Unlocking the Ad Insertion Gold Rush

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With online video consumption exploding worldwide, companies are betting that online and mobile video advertising is on the cusp of a gold rush in monetization.

Many companies are investing in ad technologies and systems, yet unlocking ad insertion's potential remains a challenge.

As the landscape of the video marketplace continues to change, the level of interest and demand around OTT video advertising is reaching new levels. The consumer appetite and environment for video are driving interest. The overall volume of online video consumption of all kinds has increased over the past several years as consumers watch more content across all screens.

On the television, consumers watch over twice the amount of Internet-based video than they did just three years ago.

OTT Video Consumption on TV Sets
U.S. Broadband Households
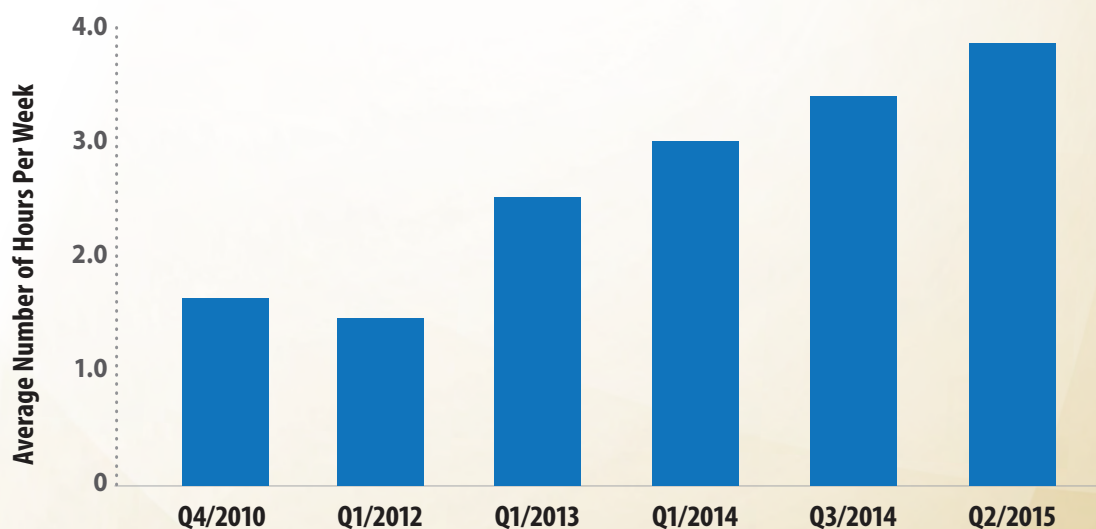
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Although broadcast and cable network TV continue to host the largest viewing audiences, TV ad sellers increasingly compete with online video services for ad spend.

Advertising industry executives claim that **up to 10% of some advertising budgets are moving to programmatic advertising** – the use of automated systems to purchase and insert digital video ads that target specified audiences.

Video ad buying is experiencing a subtle shift—from buying content (specific programs) to buying audience.

Demographic targeting has always been an integral part of television advertising. However, in multiscreen video, advertisers are able to apply advertising budgets directly to specific groups of viewers regardless of the content watched.

Several industry factors are also generating a heightened interest in ad insertion solutions and service capabilities, including:

- **An increased volume** of professional content online
- **A growing number** of OTT players
- **A greater focus** on user experience, including the advertising experience
- **Improved personalization technologies** that track and profile connected viewers

- **Advertising's ability to scale ad revenues** with the amount of viewing rather than numbers of subscribers or transactions
- **The use of advertising models** in markets with high piracy or low ARPUs
- **The increased use** of automated, or programmatic, advertising transactions.

THE NET RESULT IS GREATER ATTENTION, SPENDING, AND INNOVATION IN AD INSERTION.

A variety of market players have arisen to address the growing demand. Companies such as Google, Brightcove, Verizon, and others have snapped up promising ad insertion players, including mDialog, Unicorn Media, and Uplynk, respectively.

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Considerations in Ad Insertion

As companies enter the ad tech business, many find the road difficult. Expectations of consumers, content producers, and video services are extremely high, and the competitive market is intense. For several, the OTT video space is a new element in their overall product line and market strategy.

New Issues for Ad Insertion Players

Approximately
200 million people worldwide *use* ad blocking tools

Increased use of ad blocking technologies

Ad blockers, including browser extensions, VPNs, or DVS solutions, *can automatically block ads* on all websites and for virtually all ad formats. In some countries, over one-third of all online advertising is blocked by consumers using ad blocking technologies.[1] Ad blockers are forcing content producers, distributors, and advertisers to explore techniques for neutralizing these technologies or altering the way ads are displayed.

Ability to perform ad insertion at scale

As consumption increases, the volume of viewers for popular events is skyrocketing. Failure to meet demand for a high-profile event is a highly public black eye on an online video service and may hinder brand perception and uptake. Given the growth of online consumption, the ability to deliver video and ads effectively to large audiences will be increasingly critical.

> Sling TV's outage during the 2015 NCAA basketball tournament provides evidence of the challenge and the outcome of scaling issues.
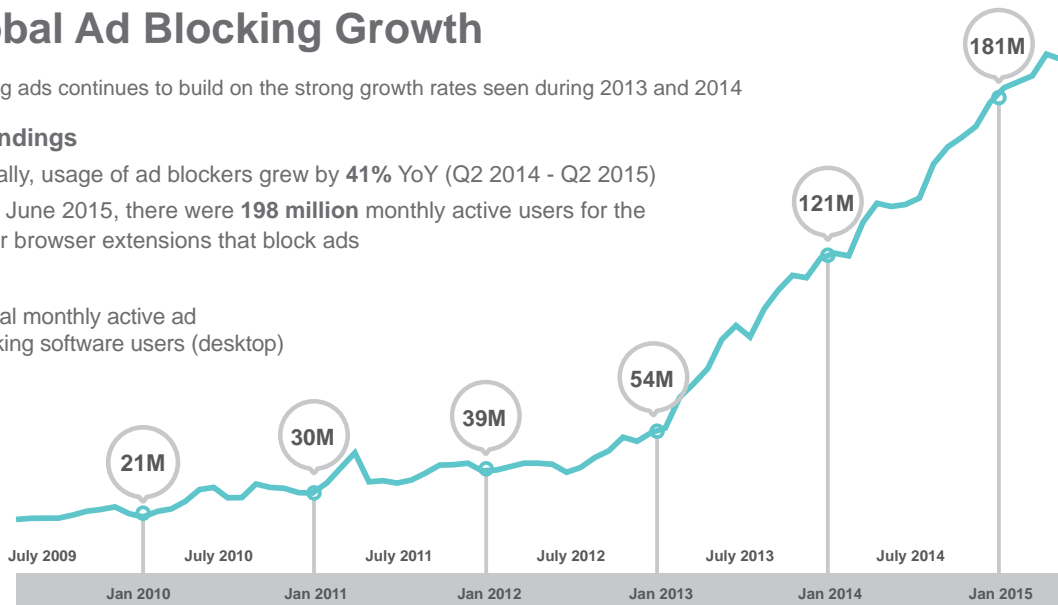
Global Ad Blocking Growth

Blocking ads continues to build on the strong growth rates seen during 2013 and 2014

The findings
- Globally, usage of ad blockers grew by **41%** YoY (Q2 2014 - Q2 2015)
- As of June 2015, there were **198 million** monthly active users for the major browser extensions that block ads

Global monthly active ad blocking software users (desktop)

181M
121M
54M
39M
30M
21M

| July 2009 | July 2010 | July 2011 | July 2012 | July 2013 | July 2014 |
| Jan 2010 | Jan 2011 | Jan 2012 | Jan 2013 | Jan 2014 | Jan 2015 |

PageFair and Adobe | © 2015 Ad Blocking Report

PageFair

Adobe

[1] The cost of ad blocking, *PageFair and Adobe 2015 Ad Blocking Report*, PageFair and Adobe, 2015.

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Reducing ad waste

As video viewing continues to fragment across a greater variety of screens and content sources, many advertisers want to ensure that they get what they pay for - ads that reach the right viewers.

Over time, ad buyers will begin to view the accuracy of targeting as an important measure, or even a more important measure than audience volume, in assessing the efficiency of their ad spend.

Working with any ad decisioning technology

Though several options are available, new ad decisioning technology allows improved addressability and can enable real-time bidding. In some environments, distributors may leverage different sources of demand in order to ensure that ad inventory is sold.

Today's ad insertion systems must be able to interoperate with a variety of decisioning solutions in a complex, dynamic environment.

Holistic analytics

Ad campaigns now extend across managed and unmanaged networks as well as across a variety of devices. Advertisers need the ability to see a complete picture of the results of a campaign, across network types, client devices, and delivery mechanisms.

Handling of format differences

At times, the video format for ads differs from the video into which the ads are inserted. These differences can be problematic when the ads and video come together dynamically or for live streams, where one or both sides are unable to anticipate the appropriate format for the end device.

> Ad insertion systems must be able to transcode and repackage on the fly in order to ensure proper playout for the consumer.

In these instances, ad insertion systems must be able to transcode and repackage the ads on the fly in order to ensure proper playout for the consumer. Ingesting, transcoding, and repackaging an entire stream is resource-intensive and inefficient in on-demand environments and impossible for live and live-linear.

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Approaches to Ad Insertion

Generally, companies providing ad insertion use one or both of the following approaches.

Both the server-side and client-side approaches provide benefits and tradeoffs.
Some technology providers combine approaches in a best-of-both-worlds solution.

Ultimately, neither is superior or applicable in all situations.

Server-side Approach

A server-side approach operates within the network to insert ads into a video file or stream as part of preparation and/or delivery of the video. Some work in backend systems, taking content and ad inventory and combining them into a stream that is delivered to consumers. Others address video as it is being streamed to consumers, revising the stream to insert ads as content is playing.

Pros

- **Instant device reach.** Delivery of ads via a server-side approach allows inserted ads to reach any device that can play the video stream. So, companies are able to deliver ads on even the newest connected products as soon as they become available to consumers.

Cons

- **Standards compliance issues.** The IAB's (Interactive Advertising Bureau's) standards ensure interoperation among ad technologies. They also safeguard the accuracy and transparency of advertising metrics and ad verification. Server-side ad insertion does not provide IAB-compliant device-side beaconing, a tool for ad-delivery analytics and a requirement for some advertisers.

- **Lack of interactivity.** Engaging audiences through interactive experiences is increasingly important, particularly in today's fragmented multiscreen world. A server-side approach cannot support VPAID (another IAB-defined standard) or interactive units, which can be sold at premium CPMs relative to static ads.

Client-side Approach

A client-side approach inserts ads seamlessly at the client device rather than in the network. Ad insertion systems manipulate manifest files on the client, and ads can be stitched into the stream without requiring a second player beyond the native or third-party player.

Pros

- **Scale and reliability.** Decentralizing ad insertion and pushing manifest manipulation onto the client device eliminates the possibility that a server outage will disrupt the user experience.

- **Leverages strengths of the connected device.** Client-side ad insertion optimizes a device's native interactive capabilities, such as disabling fast-forward during ad breaks, which boosts engagement rates and drives CPMs higher. Additionally, devices retain usage history and offer IAB-compliant beaconing.

Cons

- **Data analytics.** Client-side information is not always aggregated into the operator network or the cloud. So, other parts of the delivery system may not have access to device-level user data that can be used for advanced analytics and monetization.

- **Development requirements and risk.** Today's consumers have more connected devices in their home than ever. Companies must develop software for each supported client platform as well as players for each platform. In addition, because connected CE devices regularly undergo OS and software updates, companies must continue to monitor and revise client-side software.

- **Resource intensity.** Client-side manifest manipulation can drain battery life in lower-end devices with inexpensive chipsets.

Average Number of Connected CE Devices Owned
U.S. Broadband Households
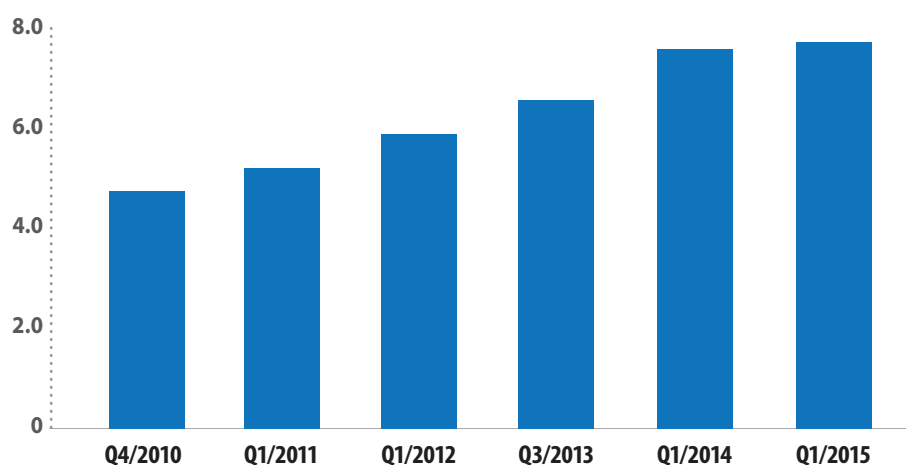
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Companies Investing in Ad Insertion

The various companies now offering ad insertion capabilities with their video delivery solutions or services have differing strengths based upon their approach to as well as their position in the video delivery chain.

Internet companies

Google, Amazon, Facebook, and similar companies are adept at delivering ads on web pages. These companies have detailed analytics on users, typically using cookies within the browser to provide targeting or personalization. Internet companies may have their own ad networks or work with outside ad networks.

Many Internet companies are entering the video advertising space aggressively, seeking to translate Internet expertise into an online video arena or even into the pay-TV world.

However, the video consumer's high sensitivity to quality of service and user experience is very different than their sensitivity to static or video ads that run on a web page or app.

CDNs

The core functionality of CDNs is to transmit video content from their data centers to consumers. These delivery specialists often have existing relationships with content producers and distributors, assisting with the delivery of video content.

Today, CDNs play a role in the management and monetization of video as well. With end-to-end control over content delivery, CDNs have a substantial impact on the quality of the video experience.

CDNs can provide detailed analytics to advertisers, particularly on metrics related to delivery and playout. One of the leading strengths of the CDN is scale. Built and optimized for online video delivery, CDN is designed to handle huge volumes of video. Due to their nature, CDNs almost exclusively utilize a server-side approach to ad insertion and handle ad insertion for unmanaged networks.

Use of a CDN can help minimize the risk of an outage, but ad insertion via CDN can be problematic if a video distributor is using multiple CDNs.

Encoding companies

These vendors provide encoding to compress video so that it can be efficiently delivered to end-user devices. Encoding companies have unique access to and control over the creation of the data stream that delivers the content; several are moving into other parts of the video delivery ecosystem, including ad insertion.

These players use a server-side approach to ad insertion, injecting ad cues into the stream during the encoding process. They can embed encrypted content protection into the stream for secure delivery and can also encrypt the ad queues within the stream to prevent further ad insertion during the process of video delivery and playout. Encoding companies are particularly familiar with the specific technical requirements for a variety of end-user devices, including various smartphones, tablets, streaming media players, and other connected CE products.

In some cases, encoding-based ad insertion systems provide broad addressability to segments of users, but not addressability that is customized for each household, user, or individual device.

Online Video Platforms (OVPs)

Because their core business is in delivery of online video to end users, OVPs have strength in Internet-based video advertising.

In a sense, video ads are simply another type of video file for OVPs to prepare, queue, and deliver to Internet-connected devices.

OVPs are accustomed to the analytics-intensive environment for online video and can provide content publishers with far more data on users than is possible from traditional managed network-based systems or services.

OVPs have visibility into the various CDNs and other sources of content as well as into all aspects of the management and coordination of online video service delivery. This insight is particularly important in multiscreen video delivery, since content delivery workflows for various sources, formats, types of content, and end-user devices may differ in important ways. OVPs may use a server-side, client-side, or a blended approach to online video ad insertion.

Cable technology vendors

Vendors of cable technologies are specialists in managed networks, CPE devices, and linear ads.

These companies have a particular expertise in ad serving for on-demand and schedule-based advertising.

Though familiar with the detailed metrics of the operator's managed network or walled garden, they typically do not leverage end-user data regarding personalized consumption habits. These players often leverage the server-side approach to ad insertion. However, some do work in set-top box-based ad insertion, a relatively recent trend.

Moving into ad insertion on the unmanaged networks and devices of the open Internet is a significant challenge for cable technology vendors. Most are new to elements of profiles and personalization, including creating, maintaining, and leveraging user information. Interaction with ad decisioning or programmatic advertising systems is not a part of pay-TV advertising, content management, or delivery systems.

In addition, these players will have to work with multiple ad networks, CDNs, formats, and devices, a far cry from the controlled and relatively unified systems of pay TV.

Increasingly, the roles of these companies overlap as each attempts to gain a greater share of the ad insertion marketplace, particularly for IP-based delivery on unmanaged networks.

Because each of these players offers a unique strength, today's video service providers will often use a mix of these enablers to address their needs.

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What Matters in Ad Insertion

Companies considering their options for ad insertion face a quickly changing environment with several moving parts. In the end, the factors in ad insertion that truly matter include the following:

Reach

The overarching concern of advertisers, media agencies, and content publishers and distributors is the ability to deliver content and advertising to consumers on any screen.

Efficiency

Advertisers want their ads watched by a receptive audience in order to drive results in their businesses. Companies that offer greater efficiency in advertising allow their ad customers to simultaneously stretch their budgets and achieve improved results in reaching the right audience.

Intelligence

Efficient advertising requires a data-driven approach, with robust analytics as well as quality decisioning and delivery tools. Rich analytics can also help advertisers better understand their target audience and anticipate the need for change, adapting their ad spending and strategies in concert with their target market.

Engagement

Engaging consumers has moved from novelty to expectation. Consumers increasingly expect ads to have a measure of interaction, allowing viewers to seek additional information or to receive a new element of entertainment as a reward for watching ads. In this sense, advertisements are doing much more that capturing attention or building awareness. They are building a link between the user and the advertised brands.

Quality at scale

Consumers also expect reliability in their video services. With several video options available, consumers will have little forgiveness for bad service experiences. **Day-to-day quality is critically important**, but maintaining quality during highly popular events can define the perception of a service. Importantly, the most popular events are also the greatest opportunity for ad revenues, with ads delivered to a huge audience. Video services do not want their best opportunities for advertising to be short-circuited by scale-related problems.

As in the gold rushes of the past, fortunes are here to be made, and competitors from a variety of backgrounds are rushing in to stake their claim in this new land of opportunity.

With video consumption figures continuing to rise, ad buyers, sellers, and solution providers are all in a position to benefit. While no one knows exactly how quickly this ad-insertion gold will be realized, all agree that the timing is right to start mining.

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Adobe Primetime

Adobe Primetime is a multiscreen TV platform for live, linear and VOD programming. The solution creates personalized over-the-top (OTT) and TV Everywhere (TVE) experiences on every screen. Adobe Primetime's modular distribution and monetization capabilities include TVSDK for multiscreen playback, DRM, authentication, dynamic ad insertion (DAI) and audience-centric ad decisioning. Customers can deploy Adobe Primetime's modular components in flexible configurations that support a broad range of business models. The results are greater revenue from ad sales and subscriptions, lower operating costs, and loyal, engaged audiences.

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As a director of research at Parks Associates, Brett Sappington leads Parks Associates services research team, including access and entertainment services, digital media, OTT, cloud media, video gaming, and technical support services. Brett is an expert in worldwide television and broadband services. His personal research focuses on the activities and trends among operators and the market forces affecting their businesses.

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