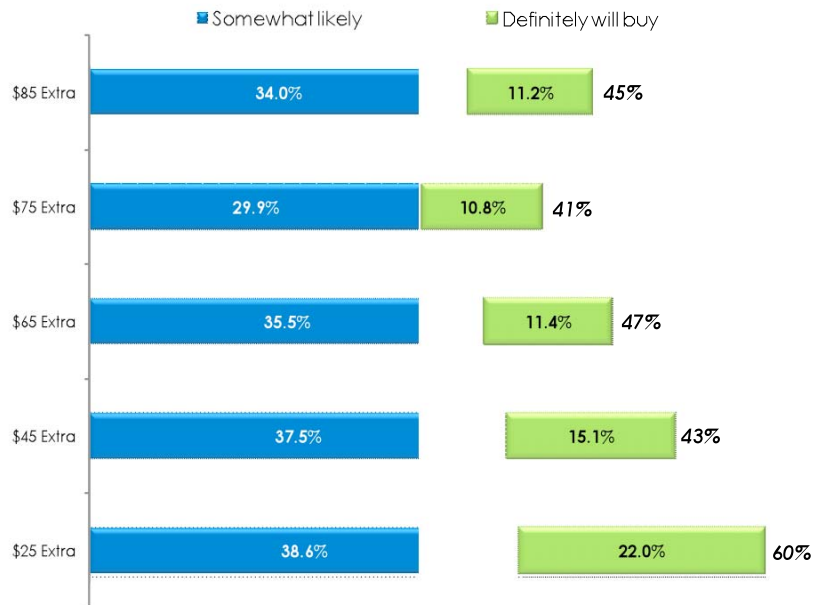
© TDG 2009

The same phenomenon is observed among Blu-ray Intenders (those likely to purchase a new Blu-ray player in the six months). Among Blu-ray Intenders, 83% are likely to spend an additional \$25 for the widget toolbar, a rate which declines but remains strong (between 60% and 65%) across all additional spend points (a very impressive finding). Even at the high end, 60% of Blu-ray Intenders are likely to spend an additional \$85 for a widget-enabled player. Vendors looking for a way to keep their retail prices and margins from deteriorating prematurely will find this insight compelling.

To test the impact the widget toolbar would have on game console spend, and to change up the question to provide another view into price motivations, we asked current console owners (not Intenders) how much more they would have spent for a game console that featured the widget toolbar and enabled their five favorite widget applications.

Among existing console owners, 61% said they would have spent an extra \$25 extra for a widget-enabled game console, compared with 53% at \$45 extra; 47% at \$65 extra; 41% at \$75 extra; and 45% at \$85 extra.

### Additional Game Console Spend for Widget Toolbar



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Research suggests that consumers find the benefits of a widget toolbar to be convincing, so much that they will pay extra for such functionality. Despite today's economic conditions, and despite downward pressure on retail pricing, consumers will pay for platforms that deliver the types of TV experiences they desire.

### **Value-Added Revenue Share**

Second, a well-equipped web-enabled living room video platform presents a number of unique revenue-sharing opportunities that a non-connected device is incapable of enabling.

Both application and content vendors are eager to reach the end user via the Internet, and OEMs that provide properly-equipped platforms will be viewed as a means to that end. Negotiating a widget-based presence on web-enabled TV platforms could mean significant revenue for each of these application providers – revenue they are willing to share with the right OEM with the right platform. While OEMs have traditionally been left out of CE-related service revenue, having a web-connected platform in the home opens new opportunities for hardware vendors to create non-hardware revenue streams.

Activity of this sort is already accelerating, as illustrated by the barrage of hardware and content partners now enabling the delivery of online video directly to the TV. Netflix has been a leader in this space, with hardware partnerships that already include LG, Roku, Samsung, and TiVO. Amazon and Blockbuster are hoping to exploit new widget-enabled TVs, as well. As widget-based video platforms find their way into the marketplace, TDG expects rapid growth in the number and variety of vendors looking to exploit these new connected points of presence.

This but scratches the surface of the opportunities that will emerge once the Internet reaches the TV. Because each web-enabled TV application presents a unique partnership prospect, the revenue opportunities for OEMs grow as new applications are added to the Widget Channel.

### **The Right Solution – A Powerful Media Processor**

Yes, the prospects are immense. But there is one caveat – the range of web-based TV applications enabled is necessarily limited by the hardware and software selected. A low-end processor, for example, will only support low-end applications (those least likely to be compelling to the consumer, least likely to differentiate one's products, and least likely to drive new revenue opportunities). A robust processor, on the other hand, will have the horsepower and headroom to support a wide variety of bandwidth-intensive applications. For example, it can simultaneously decode video content from a multitude of sources. From the consumer's point of view, this means switching seamlessly between broadcast and broadband programming – on the fly, with no need to go outside TV "channels" or an ancillary source. As well, this means the ability to access to an integrated program guide which, regardless of the content source, provides the listings and recommendations that consumers seek, on demand.

Essentially, the right CE media processor will:

- Have the horsepower to support today's media-rich applications;
- Have sufficient headroom to support tomorrow's bandwidth-intensive applications;
- Switch seamlessly between broadcast and broadband media content (or even do both simultaneously); and
- Support existing and emerging industry standards for Internet (no premature obsolescence).

Given the wide range of applications that web-enabled TV solutions must support, the limited capacity of entry-level processors will quickly be exhausted, either overcome by individual application requirements (e.g., metadata management for multisource on-demand search and discovery) or multiple simultaneous applications (e.g., handling both broadcast and Internet video content so that the source of the video becomes irrelevant and the on-screen experience is integrated). In either case, usage

models will quickly exceed the capabilities of most hardware and software solutions. Without the right processor, such “behind-the-scenes” work – instead of being seamless and transparent to the end user – complicates the viewing experience (putting it mildly).

Choosing a bargain-basement processor for Internet-connected video CE could be a major mistake for any CE OEM. Just think about the expected life of today’s TV, perhaps six to eight years. A DVD player or game console? Maybe three to five years. Now imagine these same platforms as Internet-enabled. In this case, the life of the platform is defined by the processor, much in the same way that PCs are today. If an OEM chooses a processor that is not sufficiently future proofed – that supports only a handful of today’s basic web-enabled TV apps – it will be unable to handle the more compelling applications that are certain to emerge, that consumers are certain to want, and that are certain to generate the greatest revenue sharing opportunities.

***Remember, software and firmware upgrades are useless if the processor cannot support the apps.***

It is thus imperative that OEMs select the correct components for these new web-enabled video platforms, especially the right media processor – one with the power to support an evolving array of applications. The Intel® Media Processor CE 3100 is an excellent example of this type of solution. The CE 3100 is optimized to support all Widget Channel applications and unlike most media processors, is capable of rendering widgets in high-definition, a simple but effective means of enhancing the usage experience. The CE 3100 has the performance and headroom needed to handle evolving consumer usage models. As well, the CE 3100 can come with the Widget Channel software onboard, thus ensuring rapid deployment cycles for the OEM. Such time-to-market advantages will prove critical in this dynamic market space.

## **Conclusion**

To successfully incorporate the Internet into the TV experience, consumers will likely turn to brands they trust most when it comes to living room media. In other words, they will turn to their favorite CE brands, no doubt a reflection of their long history of delivering easy-to-use, reliable products.

In order to take advantage of this loyalty, OEMs must deliver Internet-enabled platforms that are:

1. Easy to use;
2. Enable a compelling suite of applications and content (both now and in the future); and
3. Deliver the benefits of the Internet without its complexities.

The optimal solution, then, requires the right balance of interface, applications, and hardware. OEMs who fail to deliver all three fronts will be incapable of enabling, securing, and delivering the types of web-enabled TV experiences that consumers expect. Consequently, Minimalist OEMs will be at a competitive disadvantage and ultimately risk alienating their consumer base and damaging their brand. On the other hand, the Pacesetters – those who offer the right combination of interface, apps, and hardware in their new video platforms – can deliver a seamless, uncomplicated, and compelling TV experience, both today and tomorrow. Solutions such as the Widget Channel and the Intel CE 3100, when combined, can deliver precisely this type of experience, as well as creating additional retail spend and long-term revenue opportunities for the OEM.

Success in the emerging Internet-enabled TV space means making the right decision at the right time. The right time? Now. TDG strongly believes that the tipping point for web-enabled TV is unfolding and will manifest itself more completely in the next 12-24 months. The right decision? Arming new Internet-enabled video platforms with the right components to withstand a very aggressive consumer usage curve, one that will rapidly transcend basic web-enabled TV solutions. It only remains to be determined which companies will best exploit this opportunity, stepping up to the plate and being the branded pacesetter in web-enabled TV.