Microsoft's Silverlight Raises the Bar in the Online Video Market

New platform incorporates customer input to offer prospect of cost-effective and viable single-source video

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Date: April 15, 2007

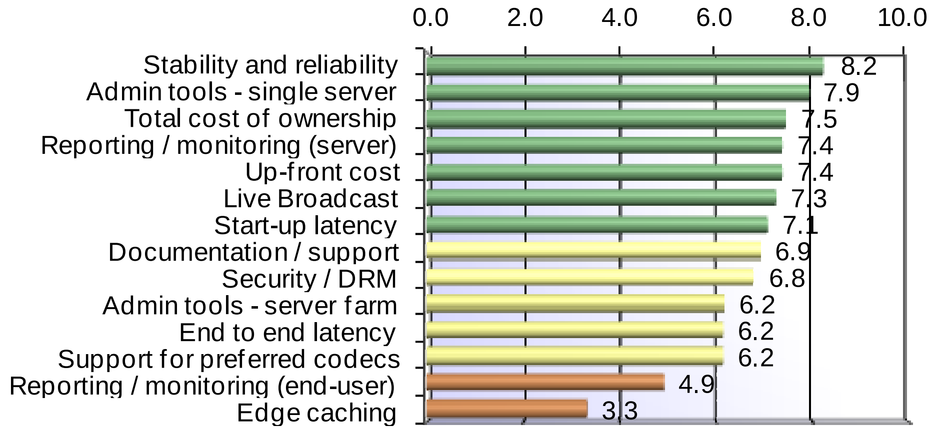
Executive Summary

Windows Media — A Star in Microsoft's Technology Arsenal

"Scalable." "Stable." "Low cost." "Secure." "Loved by IT staff."

For many technology products, these descriptions are goals on a roadmap. For Microsoft's Windows Media Services (WMS), they are an established reality. Throughout the last three years, RampRate has conducted dozens of interviews with WMS customers and found high levels of satisfaction with most of the core attributes typically expected of a streaming media server platform. While many enterprises and universities were retaining token instances of Apple's QuickTime or Real Networks' RealPlayer servers, the vast majority pointed to WMS as the primary solution.

Mid-2006 User Satisfaction with WMS (1-10 Scale)



The Shifting Target — Interactivity and Cross-Platform Support

Despite WMS having won the video platform war against its traditional rivals and holding its own against emerging open source and standards-based approaches, initial results of an in-progress research study shows that Microsoft's market share is no longer growing by leaps and bounds. Some early indicators show that it may even shrink — almost a third of users that we surveyed in March expect an increase in usage of other platforms at the expense of Windows Media in 2007.

The simple reason: The goalposts have moved. Business users and advertisers, not IT staff, are dictating requirements for digital media, and they now view as "must have" features items such as high customizability, interactive content, *all* platform support and integrated advertising. Bread-and-butter improvements on the WMS roadmap simply did not cut it. As one education customer put it in RampRate's most recent survey, "*Windows Media is the most effective and technologically efficient platform available, but we have to use Flash for interactivity*."

> Scalability of Flash Video, although improving, has been anecdotally reported as 3-4 times lower than WMS in terms of concurrent streams.

Adobe Flash Reaps the First Mover Rewards

Indeed, Macromedia's (now Adobe) Flash Video was first to fill the void, but at a high cost. The list price of its streaming servers is more than twice that of WMS, and the majority of survey respondents report higher costs even at discounted bulk rates. In addition, scalability of Flash Video, although improving, has been anecdotally reported as 3-4 times lower than WMS in terms of concurrent streams per server. More importantly, Adobe's licensing model has taken advantage of its first mover position to impose significant surcharges on content delivery network (CDN) costs — in some cases more than doubling the costs of delivery compared to Windows Media, Real, or regular Web traffic.

The Toll on New Rich Media Projects

Early research results show that a majority of CDNs are subsidizing these charges and taking lower margins to ensure that their customers' business models remain viable. However, with many startups having limited delivery budgets to ramp up infrastructure, Adobe's premium can still strike at the heart of innovation by imposing insurmountable financial barriers to delivering interactive, cross-platform streaming content.

Compromises abound, as users are settling for less-interactive projects, dropping support for less popular client platforms, and using progressive downloads instead of real-time media streaming. Whereas early adopters of Flash Video told RampRate in mid-2006 that Flash could potentially become a single source solution in a way that WMS, Apple, and Real never could, today, nearly two thirds of a survey population limited to users of either Windows Media or Flash Video are using both.

More importantly, without a viable single dependable platform, a majority of respondents (57%) said that they have already forgone opportunities to launch a Web-based digital media project because of cost or technology reasons. For example, one IT director at a major CDN stated, "*We passed on some Flash deals due to licensing costs,*" while an enterprise using video for training reported that, "*Video projects got too complex, cumbersome, or time-consuming, and we then opted for simpler solutions, such as text or simple web pages*." Users foresee this problem growing — a larger majority of 61% said lower cost alone would lead them to adopt new uses of rich media in the future — an element especially resonating in the education segment, where public education programs and live events were cited as examples of attractive, but unaffordable opportunities.

As many as 86% of respondents would be willing to standardize on a solution that would take the codec quality, stability, and other strengths of Windows Media and merged them with the cross-platform compatibility, interactive features, and other top features of Flash.

The New Video Platform Wars

Just as the old video platform competitive struggle was decided, another battle looms on the horizon. Once again, IT decision makers at enterprises, advertisers, and educators as well as the CDNs serving them have to support multiple formats, servers, and supplier contracts — not because multiple solutions answer all the questions, but because each standard is only one piece of the larger puzzle. In addition, customers are left searching for the right tools to fulfill their business needs — and are willing to switch to something better. As many as 86% of all companies would standardize on a solution that would simply take the codec quality, stability, and other strengths of Windows Media and merge them with the cross-platform compatibility, interactive features, and other top features of Flash.

Silverlight: Pre-empting the Struggle, or Just Opening a New Chapter?

Microsoft's new Silverlight platform, previously called "WPF/E," is designed to address precisely those issues, with the goal of becoming the "best of both worlds" platform. Having listened to customer feedback from RampRate studies and other sources, Microsoft has taken aim at most, if not all, of the customer needs of the WMS platform with a single weapon: a new cross-platform, interactive application building layer. In addition to the digital media assets that our research focuses on, Microsoft is baking the familiar elements of Visual Studio, ASP.NET, and the AJAX framework into the approach, allowing millions of developers to bring their expertise to bear on the new platform without a steep learning curve. Even before its release, the new platform is stirring up a buzz, with 52% of all respondents in the current survey having heard about Silverlight, and 44% voluntarily signing up to explore the technology further after completion of the survey.

While on the surface, the solution appears primed to become a viable single source for customers looking to standardize, some questions remain. There are few customers with hands-on experience, with most remaining cautiously optimistic. Some areas identified in the study as Microsoft's competitive deficiencies won't be solved with technology, such as vendor responsiveness and availability of expertise — although Microsoft certainly has the resources to make up the deficit. Others may take until version 2.0 to refine. Finally, the shift in the target audience from IT to creative staff and business users, who have been addressed much more directly by Adobe, may be a significant marketing challenge. With this release, Microsoft is bringing to market the Expression Suite of tools aimed directly at enabling designers and developers to collaboratively create solutions for the platform. But beyond technology, it will need to build relationships with a whole new set of constituents and elevate its marketing message to business value, not just technology. As one IT manager at a large CDN described the process: "*It's about time. Microsoft has a lot of catching up to do… But I think they can make a go of it*."

Whether Silverlight will hit its target is not known yet, but this much is clear: Driven by customer demands, Microsoft has built a solid roadmap to once again become king of the rich media hill. Adobe will undoubtedly respond with price cuts and remedies for its own deficiencies, but at this juncture, Silverlight has struck the first blow.

1. About the Study

As the premier sourcing advisor for the media and entertainment industry, RampRate has a 5-year history in working with rich media. In addition to its sourcing advisory work in procuring content delivery, hosting, and encoding services for dozens of well-known video and audio content sites, it has produced more than 30 private research studies and several published works on related topics, such as costs of streaming, mobile content, and monetization of digital media.

As part of our research program, over the last 2 years we have performed four distinct surveys of the WMS user base, interviewing and surveying hundreds of users of rich media technologies. The latest of these qualitative studies, conducted in March 2007, is the centerpiece of this paper. The continuation of this research study is a statistically projectable Web survey project that aims to quantify some of the trends and metrics described herein.[1] Both studies underpin a market sizing initiative to quantify the impact of Silverlight on the digital media market.

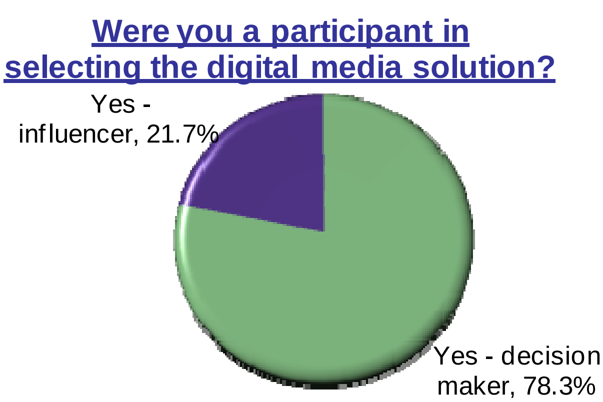
Qualitative Study Background

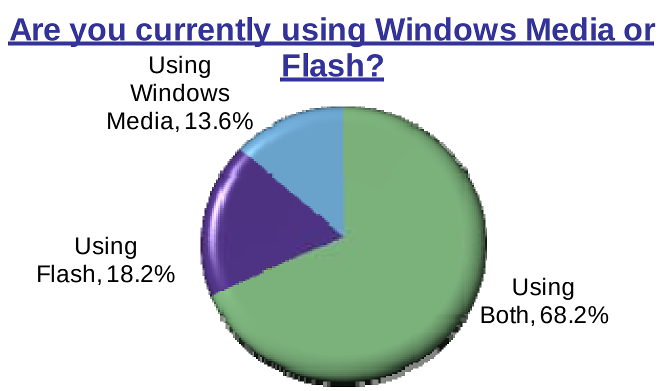
To understand the context of the rich media market at the launch of Silverlight, Microsoft engaged RampRate to conduct one-on-one interviews, approximately thirty minutes in duration, with 23 heavy users of rich media. The target segments represented included:

1. CDNs and other delivery service providers
2. Companies providing entertainment content to end-users
3. Educational institutions
4. Enterprises serving rich media to internal and corporate audiences
5. Advertisers

Our interviews have probed for insight into the following areas:

- Current needs of CDNs and their customers
- Substance and impact of any deficiencies in Flash Video and Windows Media in today's market
- Optimal ways to track budgets for rich media and differences by usage scenario and platform
- Initial reaction to Silverlight and its potential impact on the market





[1] Due to sample size limitations, we would suggest viewing the statistical information in this preliminary report as a directional indication of market trends. Statistically significant findings will be reported in the final iteration of the study.

Key Audience Characteristics

The qualification requirements for participation in the study were having evaluated both Windows Media and Flash and using one or the other; being a decision-maker or influencer in buying digital media technologies; and producing or delivering rich media for at least 100 users. Users were informed of the study's intent and had the option to stay anonymous.

Quantitative Study

The results of the quantitative study will be a statistically significant sample of end-users in each of the same four customer segments as used in the qualitative approach (Advertising, Education, Enterprise, and End-User Oriented Content Owner). This phase of the research will probe:

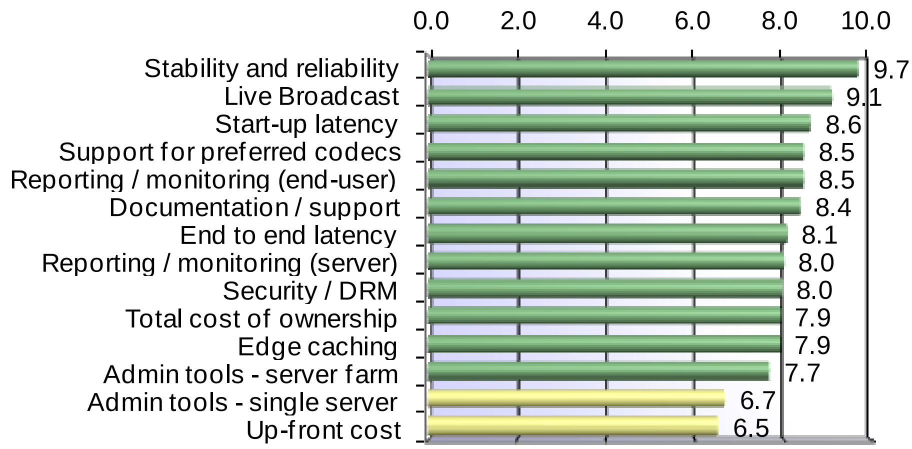
- Business drivers for Web-based rich media applications in the four target segments.
- Size and allocation for rich media budgets across platforms, users.
- Cost drivers, thresholds, and growth estimates for rich media budgets.
- Adoption rates of Windows Media and Adobe Flash, and opinions of quality and feature/functionality of the platforms.
- Awareness of and likelihood to adopt Silverlight for Windows Media and Adobe Flash users in the four defined segments.

In this portion of the project, RampRate will investigate customer budgets and spending for rich media. The quantitative phase of the research will be used to develop a picture of how and where dollars are spent in support of rich media, as well as how that allocation will be affected by the availability of Silverlight on the wider market. It is scheduled to be published in May 2007.

2. User Requirements for Next Generation Rich Media

Previous studies performed by RampRate and other research groups indicated that the primary buyers of rich media solutions were technical users, and that the selection methods for a rich media platform were driven by traditional technology evaluation criteria. Stability and reliability was rated at the top of the list, latency (both start-up and end-to-end) was a key factor, and a feature set ranging from administration tools to reporting to live broadcasts was prized. In 2005, "playlist support for PAR containers" made the top 5 feature requests when RampRate collected user opinions in planning for WMS in Longhorn. Microsoft has since addressed many of the identified needs. Respondents to mid-2006 surveys indicated their requirements were largely fulfilled with the exception of some outlier requests.

Mid-2006 User Importance Ratings (1-10 Scale)



New Interactivity Demands

New research shows that requirements are now shifting again. Buyers of digital media technologies in 2007 are moving toward a new generation of interactivity demands and rich media needs. Advertising is now the ascendant form of monetization for rich media, which has translated into a preference for high resolution, interactive Flash-based content into the market. Technical requirements are now defined by creative departments – as opposed to IT. In the words of one consultant to media companies, "*Advertisers and creative staff are overwhelmingly for Flash – Macromedia got to the content developers first and had a better pitch for advertisers.*" In essence, the success of Flash was getting the business user to say "I want that" to the IT user.

Whether supply drove demand or vice versa, the current research study makes one thing clear — Flash Video became the hot new standard based on five technological factors (see Chart on Page 3):

1. Interactive features — watermarks, in-stream links to Web pages, etc.
2. Customizability — custom playback controls, and company-branded look and feel
3. Content creation tools — while Microsoft is still considered superior for encoding pre-existing video and audio, Flash has been recognized as the leader in providing tools for building custom interactive content and applications from scratch.
4. A ubiquitous cross-platform client – providing universal access regardless of OS, browser, or network
5. Latency, and more specifically startup latency — providing the user with immediate gratification

The components were bolstered by Macromedia – and now Adobe's – execution on marketing to high-level, non-technical audiences and providing responsive service with good access to expertise — something still seen as a key Adobe strength. As a well-known streaming consultant put it, "*Adobe is better at industry support, marketing, playing on industry perception, and being aggressive in a good way*"

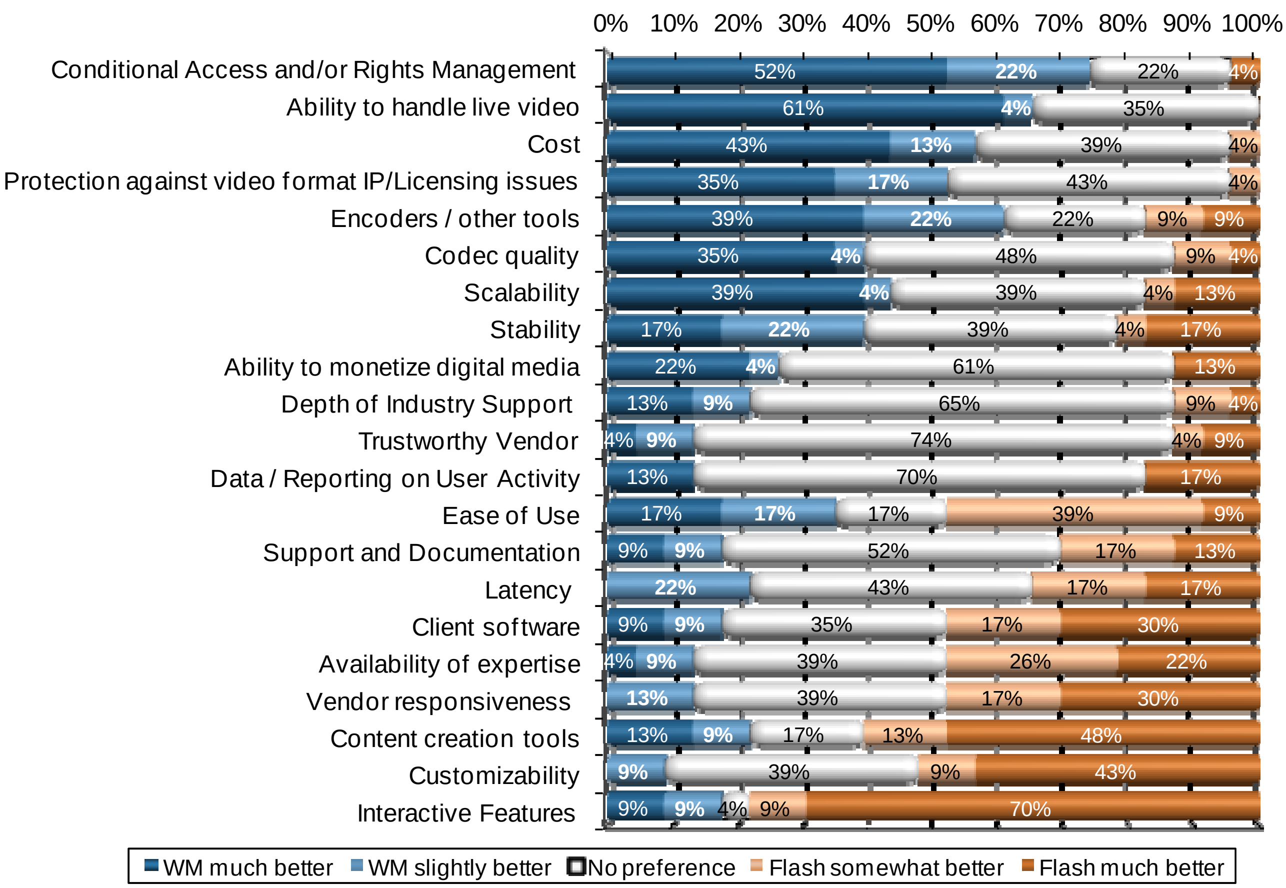
The Price of Interactivity

However, these new features came at a cost — both directly and indirectly. In order to take advantage of the new business demands, companies and universities had to sacrifice:

1. Conditional access and rights management — with Flash, few users were confident in protecting against piracy, with only one respondent considering it a strength, while 74% gave the edge to Microsoft.

2. Ability to handle live video — Although nominally supporting live streaming, not a single user surveyed viewed that as an Adobe strength.
3. Cost effectiveness — Only one respondent claimed that Flash was a lower-cost product, while the majority pointed to Windows Media as the less expensive solution.
4. Protection against video format licensing issues — Whether with VP6 or H.263, Adobe does not control its own codecs, and as a result, may potentially leave customers captive with the providers of that IP, which meant that a majority felt more confident with Microsoft and only one respondent preferred Flash.
5. Encoders and other tools — With a long head start on Flash, Microsoft developed an extensive toolset for encoding and editing video that was not easily replicated, preferred by 61% of respondents.
6. Codec quality — At equivalent bitrates, more users preferred the quality of Windows Media content.
7. Scalability — Although precise figures were difficult to ascertain because most servers are not loaded to capacity, anecdotal reports have pointed to scale factors of as much as 3-4x on fully loaded servers
8. Stability — As a newer platform, Flash is perceived to have more stability issues than Windows Media, with twice as many respondents preferring the Microsoft solution.

Preference for Windows Media / Flash by Attribute



Most of these tradeoffs were well-known before the study. However, two surprises emerged. First, despite qualitative comments about the value of Flash for advertising, Windows Media is still rated slightly higher for its overall ability to monetize digital media. Second, there is a dead heat for the “most trustworthy vendor” label — indicating that the audience has an open mind about Microsoft’s strategies in this field.

Collecting a First Mover Advantage

As a result of its innovation and marketing, Adobe currently leads the fastest growing segment of the market. Its approach to charging for these accomplishments has been, for lack of a better word, aggressive. Whereas Apple, Microsoft, and Real Networks have provided an open-source version or bundled streaming servers into basic server distributions, Adobe has maintained a high list price for its streaming servers and imposed a revenue-sharing model on content delivery network providers (CDNs) that tied payments to the volume of data transferred — a surcharge that ranges from 75% to 155% of the underlying bandwidth costs. Some of the effects RampRate witnesses firsthand as part of our sourcing advisory practice include:

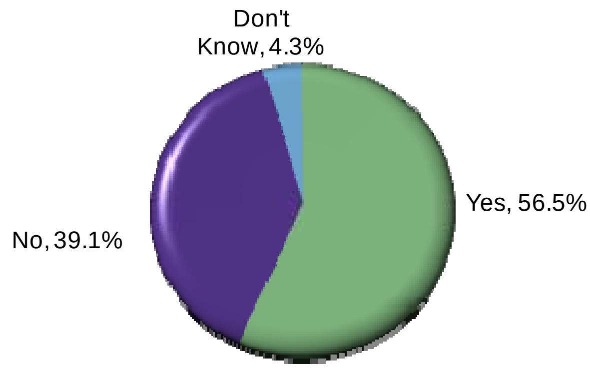
1. A live streaming startup whose business model would literally be shattered by delivery costs of using Flash opted for an alternative format despite its developers' strong preferences for Flash.
2. Rich media projects were shoehorned into a progressive download model (where a CDN premium for Flash did not apply) rather than the better-fit streaming technology when using Flash.
3. Most companies still use both Flash and Windows Media, depending on the scenario and content, with all the attendant overhead of staff, training, servers that are not used to capacity, etc. Unlike some scenarios where using multiple vendors is an advantage, users see multi-codec situations as a burden, with 86% of all respondents stating they would standardize on a single rich media package if it combined the best features of both Windows Media and Flash, and the remainder expressing other qualifications such as "*everyone else using it*" and "*an easy transition to the standard*" but not dismissing the idea.

The Cost to Users

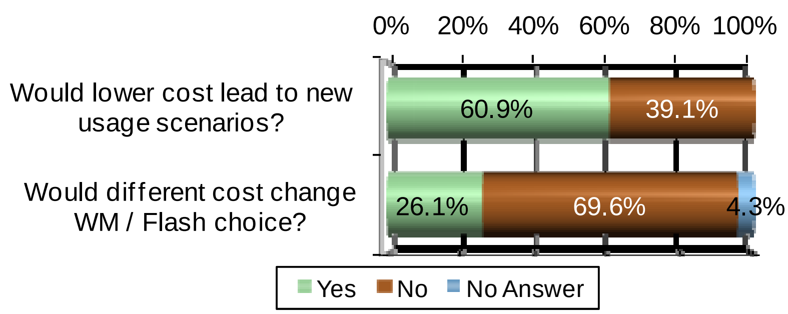
The impact on users of streaming technologies has extended far beyond a reduction in profit. With streaming media still exploring many nascent business models, higher delivery costs can often mean the difference between launching and stopping a project. 57% of respondents said they have already passed on opportunities to launch Web-based digital media projects because of technology problems and/or delivery costs — with some others saying that they could afford the technology, but not the staff to run it.

An even higher percentage reported that they believe lower cost would lead to new rich media usage scenarios in the future. When directly asked whether a change in cost alone would affect the respondent's choice between Windows Media and Flash, nearly 70% responded in the negative, indicating they would rather pay a premium or forgo the initiative altogether than to settle for something without interactivity and cross-platform support.

Have you forgone opportunities to launch a Web-based digital media project because of technology or cost reasons?



Impact of Cost on Digital Media Decisions



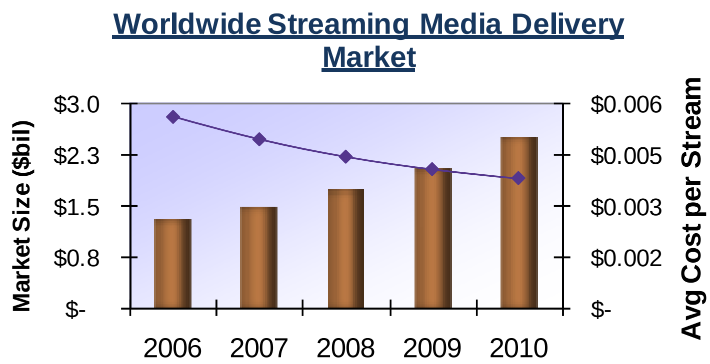
The Potential to Change the Game

Adobe's ability thus far to charge extraordinary premiums and continue to win sales shows an opportunity in the market. It requires a platform with equal or better functionality for interactivity and cross platform delivery but offered at a price closer to market rates for other services. Such an offering could spur technology innovation through competition and unlock latent demand of enabling previously unprofitable business models — raising the fortunes of the market as a whole.

3. The Big Financial Picture

The streaming media market is growing – and growing fast. With more than 7 billion streams delivered every month in the US alone, and with some experts projecting the number of streams to grow by as much as 40% per year, there's no doubt that streaming media can be a critical channel for any entity -- whether consumer site, advertiser, educational institution, or enterprise.

The consensus of RampRate's transactional data and analyst forecasts estimates that the worldwide market for streaming media delivery is expected to grow from approximately $1.3 billion in 2006 to $2.5 billion by 2010. Over the same period, the average cost to deliver a stream is expected to decline from almost $0.006 per stream to a little less than $0.004 per stream. All content segments are expected to grow through the forecast period, but educational content and enterprise content are likely to grow the fastest, thanks to a low initial baseline and tight budgets forced by limited monetization opportunities.

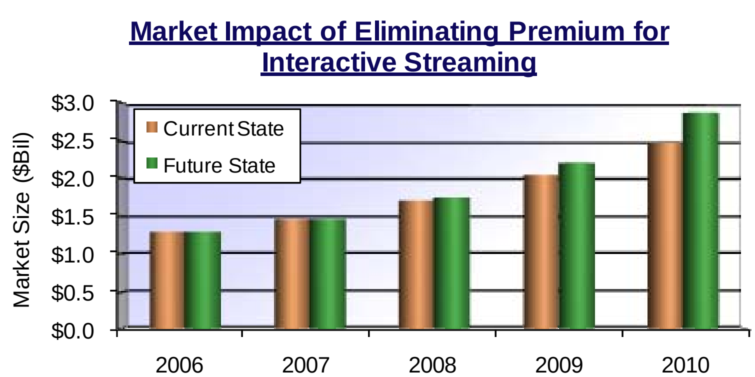


The Shifts in the Competitive Landscape

Flash's growth over the last 3 years has put Adobe in position to vie for first place in the streaming media market. While its market share of total streams delivered is between 20% and 30%, Flash's share of the streaming media server market by dollar volume is nearly 50%, due mostly to the significant price differential between Flash and competing platforms. Should growth in Flash not be offset by a reduction in use of other platforms, the premium for Flash servers and CDN surcharges needed to deliver the projected number of streams could add more than $300 million to the worldwide cost of delivering streaming media between 2008 and 2010.

Remedying Market Inefficiencies Will Spur Investment in Rich Media

On a global scale, the price premium for Flash can be quantified and isolated as what economists call "rent" — which is margin above and beyond the underlying cost. With significant competition, it is likely that this economic rent would be reduced drastically. However, with the latent demand identified in the survey, users are unlikely to simply pocket the money. With many projects not being launched because of a lack of funding, bringing competitive balance to the market is likely to spur significant investment in rich media, actually increasing the overall opportunity for all the providers involved.



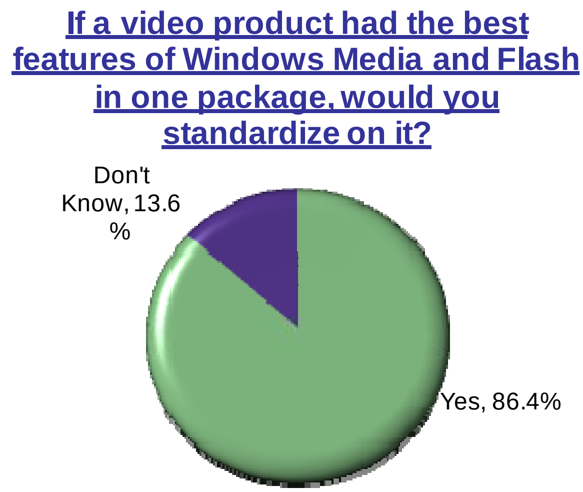
Presuming that the premiums paid for Flash were reduced or eliminated starting in 2008, and that the resulting overall cost reduction would spur an additional 10% growth in the number of streams delivered annually over current projections, by 2010 the streaming media market could grow to nearly $3 billion – unleashing more than 600 million dollars in cumulative additional spending on streaming media in the intervening 3 year period.

These estimates are based on the initial data received from the study so far, and should be considered preliminary. A revised analysis will be published in May 2007 after the quantitative survey better informs current estimates of scale and cost differentials between end-user content (which has well known financial models) and enterprise / educational content, which is often more difficult to ascertain.

4. Silverlight

Microsoft's new Silverlight platform – previously called "WPF/E," is currently in final beta, and will be publicly released in Q2 2007. Microsoft's intent to make Silverlight a "cross-platform interactive presentation layer," spurs optimism — albeit a cautious one — in the user base for its promise to finally allow a standard that designers, developers, IT, and business users can get behind without reservations.

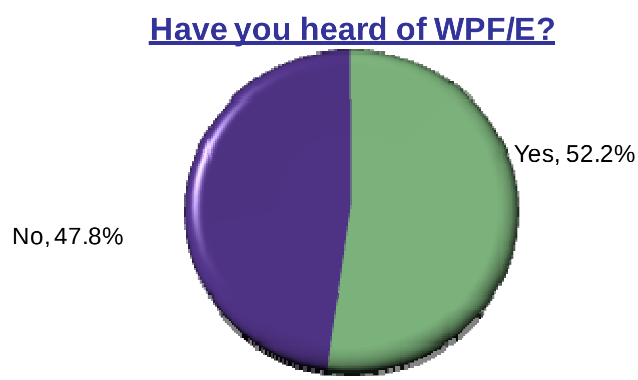
Without first-hand experience with a significant cross-section of customers that have run Silverlight in a production environment, a head-to-head research study comparing Silverlight to current Windows Media or to Flash is premature. This research study included those who have participated in the alpha, those who have researched early releases, and those who have not heard anything about Silverlight. However, the early results are based on what users think Silverlight might be, not what they've experienced to date.



Bringing Something for Everyone

Since it is built on a foundation that includes Windows Media, Silverlight brings many features to the table that are potentially enticing to users, including content protection and industry-leading support for live streaming. Consequently, Windows Media loyalists such as an enterprise user saying, "*We decided against using Flash due to its technical inadequacies (dependability, live encoding, length of content, video quality); also because of the large costs that would be entailed by adding it to the infrastructure*" will be pleased that they can stave off a top-down mandate for more interactivity and stay with their preferred platform.

For companies that chose Flash primarily for interactivity or cross-platform compatibility, Silverlight may spur a re-evaluation by the advertising executive who said, "*Lack of interactivity in Windows Media made it a non-starter*," or IT director at a consumer site who said, "*We went with Flash largely because of cross-platform compatibility.*"



For the majority of users that are straddling the uncomfortable middle, Silverlight may be a way to standardize, striking the heart of users such as a major broadcaster, who said, "*We primarily use Windows Media, but sometimes Flash because it's better able to integrate with content*" and a university media manager who used both because "*Windows Media has been good for providing video; Flash has been good for rich internet applications,*"

With this broad appeal and clear market need, it is no surprise that 44% of study respondents volunteered to receive more information. It is certainly rare for an interview project with a technical bend to have respondents volunteer for sales calls.

Criteria for Silverlight Success

The bar for this release is clear: Provide effective cross-platform compatibility and interactivity without undermining the core Windows Media advantages, and it will be a success. Even before reaching the discussion about Silverlight, the following were listed as the absolute top improvement needs for Windows Media:

- *Release a cross-platform player* – listed by 55% of respondents as the single top improvement
- *Be more like Flash or work with Flash*

- *Allow for the ability to better embed video player in the page or modify its look and feel*
- *Provide content creation tools and ability to support non-video animation*
- *Provide interactivity with the presentation layer*
- *Increase ease-of-use and functionality*

Overall, more than 80% of requested top-of-mind features from the study are included in Silverlight.

User Reaction: It's about Time!

More than half of study respondents were aware of Silverlight, with some first-hand exposure. The majority of users that were familiar with the solution thought that it was a good step forward and were intrigued by the possibilities. A cross-section of comments ranged from enthusiastic (*"It's great; answers the Adobe solution a lot, and in ways that I prefer."*) to skeptical (*"I am intrigued, but also wondering why is this necessary when Flash is so good; is Microsoft reinventing the wheel?"*) to neutral (*"Anticipate that it will be a decent video solution, but not yet a full-featured Flash replacement; maybe after a few versions"*).

However, detailed product specs were limited, as reflected in comments such as *"Need more public info"; "Microsoft hasn't released enough info to the public on it;" "It's neat, but I'm lacking documentation on what it is, does, and why I'd use it over other solutions;"* and *"Haven't heard enough to have a strong opinion."*

Things We Hope to See

While a new technology platform may solve most of Microsoft's competitive disadvantages and bring much needed balance to the rich media and interactive application market, several current deficiencies will not be solved by this release. For example, both vendor responsiveness and availability of expertise were rated as key strengths of Adobe that helped it gain traction despite technical disadvantages. Without replicating the kind of service provided by Adobe (as one customer put it "*Quality tier 1 support – getting a live person on the phone is a key difference*"), even strong technology advantages will not be enough for customers used to a high level of personal service. This "soft" advantage extends beyond technical support — Microsoft must learn how to deal with and sell to businesspeople and creative audiences better, overcoming the perception that "*Adobe is much better at getting people to adopt technologies."* In any organization, a champion of a particular technology needs support, and Microsoft cannot afford to not be creative about finding business reasons to use Silverlight.

Conclusion

As an advisor serving media companies large and small, we are encouraged to see new choices coming to market for rich media customers that increase flexibility and reduce expense. As impartial evaluators and researchers of technology, we are cautiously optimistic on the potential. Whether it delivers on its promises today or next year; whether it takes the market by storm or only forces Adobe to reduce its price premium and tune up its platform, Microsoft's release of Silverlight will unlock another wave of innovation in the digital media world.

About RampRate

As a strategic research vendor, RampRate has run more than 30 primary and secondary research projects for media and technology companies interested in digital media. With a core focus on delivery and monetization markets, RampRate's research staff has been invited to speak at multiple streaming industry events and contributed to many high-profile publications in addition to its own papers and private-label strategy services.

As a sourcing advisor, RampRate has built an IT services ecosystem built on speed, risk reduction, and transparency. With RampRate's Deal Acceleration Engine and Service Provider Intelligence Index (SPY Index™), companies can optimize their buying of data center space, content delivery, private networks, application management, and other IT services.