OTT Video: Service Providers Face a Gathering Storm

EXECUTIVE SUMMARY

Hundreds of millions of consumers around the world are increasingly accessing video content over the public Internet, reaching beyond the walled-garden services offered by their pay-TV providers. This over-the-top (OTT) video offers consumers on-demand access and a broader selection of content than pay TV, and has no monthly subscription fee associated with it. Increased broadband penetration, improved video compression techniques, and faster average connection speeds have also greatly improved the user experience over the past few years.

In a Heavy Reading study of U.S. consumers conducted in October 2009, nearly 40 percent of respondents said they watched more online video in 2009 compared with the previous year – a substantial year-over-year percentage increase, as shown in the excerpt below.

Excerpt 1: The Growth of Online Video Consumption

Source: Heavy Reading U.S. Pay TV Study, 2009
Question: "How has your viewing of Internet video changed over the past year?"

Watch More 39.7%
Watch the Same 52.5%
Watch Less 7.8%

n=335

Video is now responsible for the majority of Internet traffic, as users are moving beyond viewing short, low-quality clips of user-generated content on YouTube and increasingly seeking out TV shows, films, and other professionally created, high-quality video content on the Internet. Video quality and resolution are also improving steadily, and HD video is now being offered. As these high-bitrate streams use up an increasing amount of bandwidth, service providers face a much greater challenge in managing their networks than that posed by P2P traffic in the past.
Service providers do not benefit from the popularity of online video: It is called "over-the-top" because it can be delivered without their involvement. However, this video content does travel over their networks, and its high-bandwidth, low-latency requirements, coupled with widespread usage, are causing significant problems for service providers. Broadband pipes are getting clogged, and service providers are having to develop new ways to manage the challenges posed by broadband video traffic.

This problem is not going to go away: Even as service providers struggle to manage video traffic on their networks today, it is projected to increase exponentially over the next five years. Network operators will have to identify ways to either manage this traffic, or monetize it so that they can pay for continual network upgrades.

OTT Video: Service Providers Face a Gathering Storm examines the spread of OTT Internet video and analyzes the factors that are driving its popularity. The report reviews the management tools that service providers can leverage to deal with this problem – such as deep packet inspection (DPI), policy, and local caching – and weighs the viability of potential revenue-generating options for service providers. It also explores what other members of the value chain – including content owners, P2P enablers, and content delivery networks (CDNs) – are doing to reduce the network impact of online video. Further, it considers the role that regulation could play in this space and analyzes the current status of regulatory policies on this issue, particularly the heated "net neutrality" debate in the U.S.

The information and analysis presented in this report are based on interviews with various players across the video value chain, including service providers, technology vendors, content owners, online video distribution companies, and advertising/media agencies. The report reviews selected players in this space, summarizing their key products and solutions and evaluating their strategic strengths and weaknesses.

For a list of companies analyzed in this report, click here.

The excerpt below lists the various ways in which service providers worldwide are using policy tools to manage network bandwidth and mitigate the impact of OTT video. As the table demonstrates, there is no perfect solution. Still, these tools offer service providers some solutions for the challenges that OTT video is throwing at them.

**Excerpt 2: Policy Approaches Open to Service Providers**

<table>
<thead>
<tr>
<th>APPROACH</th>
<th>ACTION</th>
<th>IMPACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usage-Based</td>
<td>Implement monthly usage caps</td>
<td>Limits traffic overall, but not necessarily at peak times; strong consumer backlash in U.S.</td>
</tr>
<tr>
<td>Application-Based</td>
<td>Traffic shape or limit bandwidth by application (e.g., P2P)</td>
<td>Could affect user experience for real-time apps such as video; against FCC regulations in the U.S.</td>
</tr>
<tr>
<td>Time-Based</td>
<td>Allow certain number of hours of access per day per subscriber</td>
<td>High usage at peak times still possible, since there’s no limit on usage; may need usage caps as well</td>
</tr>
<tr>
<td>User-Based</td>
<td>Limit bandwidth for peak users during peak hours</td>
<td>Can affect user experience; could create a strong consumer backlash</td>
</tr>
<tr>
<td>Traffic Adaptation</td>
<td>Shape or transcode traffic so that bitrate is lower through bottlenecks</td>
<td>May degrade video quality; bandwidth savings may be small without significant quality loss; content owners may claim this approach is illegal without their permission</td>
</tr>
<tr>
<td>Dynamic Tariffing</td>
<td>Provide real-time billing rates that vary based on time of day, location, etc., due to network congestion</td>
<td>May reduce overall revenue; usually works only in areas of extreme price sensitivity</td>
</tr>
</tbody>
</table>

Source: Camiant, Heavy Reading
Report Scope & Structure

OTT Video: Service Providers Face A Gathering Storm is structured as follows:

Section I includes a full executive summary and report key findings.

Section II examines the rapid growth of online video and explores the primary forces driving its growth. It looks at the growth of Internet advertising and the ability for online video sites to monetize their business. It also compares the current impact and prospects of IPTV and OTT video for service providers, and discusses the relative importance of each approach.

Section III reviews the impact of video on service provider networks and the expectations of its growth. It includes a discussion of growth expectations and the shift from P2P to HTTP traffic and its implications. It analyzes the primary problem areas for service providers and includes a service provider case study.

Section IV explores potential solutions for managing traffic and developing revenue-generating models for service providers, evaluating the strengths and weaknesses of different approaches. This section also provides a snapshot of the regulatory picture and a list of recommendations for service providers.

Section V provides a guide to the structure of the industry and assesses the role and capabilities of selected players in this space. It also analyzes selected vendors in each industry segment, 24 in all, appraising their relative market strengths and weaknesses.

The report is essential reading for a wide range of industry participants, including the following:

- **Telecom service providers**: How will the popularity of OTT video impact your network and business model going forward? What techniques or strategies can you employ to mitigate the effect of this traffic on your networks? How can you balance your customers' desire for high-speed connections supporting HD video with the difficulty of monetizing this increased usage? Which technology suppliers are in the best position to help you both manage and monetize Internet video?

- **Telecom equipment vendors**: How do your products and solutions stack up against those of your competitors in the network management arena? Is your current and anticipated product portfolio in line with service providers' needs in dealing with OTT video? Which technologies are service providers most interested in for managing bandwidth and optimizing the end-user video experience?

- **Media content owners**: What new technologies and content distribution models are service providers exploring to deal with OTT video? Which media players and/or video compression formats present the best option for distributing your content online? What business models are most likely to govern service providers' relationships with content providers going forward?

- **Investors**: How will the evolving regulatory picture influence the delivery of online video and shape service providers' future business models? Which technology providers are likely to emerge as leading suppliers of solutions to help manage online video? How will new approaches to monetizing online video – such as revenue sharing, micropayments, and embedded advertising – influence winners and losers in this growing marketplace?

OTT Video: Service Providers Face a Gathering Storm is published in PDF format.