

A background image of a young woman with dark, curly hair, wearing a mustard-colored top, smiling broadly and looking upwards and to the right. The image is overlaid with a semi-transparent blue filter. In the bottom left corner, there are several abstract blue geometric shapes, including squares, rectangles, and a grid pattern.

# UNDERSTANDING OTT HEADER BIDDING

GETTING STARTED

# INTRODUCTION

Consumer video viewing habits are becoming increasingly fragmented. Alongside an influx of new streaming options, time spent with digital video on desktop, mobile and connected devices is growing. The number of cord-cutters and cord-nevers is rising, while linear TV viewership is declining. The Covid-19 pandemic has further accelerated this shift. As a result, marketers need to rethink how to reach their target audiences and diversify their buying tactics, while video publishers and content creators need to find solutions to optimize for yield while retaining the user experience of TV.

Three key trends have impacted how advertisers have adapted and evolved their TV- and video-buying strategies, creating a growing opportunity for streaming content providers.

## 1 CONSUMER SHIFT TO VIDEO STREAMING

There has been a steady shift of consumer media consumption over the past few years towards streaming video. An estimated 64% of US adults have never had cable, have recently cut the cord, or are planning to cut their cable subscriptions.<sup>1</sup> What's more, people are engaging with streaming content across various devices, including mobile phones, tablets and laptops as well as on the living room TV (which is itself more frequently a connected device).

## 2 BRANDS PREFER TO BUY CTV PROGRAMMATICALLY

Programmatic has emerged as a leading transaction method for connected TV (CTV) and over-the-top (OTT) inventory. CTV programmatic video ad spend in the US is expected to exceed \$6.26 billion in 2021 — accounting for 58.9% of US CTV video ad spend.<sup>2</sup> The majority of this will be private marketplace (PMP) and programmatic guaranteed deals, with rates often negotiated upfront.

## 3 THE CORONAVIRUS PANDEMIC WAS AN ACCELERANT

Covid-19 stay-at-home orders and the associated economic downturn have added another layer of complexity to the streaming landscape. CTV viewership continues to rise, driving a steady increase in inventory availability. Meanwhile, despite the fact that many brands have cut ad budgets to weather Covid-19's financial impact, the pandemic has also introduced new groups of buyers to the OTT arena who may previously have been priced out of the market. In fact, 38% of digital marketers say they are investing more in OTT and digital video as a result of the pandemic.<sup>3</sup>

As programmatic OTT opportunities grow, streaming content creators and services will look to optimize yield while preserving a TV-like viewer experience. Programmatic technology is evolving to meet these complex — and seemingly conflicting — needs of publishers, and OTT header bidding is emerging as a viable solution.

In this paper, we'll explore the evolving programmatic OTT landscape and explain the essentials of OTT header bidding in six areas:



**THE GROWING  
OTT OPPORTUNITY**



**THE OTT ADVERTISING  
ECOSYSTEM**



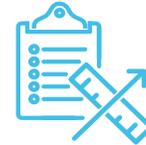
**THE CORONAVIRUS  
IMPACT ON OTT**



**HOW OTT HEADER  
BIDDING WORKS**



**BENEFITS OF OTT  
HEADER BIDDING**



**SOLUTION  
EVALUATION CRITERIA**

# THE GROWING OTT OPPORTUNITY

OTT streaming video has gone mainstream, unlocking tremendous potential for advertisers.

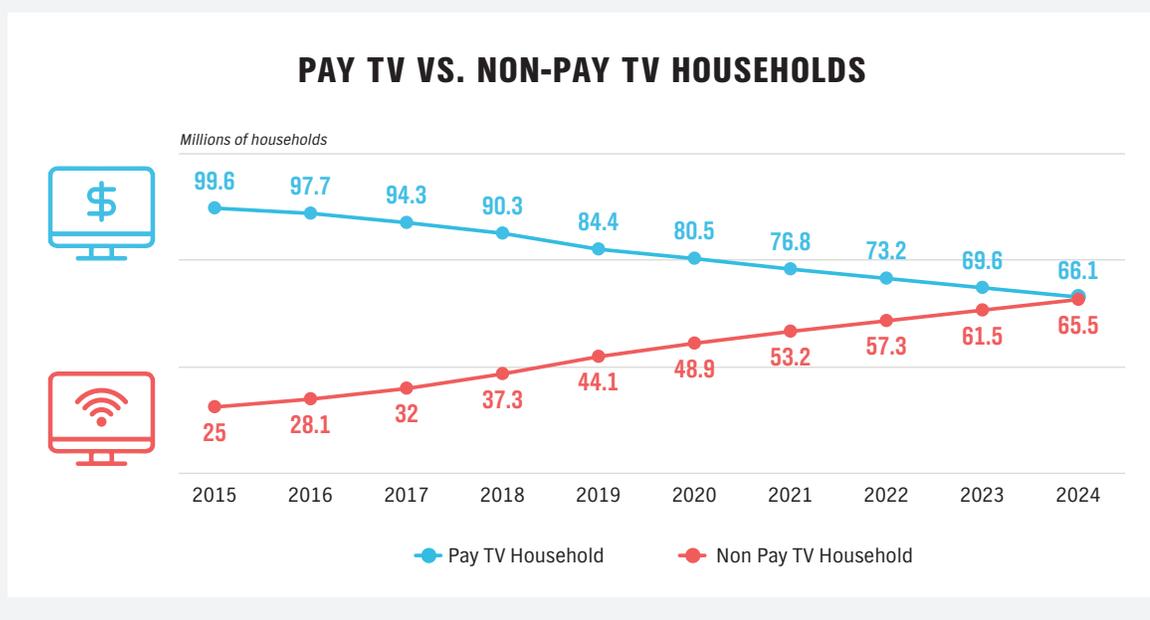
Television advertising has, since its inception, been an extremely effective means of engaging consumers with branded messaging. From its initial form of sponsored programming, to set-top-box targeting, and now to data-driven audience targeting, the addressability of TV advertising has advanced significantly. Over the past five years, OTT streaming video has gone mainstream, with an estimated 1.4 billion viewers subscribing to OTT services worldwide.<sup>4</sup>

Non-pay TV households, comprising both cord-cutters and cord-nevers, are on a trajectory that is expected to reach parity with pay TV households in the next five years (Figure 1).

Given this shift in viewership, OTT streaming video offers advertisers greater reach to engage directly with their target consumers.

OTT streaming programming has extended beyond traditional broadcast sessions, and advertisers can now take advantage of ad pods, interactive ads and less interruptive ad formats. For the first time, the high-impact brand storytelling power of the television screen has been seamlessly integrated with the targeting, analytics and interactivity of digital media. OTT streaming video is a critical part of building brand awareness with new audiences and driving performance with target consumers.

FIGURE 1<sup>5</sup>



# THE OTT ADVERTISING ECOSYSTEM

The nuance and complexity of OTT advertising transactions are a result of a crowded and complex OTT ecosystem.

In the early days of OTT, TV broadcasters and networks owned content and relied on third-party streaming services (i.e. Hulu or Netflix) for distribution. As the market evolved, there was a shift toward a more vertically integrated ecosystem.

Now the largest streaming services are increasingly creating original content, while the largest broadcast networks are building their own distribution platforms and pulling their content from third parties. Further, the business models and distribution channels for these platforms fall into two camps — ad-supported and subscription-based, each of which has its own categories within:

**Advertising-Supported Video on Demand (AVOD):** A streaming video service that offers consumers access to a free catalog of on-demand content that contains advertisements

**Subscription-Based Video on Demand (SVOD):** A streaming service that consumers subscribe to for a fee, to access a catalog of on-demand content

- **Pure SVOD:** The user pays a subscription fee for ad-free, uninterrupted content
- **Hybrid Channels:** Feature ad-supported content at a lower-priced subscription tier

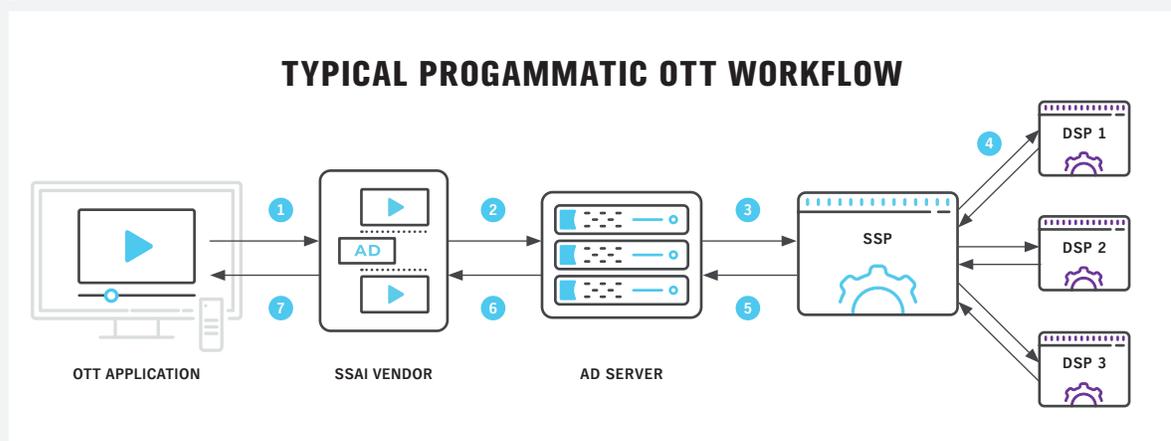
The importance of providing a TV-like viewer experience is an element that is consistent across the entire ecosystem. For ad-supported content providers, this means delivering an ad pod that mirrors a commercial ad break experience in broadcast television. An ad pod can vary in length and be inserted at any point in a content stream — providing publishers the ability to return multiple ad creatives from a single ad request. To achieve this level of seamless execution currently requires the implementation and integration of a complex ad tech stack to support OTT advertising (Figure 2).

FIGURE 2

TECH LAYER	ROLE IN THE TECH STACK
<b>Video Apps &amp; Player</b>	Enables video content to be delivered to a user on a CTV, mobile app or desktop device
<b>Server-Side Ad Insertion (SSAI) Vendor</b>	Combines, or “stitches” together video content and ads into a stream
<b>Content Delivery Network (CDN)</b>	Hosts all of the content “conditioned” creatives (i.e. different versions of a creative for different devices and connections)
<b>Ad Server</b>	Sets demand prioritization and delivers ad creative
<b>SSP or Ad Exchange</b>	Delivers programmatic demand

With programmatic, the different tech layers in an OTT publisher's monetization stack participate in a technical workflow to build each ad pod that plays during the commercial break. While linear TV required a long spreadsheet with break numbers and ad slots mapped to specific campaigns – which were often locked as long as months ahead of time – OTT ad pods are assembled much more efficiently. The video player, app or SSAI vendor calls one or more ad platforms, requesting an ad from each and presenting them to the viewer in succession, hoping that each platform returns unique demand to conform to business rules (Figure 3).

FIGURE 3



1. The CTV app makes a request to the publisher's video ad stack
2. The ad stitcher (SSAI) compiles the content and makes a call to one or more ad platforms, such as an ad server that specializes in video
3. The ad server then calls an SSP
4. The SSP calls multiple DSPs
5. The SSP picks a winner and returns the ad to the ad server
6. The ad server returns the ad back to the ad stitcher or client code
7. When the ad is viewed, an impression pixel fires from either the device client-side or the stitcher server-side

Each commercial break must be “stitched” together with the video content to ensure a seamless user experience. SSAI streaming solutions compile all content and ads into one playlist of small video segments that is optimized to the device and bandwidth to prevent latency, buffering and other user experience challenges. The user's device then shows the video segments sequentially, including ads.

The technological complexity of programmatic OTT transactions has allowed a few niche providers to corner the market in its early years. This led to a gap in how advancements in programmatic capabilities were adapted for the OTT ecosystem, ultimately having an impact on publisher yield and buyer ROI. While OTT can combine the targeting and data-driven auction dynamics of digital with the viewer experience and branding potential of TV, technology innovation has not yet bridged the gaps that remain.

Publishers and OTT content creators have been hesitant to fully embrace the programmatic opportunity out of concerns for both yield as well as viewer experience (Figure 4).

FIGURE 4

## PUBLISHER CHALLENGES

CHALLENGE	DESCRIPTION	IMPACT
 <b>Preserving Inventory Value</b>	<p>The vast majority of programmatic CTV has been transacted via upfront, fixed-rate deals, largely due to value concerns from publishers and quality concerns from buyers.</p>	<p>With upfront commitments shrinking, publishers must offer flexible buying models with market-driven pricing otherwise inventory will go unfilled.</p>
 <b>Delivering Positive Viewer Experience</b>	<p>Complicated OTT technology and workflows can lead to latency and ad load issues, which negatively impact viewer experience.</p>	<p>For many publishers, no ad is better than the wrong ad. The quality of the ad delivery mechanism must match the premium nature of the content viewing experience.</p>
 <b>Ad Pod Complexity</b>	<p>Complex ad pod business rules like repetitive ads, advertiser/category separation and sales channel conflicts limit demand.</p>	<p>It is difficult for publishers to maximize both fill and yield across the entire ad pod.</p>
 <b>Transparency &amp; Control</b>	<p>When auctions do take place for OTT inventory, waterfall setups dominate in the ad server. Ad servers rely on legacy technology that has not been adapted for programmatic innovations in transparency and control.</p>	<p>Sequential bidding is inefficient and leaves money on the table. Additionally, final decisioning in the ad server can lead to blind spots in ad pod assembly.</p>

Challenges faced by publishers are not the only impediment to programmatic adoption in the OTT market. Buyers also face challenges that have prevented them from allocating more TV and digital video ad budgets to programmatic OTT transactions (Figure 5).

FIGURE 5

## BUYER CHALLENGES

CHALLENGE	DESCRIPTION	IMPACT
 <b>Lack of Brand Safe Marketplaces</b>	Approximately 90% of programmatic CTV is transacted via fixed rate deals, largely due to quality concerns. <sup>6</sup>	Dynamic pricing flexibility within brand-safe marketplaces is key to unlocking brand advertiser spend via programmatic OTT channels.
 <b>Limited Access to Programmatic Inventory</b>	Ad server-driven, waterfall-based solutions prioritize ad server demand over programmatic demand.	A waterfall setup prevents advertisers from getting the opportunity to see and bid on relevant programmatic inventory.
 <b>Bid Request Blind Spots</b>	OTT content is often not well described within the bid request, making it difficult to properly value supply. Further, video is often cached minutes to hours ahead of time.	Bid request blind spots can lead to a long delay between winning and serving an actual impression, limiting advertiser insights and intelligence and making it difficult to pace campaigns.
 <b>Ad Pod Blind Spots</b>	Ad pod assembly is currently optimized for each ad slot in the pod, not the pod as a whole, missing the opportunity to optimize for competitive separation, frequency capping and back-to-back ads.	Ad pod blind spots can result in bids seeming haphazardly discarded because of these publisher business rules.
 <b>Delivering Positive Viewer Experience</b>	The stitching of content and ads together in CTV and OTT environments requires additional layers of technology beyond what is required for a TV commercial break.	The technical complexity of the programmatic OTT workflow can result in latency and buffering or no ads loading at all, which severely impacts viewer experience.

Without question, the OTT ecosystem is ripe for innovation. To capture the potential of programmatic, OTT publishers need control over automated solutions that open new demand opportunities, maximize yield and fill for the entire ad pod, solve for pervasive ad pod challenges, and ensure the highest quality viewer experiences. As we will address below, header bidding helps meet those challenges.



# THE CORONAVIRUS IMPACT ON OTT

**While OTT has been largely shielded from the challenges of the pandemic, inventory often remains unfilled.**

The economic climate stemming from the coronavirus pandemic has added another layer of challenges (and opportunities) to the OTT ecosystem. When stay-at-home orders were put in place around the globe, CTV viewership continued to grow, leading to a steady increase in inventory availability. Even as restrictions in some places were relaxed, CTV usage has continued to rise, remaining up over 80% year-over-year by the first week of May.<sup>7</sup>

While many advertisers cut marketing budgets to weather the economic downturn of the pandemic – with budgets down 20% year-over-year on average – investment in CTV/OTT channels is increasing. Though share is shifting spend away from broadcast TV to CTV channels, even the projected 8% increased ad spend for CTV<sup>8</sup> pales in comparison to the viewership (and inventory) increases.

While an increase in supply and decrease in demand should lead to a drop in the cost of advertising, CTV has been largely shielded from price (CPM) deflation due to the prevalence of fixed rate deals. Even as brand budgets return, the upfront buys that have been prevalent in the past are no longer viable – uncertainty around the road to recovery is driving advertisers to choose more flexible buys. Further, the influx of supply without a dynamic means to sell it has resulted in a lot of publisher inventory going unfilled. Both publishers and buyers need responsive tools to react to changes in market conditions and enable buyers' access to excess supply.

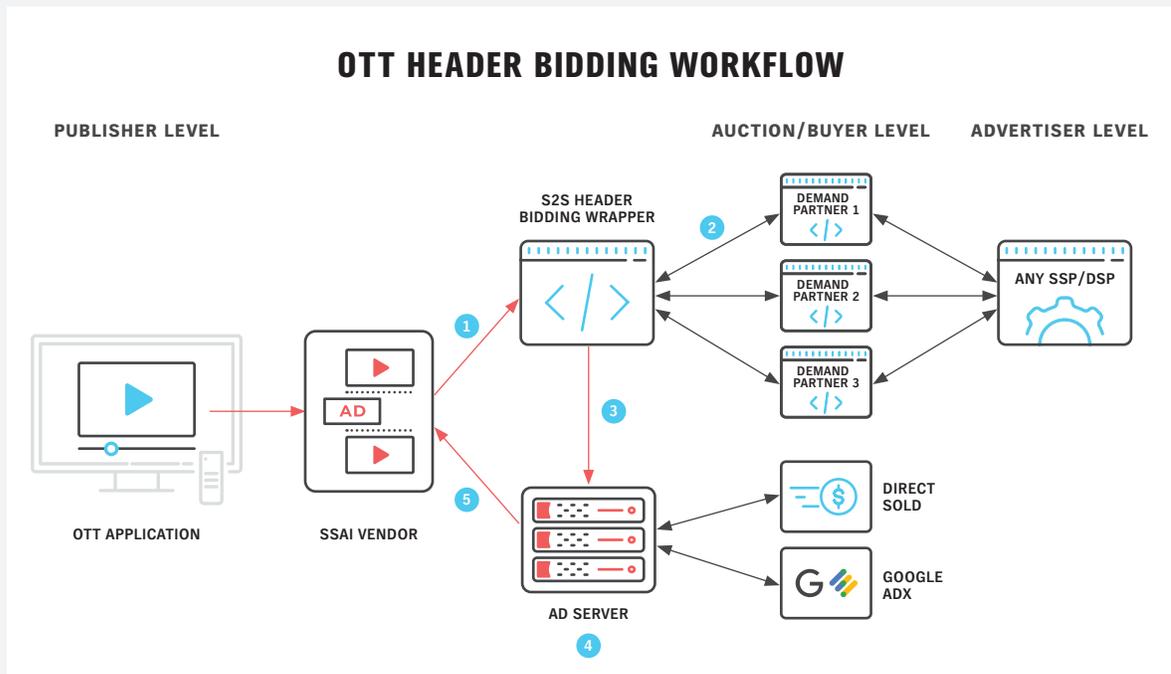
In the current climate, appetites for more flexible buying channels have created an opportunity for innovation and experimentation. This has made header bidding – which brings together all of a publisher's demand across deals, insertion orders, open and closed auctions – much more attractive.

# HOW OTT HEADER BIDDING WORKS

Header bidding technology has adapted to meet the need of the TV-like viewing experience.

Parallel or unified auctions, also commonly referred to as header bidding, is a technological solution that has proved valuable to publishers across display, mobile, video, and now OTT. Header bidding technology emerged from the world of desktop publisher advertising; publishers would add a wrapper to the header section of their website — code that enabled the publisher to send an ad request to multiple demand partners. However, the intricacies of the OTT advertising landscape have added technical complexity when adapting header bidding to OTT environments (Figure 6).

FIGURE 6



1. Publisher sends an ad request directly from the device, browser, video player, or SSAI stitcher to the server-side header bidding wrapper via VAST, RTB, or client-side code (such as an SDK or JavaScript).
2. The header bidding wrapper calls all programmatic demand partners (SSPs, ad exchanges, DSPs) on the server side. The ad call communicates ad specs such as duration and bit rate, any advertiser or category blocks, how many seconds are needed, and how many ads are needed to fill a pod.
3. The wrapper calls to the ad server where direct and programmatic demand compete together.
4. The ad server returns ad or ad pod (depending on what the publisher requested) back to the stitcher or client code.
5. The ad pod is delivered to the viewer.



# THE BENEFITS OF OTT HEADER BIDDING

There is a window of opportunity for early adopters to take market share while improving the viewer experience.

By flattening the waterfall setup, header bidding provides publishers with a number of monetization benefits. First off, OTT publishers who adopt header bidding strategies receive incremental value from increased demand. As brands increasingly funnel spend to programmatic pipes, initiatives like supply path optimization are unlocking high-quality demand potential. Additionally, this demand can scale effectively through server-side bidding, adding incremental revenue and fill on top of current demand while maintaining quality control.

## BENEFITS OF HEADER BIDDING FOR OTT PUBLISHERS AND STREAMING CONTENT CREATORS

### AD POD CONTROL & PERFORMANCE

Business rules can be applied across the entire ad pod to solve for frequency capping, competitive exclusion and back-to-back ads, improving both user experience and advertiser value.

### INCREASED BID DENSITY

Header bidding centralizes direct ad server and programmatic demand, exposing a greater portion of impressions to a buyer, increasing the data that demand side platforms (DSPs) and advertisers can action and bid on. Higher bid density drives CPMs closer to true market value.

### INCREASED FILL RATE

By adding multiple demand partners, publishers increase the chance of having bids for each ad impression opportunity, even as supply continues to grow with increased viewership and some brand budgets remain flat.

### FASTER AD LOADS

Server-side parallel auctions applied within the ad pod reduce latency, timeouts and buffering, providing viewers with faster ad loads and a more positive viewer experience.



Though header bidding technology is most commonly heralded as a publisher technology, the implementations have significant benefits for the buy side as well. Dynamic auctions enable competitive, market-driven pricing and first-look access to both open market and private marketplace inventory.

## BENEFITS OF OTT HEADER BIDDING FOR BUYERS

### **INCREMENTAL INVENTORY REACH**

Server-side bidding flattens the waterfall to increase first-look access and facilitate dynamic auctions against curated and brand-safe private marketplace (PMP) inventory alongside programmatic guaranteed deals.

### **IMPROVED AD VIEWER EXPERIENCE**

Streamlining the path from ad call to ad delivery with a server-side video stack reduces latency, timeouts and buffering, providing viewers with a more TV-like ad viewing experience.

### **DATA-DRIVEN INSIGHTS**

Buyers can gain efficiency from accessing log-level data via header-enabled programmatic auctions, providing not only fee transparency but also the insight necessary to optimize video and CTV investments across the supply chain to improve ROI.

### **AD POD CONTROLS**

When publishers optimize the full ad pod assembly rather than each ad slot individually, the passing of better parameters and metadata allows buyers to better control for frequency capping, competitive exclusion and back-to-back ads – while including business rules such as advertiser and category exclusions.

# PARTNER EVALUATION CRITERIA

It is important to select tech partners that can support your current as well as future needs.

The journey of modernizing your OTT ad stack should be a strategic decision that aligns with your long-term business objectives and keeps the viewer experience at the forefront. In order to find the solution that meets your need and goals, there are a few key areas to consider:



Technology innovation and sustainability



Brand safety and quality controls



Programmatic demand and SPO

## TECHNICAL INNOVATION AND SUSTAINABILITY

Not all header bidding solutions are created equal. The technological complexity of the programmatic OTT marketplace must be merged with a deep-seated understanding of header bidding auction dynamics and optimization. Alongside the long-term viability of the product and business, short-term competitive advantage from programmatic OTT innovation needs also to be considered. Each partner can be weighed across technical capabilities, including:

- Server-to-server header bidding
- Ad pod optimization
- Open source transparency and scalability
- Profitability and stability to support long-term growth

Publishers for whom OTT is a portion of their inventory mix should also evaluate providers based on their OTT header bidding technology as well as their omnichannel capabilities. Implementation, optimization and reporting within a unified platform can address workflow challenges, and maximize yield and demand sources across all digital video channels. Additionally, companies that own and operate their own ad server infrastructure will deliver improved speed, which results in both better viewer experience and higher publisher monetization.

One option to consider: choosing partners to help leverage open source technology. Prebid is the ubiquitous choice for open source header bidding, promoting transparency and fairness, with easily verifiable code, and providing a wide array of partners for publishers. Prebid also offers scalability from a community of developers — including ad tech companies — and can innovate faster than proprietary solutions.

Other solutions are based on proprietary technology, which offers less transparency and control than options in the open source space. Publishers can also be at risk of dependency on proprietary solutions, which can leave them underserved if the ad tech partner shifts business strategy.



Lastly, in an era of rapid and accelerated consolidation, it is imperative that companies be diligent in evaluating the financial stability of their partners. Evaluating technology providers based on financial criteria — such as profitability — can provide confidence that one's adtech partners are sustainable for the long-term.

## **BRAND SAFETY AND QUALITY CONTROLS**

The viewer experience is paramount within CTV and OTT environments. This is particularly important to consider when evaluating programmatic partners for header bidding implementations, which add a new layer of automation to traditional manually transacted processes. However, added efficiency cannot come at the expense of control.

Challenges are added by a lack of standardization within the OTT ecosystem. Linear measurement currencies like GRPs are not nearly as widely available in digital as they are in TV. However, digital advancements in identity resolution — as well as viewability and fraud detection — are inconsistent for CTV. While solutions to these challenges are still being developed by industry bodies and independent providers, it is important to discuss an approach and strategy with any potential vendor in your supply chain.

One option is to consider a balance of private marketplaces, guaranteed deals and curated packages. Flexible strategies allow control over ad quality, inventory quality, deal automation and audience or content-based buying.

## **PROGRAMMATIC DEMAND AND SPO**

Supply path optimization, or SPO, allows buyers to choose the best path towards a desired impression. SPO emerged from the boom in header bidding for desktop and mobile, which expanded the buying paths for any given impression, since publishers were able to collect bids from multiple SSPs in parallel. This resulted in auction duplication for buyers, who are participating in multiple auctions for the same inventory as they send requests across several SSPs.

In order to avoid the risk of being consistently overcharged, buy-side companies have begun to meaningfully assess the relative value of their SSP partners. SSPs are now forced to compete against one another on auction dynamics, transparency and quality to remain a prioritized partner for any given buyer. In a recent report, we found that most US buyers are already implementing SPO: 45% of buyers are actively implementing it and 28% plan to within the next 12 months.<sup>9</sup> In the UK, SPO is also top of mind; 87% of buyers saying they are actively implementing SPO or plan to within the next 12 months.<sup>10</sup>



Buyers across agencies, holding companies, and brands are systematically trimming down the number of supply-side partners they work with and buy through. Audiences for OTT content are global, so it is important that the technology partners selected for OTT monetization have a global footprint that matches a publisher's viewer base, and which can also provide technical support in the markets in which publishers operate. In order to get the best access to global demand, it's important to ensure that your OTT header bidding partners are proving themselves valuable to buyers and winning SPO deals in all markets in which you have traffic to keep bids running through their pipes and toward your inventory.

## YOUR CHEAT SHEET

# EVALUATING OTT HEADER BIDDING SOLUTIONS

Each OTT header bidding partner should be evaluated against a standard set of criteria to ensure you are set up to gain your full monetization potential without risking viewer experience. Below is a cheat sheet of key topics discussed in this paper, and guidance for applying them to your evaluation process.

1	TECHNOLOGY	Questions to Ask
<input type="checkbox"/>	<b>Header Bidding Expertise</b>	How long has your company offered header bidding solutions? How many publishers are using your product?
<input type="checkbox"/>	<b>Integrations</b>	Which video ad server(s) and SSAI vendor(s) does your solution support?
<input type="checkbox"/>	<b>Ad Format Support</b>	Which screens (CTV, mobile/tablet, desktop/laptop) and formats (pre-roll, mid-roll, post-roll, ad pods) does your solution support?
<input type="checkbox"/>	<b>Ad Podding Capabilities</b>	Can your solution manage multiple ad requests from one ad call and support the entire ad pod?
<input type="checkbox"/>	<b>Machine Learning</b>	Does your solution apply machine learning to optimize performance alongside business rules?
<input type="checkbox"/>	<b>Product Roadmap</b>	What level of investment are you making in modernizing and innovating your solution? What is your product roadmap for the next few quarters?
2	TRANSPARENCY	Questions to Ask
<input type="checkbox"/>	<b>Relation To Open Source</b>	Is your company's solution built on Prebid?
<input type="checkbox"/>	<b>Auction-level Insights</b>	What types of auction-level insights do you provide?
3	QUALITY CONTROL	Questions to Ask
<input type="checkbox"/>	<b>Fraud Safeguards</b>	How does your solution combat against fraud and brand safety issues?
<input type="checkbox"/>	<b>Ad Pod Controls</b>	Does your solution enable ad pod controls to solve for frequency capping, competitive exclusion, etc.?

<b>4</b>	<b>OPTIMIZATION &amp; SUPPORT</b>	<i>Questions to Ask</i>
<input type="checkbox"/>	<b>Optimization Tools</b>	What demand optimization tools do you offer?
<input type="checkbox"/>	<b>Analytics</b>	What analytics tools do you offer?
<input type="checkbox"/>	<b>Troubleshooting</b>	What type of troubleshooting support do you offer?
<input type="checkbox"/>	<b>Yield Optimization</b>	Is there regular support post-integration for issues such as yield optimization?
<input type="checkbox"/>	<b>Customer Support</b>	Do you offer dedicated resources to support with implementation and day to day management of your wrapper solution?
<b>5</b>	<b>DEMAND ACCESS</b>	<i>Questions to Ask</i>
<input type="checkbox"/>	<b>Demand Partners</b>	Which DSPs, exchanges, ad servers do you have demand access to?
<input type="checkbox"/>	<b>SPO</b>	What types of SPO deals has your company secured with buyers and agencies?
<input type="checkbox"/>	<b>Flexible Transaction Models</b>	Does your solution support 100% of demand across direct, programmatic guaranteed, private marketplace and open market?
<b>6</b>	<b>COMPANY VALUE &amp; STABILITY</b>	<i>Questions to Ask</i>
<input type="checkbox"/>	<b>Global Footprint</b>	In which geographies do you have scaled demand? Where are client service and technical support teams located?
<input type="checkbox"/>	<b>Financial Health</b>	Is your company profitable?
<input type="checkbox"/>	<b>Investment In Innovation</b>	What level of investment are you making in modernizing and innovating your product suite?

# THE ESSENTIAL OTT GLOSSARY

To truly understand the complicated ecosystem, the first step is to become fluent in the language of OTT.

## **AD POD**

A group of ads expected to play back-to-back in one commercial ad break, similar to how broadcast television works. An ad pod can be of varying lengths and can be inserted at any point in a stream of content (pre-roll, mid-roll, or post-roll). Ad podding provides publishers the ability to return multiple ads from a single ad request. Ad pods can be bound by number of ads or the number of seconds.

## **ADDRESSABLE TV**

Technology that enables audience-based TV ad targeting and delivery using first-, second- or third-party data segments. It includes both linear TV and video-on-demand (VOD), but excludes connected TV, smart TV and over-the-top (OTT).

## **ADVANCED TV**

An umbrella term that refers to television content that evolves beyond traditional linear TV models. Advanced TV targeted enables advertisers to serve one ad to one household as opposed to broadcasting the same ad to all households. It includes addressable TV, over-the-top (OTT) and connected TV (CTV).

## **AVOD (ADVERTISING-BASED VIDEO ON DEMAND)**

A streaming video service that offers consumers access to a free catalog of on-demand content and contains advertisements. Examples include YouTube, Tubi, Crackle.

## **CDN (CONTENT DISTRIBUTION NETWORK)**

A service that hosts online assets and provides content management via servers located around the globe to reduce the latency of downloads to users.

## **CTV (CONNECTED TV)**

A television set that is connected to the internet and can obtain OTT content services. This can be in the form of a Blu-ray player, gaming console, smart TV with built-in internet capabilities or a device such as Roku, Apple TV, Amazon Fire TV and others.

## **DYNAMIC AD INSERTION (DAI)**

A technology that allows advertisers to swap out ad creatives in linear, live or video-on-demand content (sometimes used interchangeably with SSAI). DAI allows advertisers to serve different ads to each viewer based on insights on performance.

### **GRP (GROSS RATING POINT)**

A standard metric used by TV media buyers to measure how many people within a given audience may have seen their ad.

### **LIVE STREAMING**

Digital video that is streamed in real time and watched by many viewers at once. Ads are typically pre-sold. Typical examples include sports, awards shows and news broadcasts.

### **MANIFEST FILES**

A file that is sent to the video player containing information about the video to be played, such as the title, thumbnail, and location of the streaming files. In server-side ad insertion (SSAI) scenarios, the stitcher manipulates the manifest file to combine content and ads for the video player to consume.

### **MVPD (MULTICHANNEL VIDEO PROGRAMMING DISTRIBUTOR)**

A service provider that delivers video programming services, usually for a subscription fee (pay television), often including cable, satellite, and telecommunications service providers. Examples include AT&T DIRECTV, DISH, AT&T U-verse, Comcast Xfinity, Charter Spectrum, FiOS, and Verizon.

### **OTT (OVER-THE-TOP)**

The delivery of video content via the internet or “over the top” of infrastructure providers (that is, without the use of traditional cable or satellite TV service). OTT video refers to the content or service, such as Netflix, Hulu, Amazon Prime, and others. While OTT streaming video content can be seen on any internet-connected screen, the majority – at least in the US – occurs on a connected TV device. In other markets, particularly in the Asia-Pacific region, the majority of OTT viewing occurs on mobile devices. Therefore, it is important to differentiate between the two terms.

### **SSAI (SERVER-SIDE AD INSERTION)**

An important OTT technology to understand. SSAI, often referred to as “ad stitching,” is the process of stitching video content and ads together on the server-side level rather than on the browser level. SSAI creates smoother ad experiences for viewers and mitigates ad blocking for publishers.

### **STREAMING**

Refers to providing video to a user in real time as it is being consumed (as opposed to a video download, which must be completed before being consumed). OTT streaming video content publishers, often referred to as streaming services, compress extremely large video content files and then “stream” small packets of that information over the internet to the user, who then can access the content on their connected device as it is received.

### **SVOD (SUBSCRIPTION VIDEO ON DEMAND)**

A streaming service that consumers subscribe to for a fee, to access a catalog of on-demand content. Most SVOD business models are ad-free; the user pays a subscription fee for access to uninterrupted content. Examples of pure SVOD include Netflix, Amazon Prime, Disney+, HBO MAX, and AppleTV+. Some SVOD providers offer a hybrid model which features ad-supported content at a lower-priced subscription tier. Users are still required to login and pay a monthly subscription fee, which is why we categorize hybrids under SVOD. Hybrid SVOD examples include Hulu, Peacock, ESPN+, and Quibi.

### **TVOD (TRANSACTION-BASED VIDEO ON DEMAND)**

A distribution method by which customers pay for each piece of video-on-demand content. For example, a customer would pay a fee for each movie or TV show that they watch. Examples include iTunes and Vudu.

### **TV EVERYWHERE**

An online business model in which television broadcasters, particularly cable networks, allow their customers to access live and/or on-demand video content from their networks through Internet-based services.

### **VAST (VIDEO AD SERVING TEMPLATE)**

A script that gives video players information about which ad to play, how the ad should show up, how long it should last, and whether users are able to skip it. Publishers may call "VAST tags" to request video ads from an ad server or SSP.

### **VIDEO ON DEMAND (VOD)**

Pre-recorded digital video assets that are available for streaming (as opposed to live streaming video). VOD is controlled, enabled and consumed after its official release or original air date and time, and can be found on set top boxes, OTT content services, mobile web, mobile apps, and video streaming services.

### **vMVPD (VIRTUAL MULTICHANNEL VIDEO PROGRAMMING DISTRIBUTOR)**

A digital-only cable alternative which provides access to on-demand and live content delivered over the internet without traditional network infrastructure. Also known as linear OTT. Examples include DIRECTV Now, Sling TV, Hulu Live, YouTube Live, and PlutoTV.

- <sup>1</sup> "The Time Is Now For Connected TV," The Trade Desk, June 2020
- <sup>2</sup> "Connected TV Programmatic Video Ad Spend," eMarketer, June 2020
- <sup>3</sup> "2020 Industry Outlook: How COVID-19 Reset Digital Marketing," AdExchanger, June 2020
- <sup>4</sup> "Subscription OTT Video Viewers," eMarketer, Feb 2020
- <sup>5</sup> "Non-Pay TV Households," eMarketer, Feb 2020
- <sup>6</sup> "Adapting to COVID-19: Programmatic Marketplaces," Mark Oster, Omnicom Media Group, April 2020
- <sup>7</sup> "Connected TV Usage Remains Above Pre-Covid-19 Levels as Traditional TV Viewing Normalizes," Nielsen, June 2020
- <sup>8</sup> "IAB U.S. 2002 Digital Video Advertising Spend Report: Putting Covid in Context," IAB, June 2020
- <sup>9</sup> "The State of Supply Path Optimization, Progress and Impact in the US " Digiday + PubMatic, November 2019
- <sup>10</sup> "The State of Supply Path Optimisation, Progress and Impact in the UK," Digiday + PubMatic, November 2019

## About PubMatic

PubMatic delivers superior revenue to publishers by being the sell-side platform of choice for agencies and advertisers. The PubMatic platform empowers independent app developers and publishers to maximize their digital advertising monetization while enabling advertisers to increase ROI by reaching and engaging their target audiences in brand-safe, premium environments across ad formats and devices. Since 2006, PubMatic has created an efficient, global infrastructure and remains at the forefront of programmatic innovation. Headquartered in Redwood City, California, PubMatic operates 14 offices and nine data centers worldwide.

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