The State Of The Open Internet

A data-driven perspective on the forces that will shape the ad-supported open internet in 2023

JOUNCE MEDIA

About this research

Jounce Media is the industry leader in programmatic supply chain management and is trusted by the world's largest marketers, media companies, and advertising technology platforms to enable high efficiency programmatic trades.

Powered by a combination of public ad tech disclosures and private data sharing agreements, we maintain the industry’s most comprehensive data set that tracks supply and demand across all RTB-traded websites, mobile apps, and CTV apps.

This annual report provides our data-driven perspective on how marketers will deploy paid media investments in 2023 and the market forces that are driving share shift among open internet media companies and advertising technology providers.

Summary Findings

2023 open internet outlook

The past five years have been very good to the walled gardens and have been far more challenging for the open internet. There are three market forces that explain the challenged economics of the open internet for media companies and advertising technology platforms:

- Demand Concentration
  Marketers rationally consolidate their investments with a small number of ad buying systems to capture the benefits of orchestrated media buying, streamlined campaign workflow, and preferred rates. In 2023, more than 60% of open internet ad spend will be controlled by just three companies – Google, Amazon, and The Trade Desk – making these companies powerful aggregators of demand.
- Bidstream Bloat
  But the sell side of the open internet rationally resists consolidation. Deeply dysfunctional industry dynamics drive almost every open internet media company to forge non-exclusive partnerships with many monetization platforms, degrading the unit economics of programmatic advertising and slowing the growth of SSP market leaders.
- Bidstream Blindspots
  The sprawling nature of today's programmatic supply chain is structurally at odds with signal fidelity. During the same time period when the volume of programmatic auctions has ballooned, the utility of each auction has declined due to growing audience and content blindspots.

Open internet media companies and their ad tech partners have a short term financial requirement to contribute to bidstream bloat and a long term financial requirement to migrate to two-sided marketplaces that unlock privileged data access.

Demand Concentration

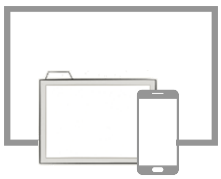
Consolidation is the natural direction of change on the buy-side of the open internet. Marketers rationally concentrate their investments with a small number of ad buying systems to capture the benefits of orchestrated media buying, streamlined campaign workflow, and preferred rates.

In 2023, more than 60% of open internet ad spend will be controlled by just three companies – Google, Amazon, and The Trade Desk – making these companies powerful aggregators of demand.

Demand Concentration

Buy-side market consolidation

We track five categories of paid media:



Digital

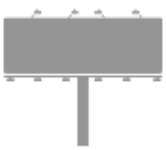
All internet-delivered advertising across websites, mobile apps, and connected TV apps

TV

Broadcast TV advertising

Print

Newspaper and magazine placements



Out Of Home

Outdoor signage, inclusive of both static posters and digital billboards

Radio

Terrestrial and satellite radio

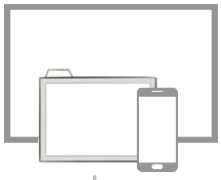
This list notably excludes trade spend, influencer marketing, and experiential marketing. We have anecdotal information that suggests these are large pools of investment, and we additionally believe these budgets are both contributing to and pulling from the marketing categories that we do track.

As one example, a significant driver of Amazon's advertising growth is reallocation of trade spend from in-store promotions (e.g., retail aisle endcaps) to digital promotions (e.g., Amazon.com sponsored listings).

Demand Concentration

Buy-side market consolidation

Within digital advertising, there are four sub-sectors:



Search	Paid placement in search engine results pages
Walled Gardens	Auction-based ad environments that require marketers to use bidding systems operated by the media company
Open Programmatic	Auction-based ad environments that allow marketers to use third party bidding systems (DSPs and ad networks)
Reservations	Hand-sold campaigns that are executed at pre-negotiated fixed prices with no dependence on auction-based bidding

What is display advertising?

We call all non-search digital advertising (walled gardens + open programmatic + reservations) “display” advertising. Display is broader than banner ads. It includes banner, video, audio, and native formats delivered in web browsers, mobile apps, and connected TV apps.

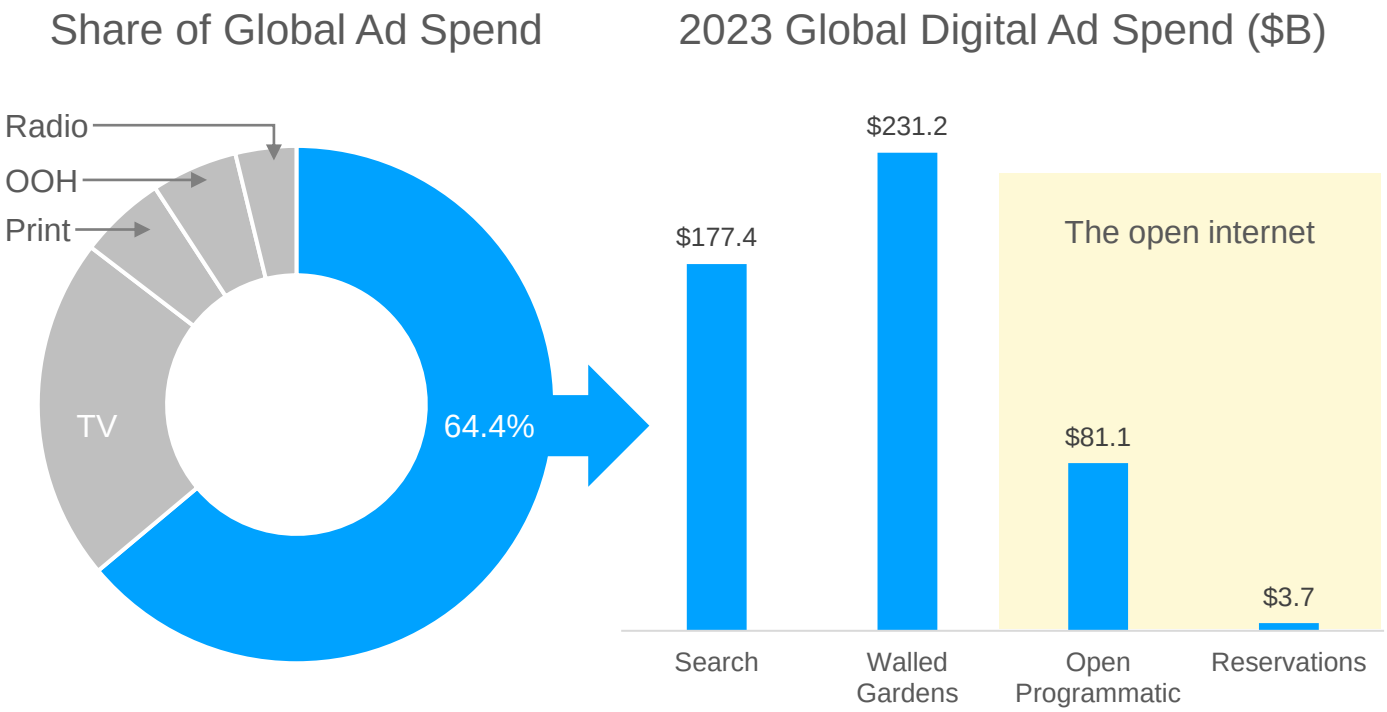
What is the open internet?

The open internet includes all display advertising, excluding walled gardens. The open internet represents the addressable market for DSPs, SSPs, and ad networks.

Demand Concentration

Buy-side market consolidation

Each year, we cross-reference industry ad spend forecasts with a bottom-up build of the known size of the largest media companies. We then project growth rates for the year ahead:



In 2023, we project that the open internet will be an $85B category that spans web, mobile app, and connected TV inventory. After years of stagnation, the open internet returned to growth in 2021 and 2022. This growth lags the growth of walled gardens but reflects a post-COVID rebalancing of advertising investments toward digital channels. We expect the open internet will continue to grow in 2023, though at a slower pace than walled gardens.

A complete breakdown of 2017-2023 global ad spend figures for each media sub-sector is available in the appendix of this report.

Demand Concentration

Buy-side market consolidation

There are nine walled gardens that each capture at least $1B of annual ad spend with no dependence on third party demand from DSPs or ad networks.

Media Company	Walled Garden Inventory	Forecasted 2023 Ad Spend
Meta	Facebook, Instagram, and other Meta owned-and-operated properties	$121.9B
Google	YouTube, Google Maps, Gmail, and other Google owned-and-operated properties (excluding Google Search)	$33.9B
amazon	Amazon website, app, and select Amazon Fire TV inventory	$36.7B
TikTok	TikTok mobile app	$15.2B
LinkedIn	LinkedIn website and app	$5.3B
Snap Inc.	Snapchat mobile app	$5.1B
Walmart	Walmart website and app	$3.5B
Pinterest	Pinterest website and app	$3.0B
twitter	Twitter website and app	$1.6B

Demand Concentration

Buy-side market consolidation

Marketers that want to advertise on YouTube or Instagram or any of the other O&O properties listed on the prior page need to transact directly with the media company and use ad buying tools that are controlled by the media company. Transacting in seller-controlled environment is strategically unattractive to media buyers, but the most scaled media companies have leverage to dictate these requirements to marketers.

Additionally, highly specialized media properties – even at modest scale – also have leverage to operate as walled gardens. In the last 24 months, at least a dozen new commerce businesses launched advertising products with a walled garden model:

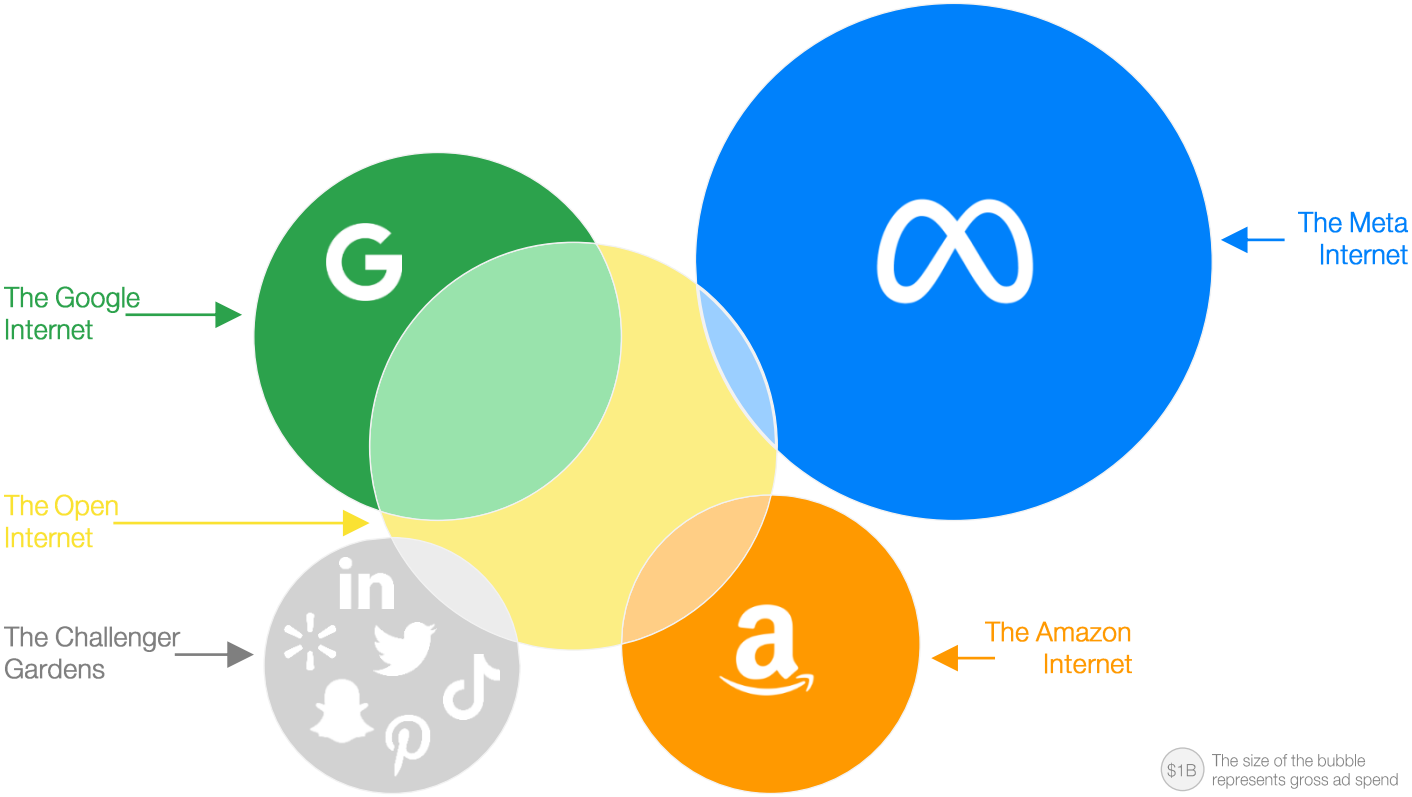
Netflix of course also launched a walled garden in 2022, requiring marketers to transact via a Netflix-controlled ad system powered by Microsoft's Xandr operating unit. And at least five legacy open internet media businesses have cut ties with third party demand and now operate as sub-scale walled gardens:

In spite of these notable case studies, 2022 reaffirmed our view that the bar for establishing a new walled garden is extraordinarily high. As investor priorities rapidly shift from long-term growth to near term profitability, digital media businesses are finding they simply cannot operate without access to third party demand. Roku and Pinterest signaled a growing appetite to integrate with DSPs and ad networks. Gap shuttered its walled garden aspirations. And both Target and eBay remain commerce media leaders that appear to be committed to open internet monetization strategies.

Demand Concentration

Buy-side market consolidation

And so the overwhelming majority of media companies will continue to participate in the open internet for the foreseeable future, tapping into third party advertising platforms that that aggregate tens of billions of dollars of demand. Forging business partnerships with demand aggregators is a financial requirement for nearly every ad-supported digital media company. And because the platforms that are best at aggregating demand are the walled gardens, the open internet is highly interconnected with all of the major walled gardens:

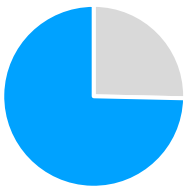


Walled gardens are not sellers on the open internet, but they are the largest buyers. More than half of the $85B that advertisers will deploy to the open internet in 2023 will be powered by walled garden buying systems.

Demand Concentration

Buy-side market consolidation

Google, Amazon, LinkedIn, and Meta all have $1B+ off-property advertising businesses that point their proprietary demand at open internet websites and apps:

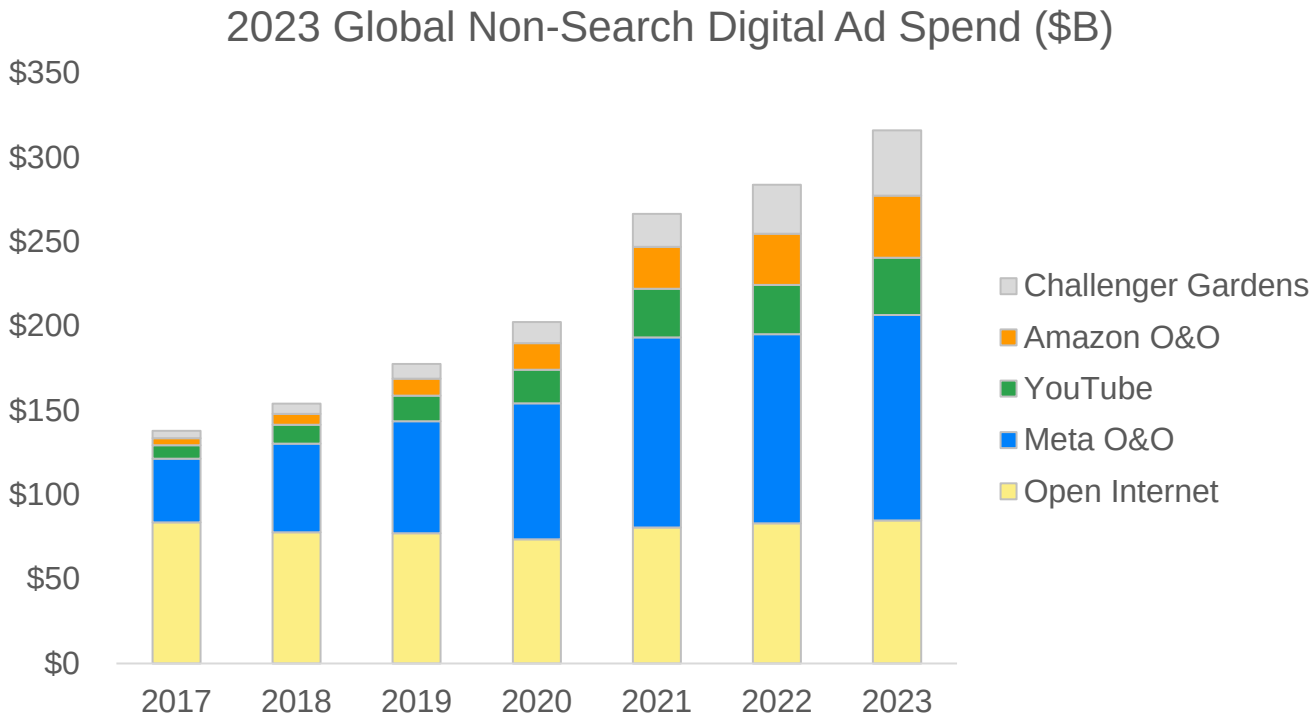
Walled Garden	Projected 2023 Managed Display Spend	Open Internet As A Share Of Display Spend
Google	$68.7B total $33.9B O&O $34.8B open internet	 51% open internet
amazon	$45.7B total $36.7B O&O $9.1B open internet	 20% open internet
LinkedIn	$7.0B total $5.3B O&O $1.8B open internet	 25% open internet
Meta	$123.6B total $121.9B O&O $1.7B open internet	 1% open internet

Walmart, Twitter, and many other challenger walled gardens also power off-site advertising businesses that we estimate contribute another $2-3B of annual open internet demand.

Demand Concentration

Buy-side market consolidation

The ability for walled gardens to fund the open internet is the result of a dramatic concentration of digital media budgets over the past five years. Non-search digital advertising has seen net inflows of more than $178B since 2017, and the walled gardens have captured 99% of this growth. During this period, the open internet has stagnated at $75-85B per year.



Demand concentration is the natural direction of change for digital ad buying. Brands and agencies rationally look for opportunities to reallocate investments toward their top-performing media partners – simplifying campaign workflow and reporting, reducing creative production overhead, leveraging proven targeting strategies, and unlocking preferred rates.

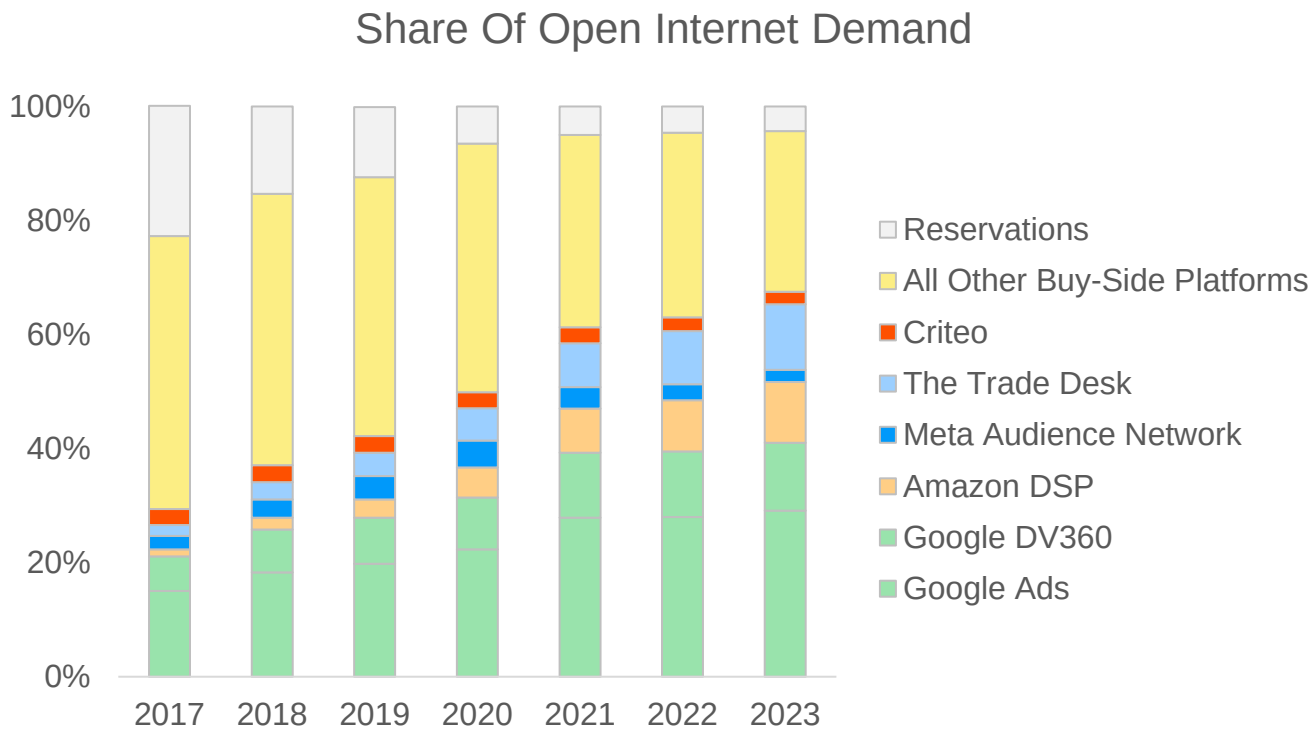
And so as marketers increased their investments with walled garden O&O inventory, these marketers also chose to utilize the off-property advertising products from these companies.

Demand Concentration

Buy-side market consolidation

The trend toward demand concentration also applies to independent (i.e., non-walled garden) DSPs and ad networks. Most notably, The Trade Desk's business will approach $10B of gross ad spend in 2023, creating structural advantages that sub-scale peers cannot replicate. Buyers who choose to partner with independent advertising technology companies rationally shift investments to scaled platforms like TTD that can justify fixed product and technology investments.

The result is a rapid concentration of demand sources for open internet media companies:

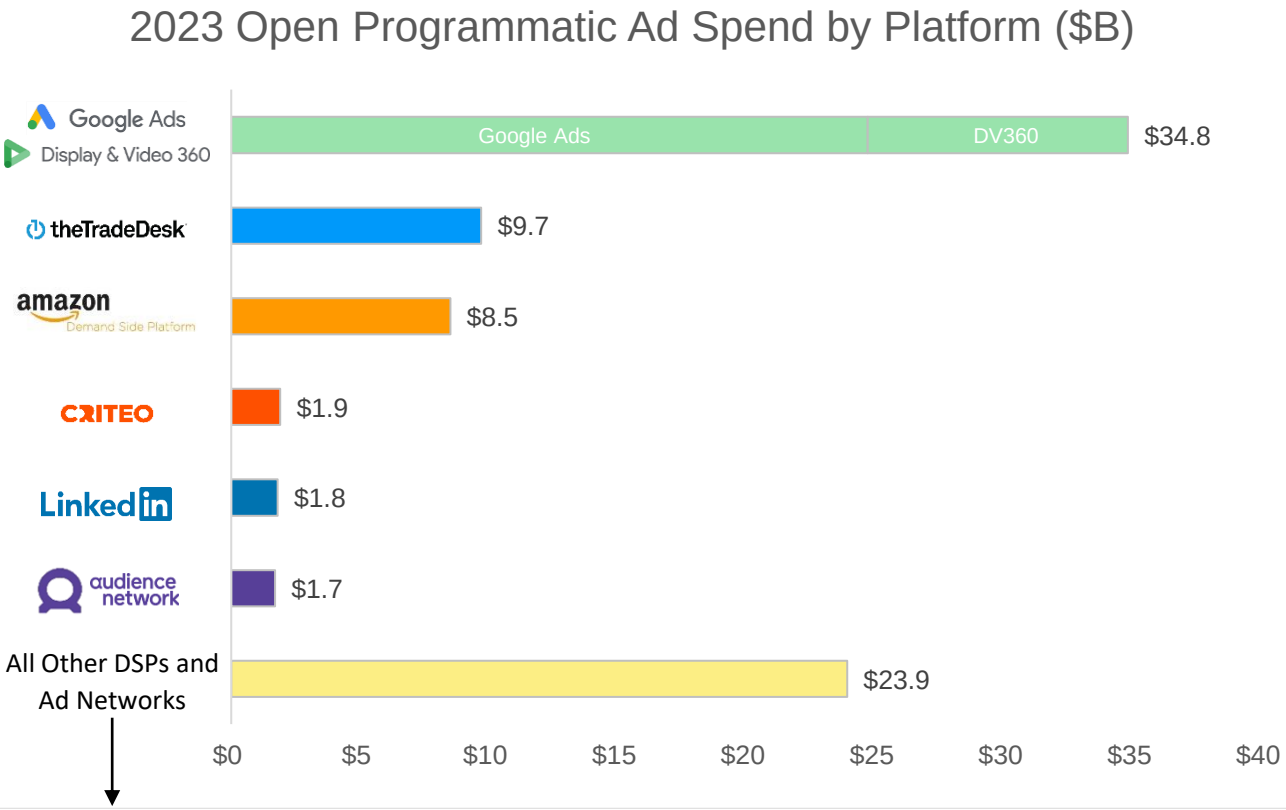


Keep in mind that the open internet is a low growth category, making the growth of today's leaders (walled gardens and TTD) the result of declining sub-scale buying platforms (yellow region above) and hand-sold reservations (gray region above).

Demand Concentration

Buy-side market consolidation

We track 33 independent DSPs and ad networks that will collectively bring $23.9B of demand to the open internet in 2023:



yahoo! · xandr · BEESWAX · OneView · Taboola · outbrain · Teads · adform · APPLOVIN · unity · liftoff · MOLOCO · digital turbine · KAYZEN · smadex · Chartboost · MediaMath · AMOBEE · Adobe · zeta · Quantcast · NextRoll · Basis Technologies · RTB HOUSE · ADELPHIC · liquid · Simpli.fi · mediaforce · storygize · ADTHEORENT · martin · deepintent · StackAdapt

That $23.9B prize will in part fuel continued growth of industry leaders and will in part fuel the emergence of new scaled buy-side businesses. But the direction of change on the buy side of the open internet is clearly and quickly toward consolidation.

Bidstream Bloat

Buyers might execute advertising campaigns through 2 or 3 DSPs, but never through 20 or 30 DSPs, driving rapid consolidation of buy-side advertising technology.

But partnering with 20 or 30 SSPs is the norm for open internet media companies. Deeply dysfunctional market forces drive almost every open internet media company to forge non-exclusive partnerships with many monetization platforms, degrading the unit economics of programmatic advertising and slowing the growth of SSP market leaders.

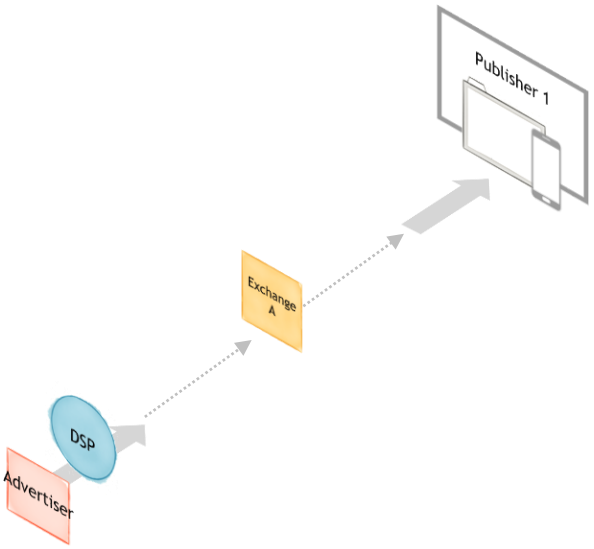
Bidstream Bloat

Ballooning auction volume

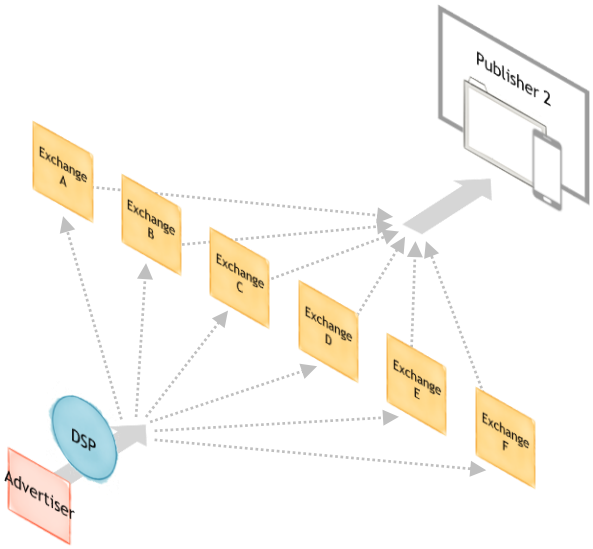
A publisher's success in capturing programmatic demand is overwhelmingly driven by its ability to occupy an outsized share of the bidstream. We call this "volume bias" – the tendency for DSP campaigns to allocate investments in proportion to the number of auctions. If each publisher were only able to initiate a single auction for each available impression, then DSP volume bias would (somewhat reasonably) result in spend allocation that approximately matches the availability of inventory – big publishers would capture a proportionally larger share of demand than small publishers.

But publishers are not limited to initiating a single auction for each available impression. Header bidding and other similar monetization tactics enable publishers to initiate an uncapped number of duplicate auctions. And volume bias rewards publishers for maximizing auction duplication, driving the industry toward an ever-more bloated bidstream that looks less like Publisher 1 and more like Publisher 2:

Publisher 1:
Single Path Supply Chain



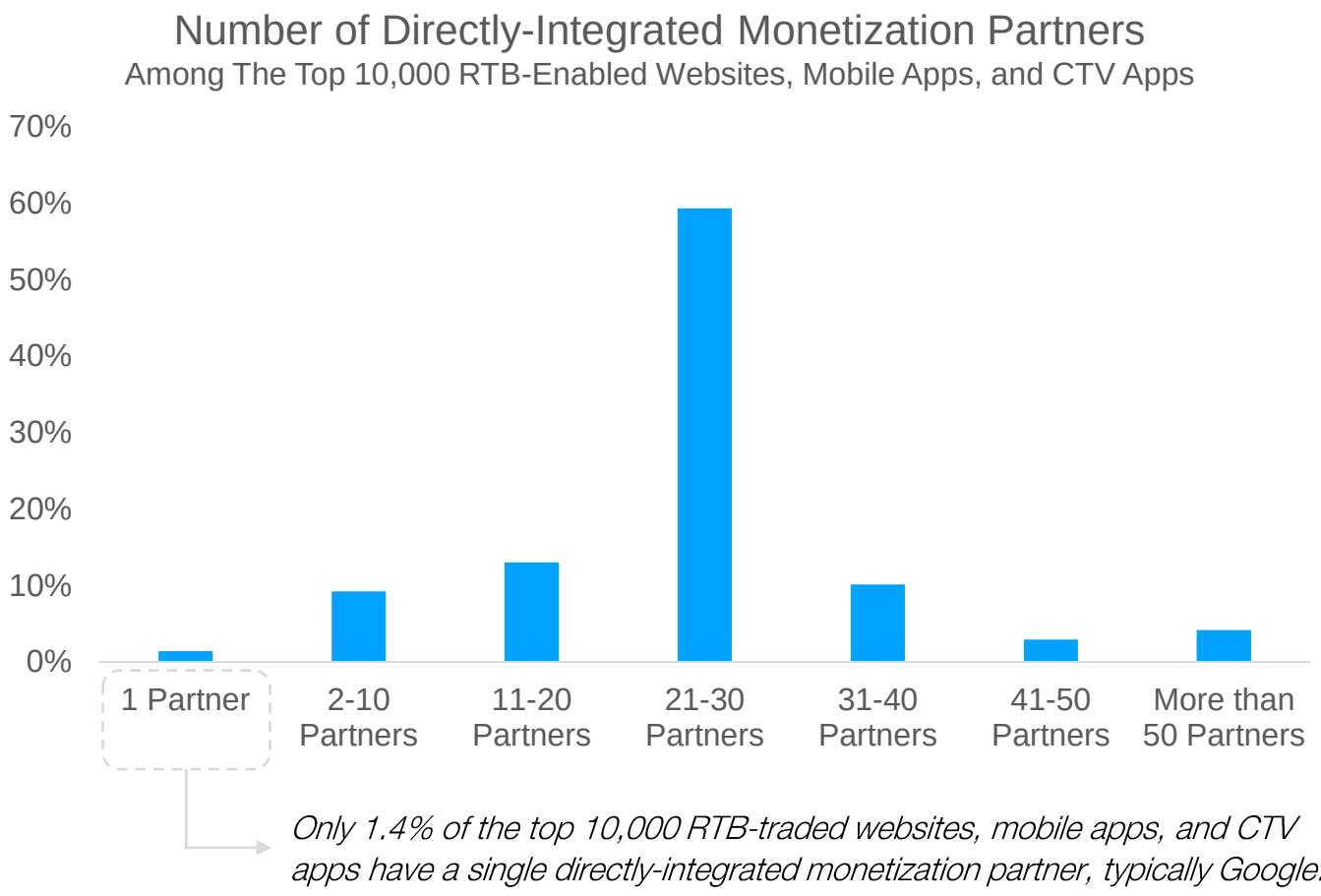
Publisher 2:
Multi-Path Supply Chain



Bidstream Bloat

Ballooning auction volume

Across web, mobile app, and CTV inventory publishers achieve auction duplication by partnering with multiple SSPs. As of early 2023, the average RTB-enabled publisher has direct partnerships with 25.3 monetization platforms:



The 10 most widely-deployed sell-side technology companies – Amazon, Google, Index Exchange, Magnite, OpenX, PubMatic, Sharethrough, TripleLift, Xandr, and Yahoo – each have direct partnerships with more than 80% of publishers. There are an additional 35 sell-side technology companies that partner with at least 10% of publishers. All-in, we track over 500 sell-side technology business – more than 10X the number of buy-side businesses.

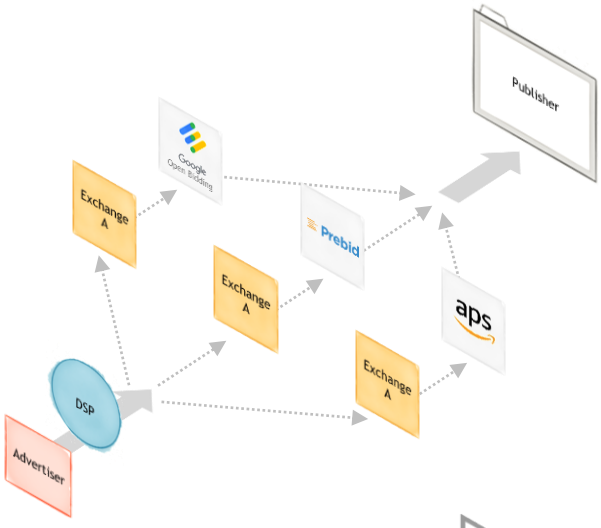
Bidstream Bloat

Ballooning auction volume

In addition to establishing non-exclusive monetization partnerships, publishers further inflate auction duplication in two ways:

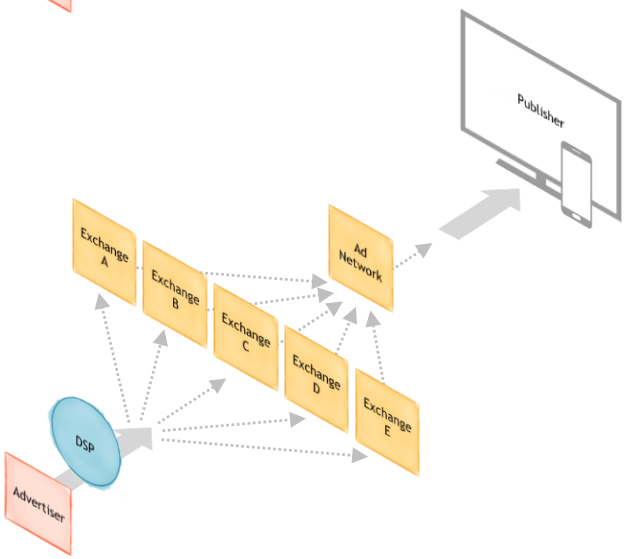
Multi-Integrations

Many publishers, particularly on the web, initiate auctions through each ad exchange via multiple integration points – typically Prebid + Amazon Publisher Services + Google Open Bidding. The result is that DSPs receive three bid requests from each ad exchange for each available impression.



Rebroadcasting

And some publishers, particularly in mobile app and CTV environments, multiply bid requests via reselling. In these arrangements, the publisher partners with an ad network and authorizes that ad network to source DSP demand via reselling ad exchanges. The result is that DSPs receive five or more resold bid requests from each ad network for each available impression.



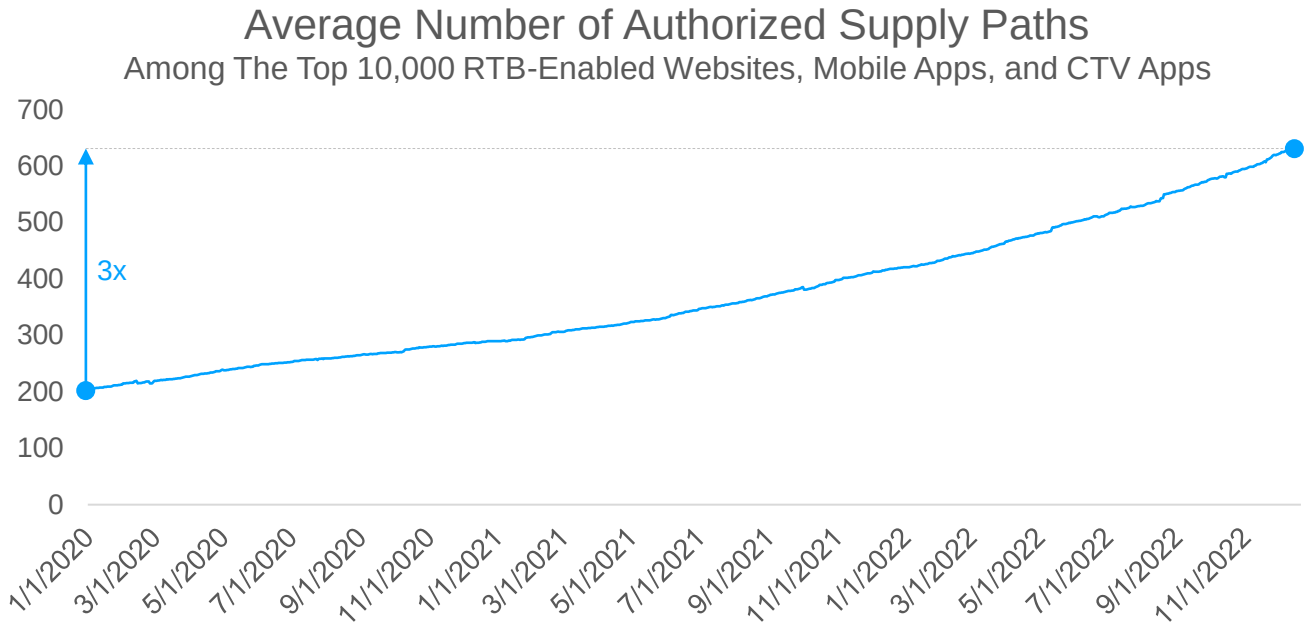
Publishers that engage in these aggressive auction duplication tactics capture an outsize share of DSP demand, and publishers that take a more conservative approach to auction duplication capture less than their fair share of DSP demand. Critically though, these are zero sum tactics that (a) have no effect on the total size of the market and (b) result in a continued escalation of ad tech operating costs.

Bidstream Bloat

Ballooning auction volume

The collectively rational choice for publishers is to monetize through a small number of high efficiency supply chains – partnering with 2-3 scaled SSPs that offer competitive take rates, comprehensive DSP integrations, and robust yield optimization capabilities. That monetization strategy would reduce the fully-loaded cost of the ad tech supply chain, enabling publishers to capture a greater share of marketer gross spend. This strategy would additionally reduce the operating costs of all buy-side advertising technology systems, driving some combination of expanded ad tech operating margins and reduced fees for buyers. And it would drastically curb the energy consumption of programmatic advertising systems, reducing the industry's carbon footprint.

But the individually rational choice for any publisher is exactly the opposite – continually one-upping peer publishers through further auction duplication with the goal of capturing incremental DSP demand. There is no source of truth for the total volume of programmatic auctions, but we can use publisher ads.txt and app-ads.txt files as a proxy for measuring supply chain bloat. And that proxy suggests the volume of programmatic auctions has tripled in the last three years:



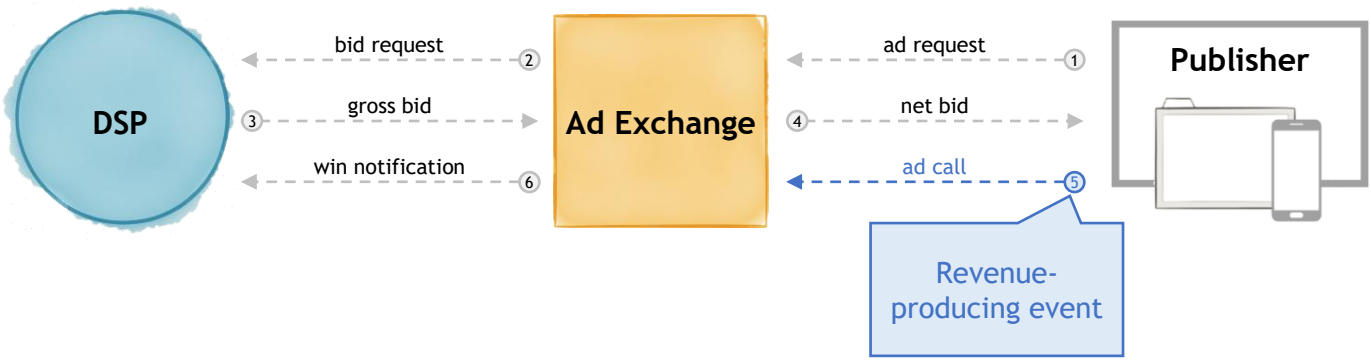
Bidstream Bloat

Ballooning auction volume

At the same time, investor appetite for long term growth has waned, driving ad tech companies to more deeply understand their unit economics and drive toward profitability.

An alarming outcome of this exercise is a growing recognition by ad tech platforms that processing an RTB auction is commonly unprofitable and that unprofitable auctions are becoming more common. Steps 1-4 in the flowchart below create incremental operating costs for the ad exchange and the DSP, but create no cost for the publisher. Publishers capture all of the benefits of auction duplication with none of the costs.

Ad tech companies, on the other hand, carry all of the costs of auction duplication and only generate revenue when step 5 results in a filled impression.

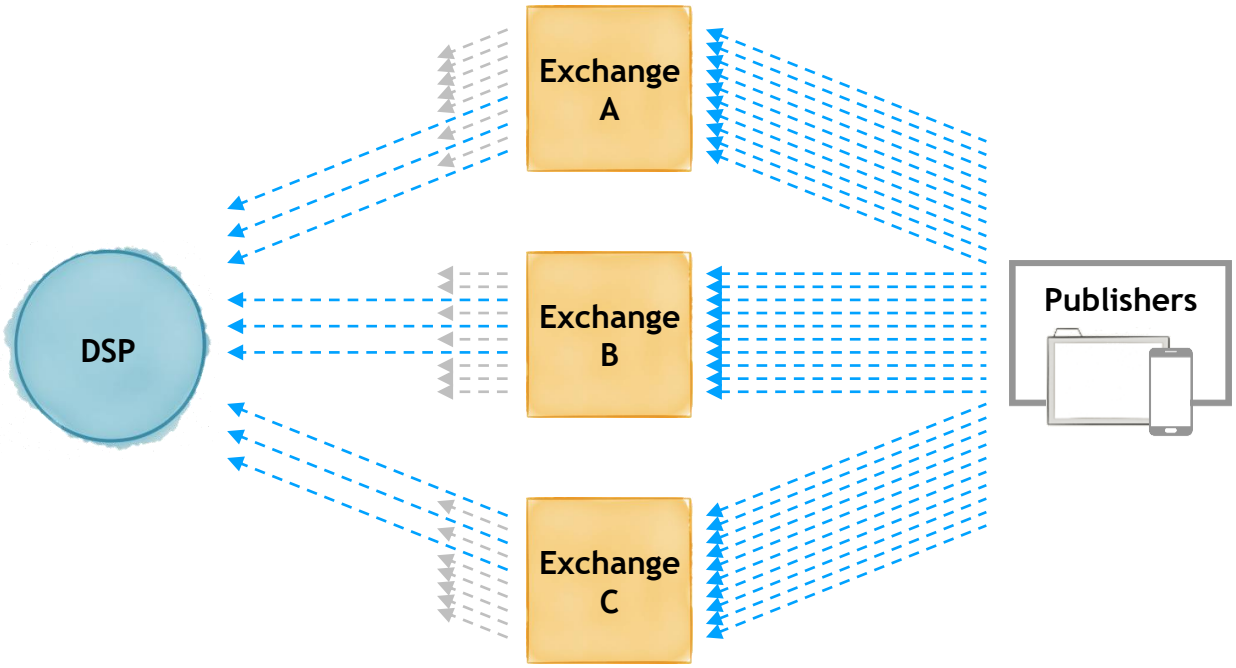


As publishers inflate the number of concurrent auctions for each available impression, the probability that any one of those auctions is revenue-producing for ad tech companies declines – after all, only one of those many duplicate auctions can fill the impression. Faced with chronically unproductive operating costs, nearly every ad tech company now filters the bidstream with the goal of dead-ending auctions that are unlikely to result in filled impressions. Commonly, an auction that is initiated by a publisher (step 1 above) never results in a bid request being issued to the DSP (step 2 above) because the expected cost of processing that auction is less than the expected revenue to the exchange and the DSP.

Bidstream Bloat

Ballooning auction volume

And so publishers are issuing a ballooning number of auctions into an ad tech apparatus that proactively terminates an ever-growing number of those auctions. If we generously assume that scaled DSPs listened to 100% of the bidstream in Q1 2020 and held bidstream capacity constant over the past three years, those DSPs now process only 1 of every 3 bid requests.



Perversely, ad tech company initiatives to filter the bidstream accelerate the requirement for publishers to engage in ever-growing auction duplication. Simply ensuring DSPs are aware of the existence of an available impression requires publishers to initiate multiple auctions through multiple ad exchanges.

We see no reason to believe this feedback cycle will change in the year ahead. Open internet publishers are financially required to operate unwieldy ad tech stacks that degrade the unit economics of programmatic advertising, distort the allocation of DSP spend, and slow the emergence of long term winners in the SSP market. It is an obviously unsustainable market condition, but it is not at all clear when the trend toward bidstream bloat will reverse.

Bidstream Blindspots

The sprawling nature of today's programmatic supply chain is structurally at odds with signal fidelity. During the same time period when the volume of programmatic auctions has ballooned, the utility of each auction has declined due to growing audience and content blindspots.

Open internet media companies and their ad tech partners have a short term financial requirement to contribute to bidstream bloat and a long term financial requirement to migrate to two-sided marketplaces that unlock privileged data access.

Bidstream Blindspots

Signal erosion & recovery

A bid request is a package of information that describes the opportunity for a buyer to participate in a programmatic advertising auction. These requests declare a wide range of information about the ad format, the device type, the user's location, the content on screen, and so on. Buyers (or more accurately their bidding systems) then use this information to determine whether to participate in the auction and how much to bid.

Ad buyers ideally want rich signals about three characteristics of each available impression:

Audience	Content	Placement
⇩ degrading signal quality	⇩ degrading signal quality	⇧ improving signal quality

The ability for buyers to gather information about the ad placement has steadily improved over the last 3-5 years thanks to industry supply chain transparency initiatives, most notably ads.txt and sellers.json. Buyers now have a rich ability to validate the authenticity of available inventory, audit the full chain of payments, and granularly identify the highest value ad placements within any website, mobile app, or CTV app.

But the ability for buyers to make bidding decisions based on audience and content continues to deteriorate based on a combination of privacy regulations, platform policies, and media company business decisions.

Bidstream Blindspots

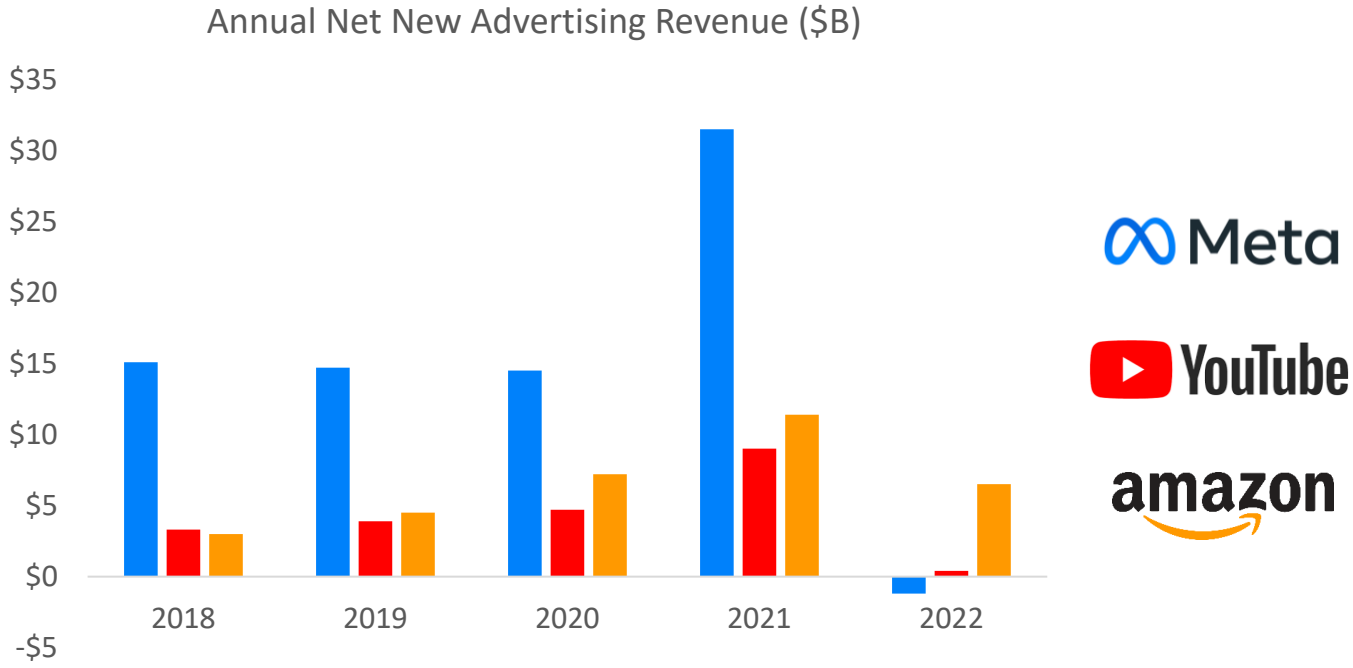
Signal erosion & recovery

Audience Signal Loss

The most important piece of information disclosed in bid requests is a user identifier – some string of characters that uniquely identifies a web browser, a mobile phone, or a connected TV. Buyers then use this ID as a join key to look up characteristics of the user – previous purchases, recent ad exposure, demographics, etc.

But that join key is breaking. Regional legislation (mostly notably GDPR), operating system policies (most notably Apple ATT), and browser policies (most notably Apple ITP) cause many bid requests to redact the declared user ID in the name of protecting consumer privacy.

The full deployment of Apple ATT by late 2021 and the subsequent full-year 2022 financial performance of publicly-traded advertising platforms provides a first view of the economic impact of signal loss. Consider the absolute dollar growth of the internet's three largest display advertising business over the last five years:



Bidstream Blindspots

Signal erosion & recovery

In four of the last five years, these three companies collectively captured at least $20B of net new advertising investments, representing at least 80% (and sometimes more than 100%) of display advertising market growth.

But this trend broke in two important ways in 2022. First, the display market saw its slowest growth in 5 years – $17.2B of net new investments, representing just 6.5% growth. And second, only 33% of that net new display investment was captured by Meta, YouTube, and Amazon. Meta's ad revenue declined. YouTube's grew by 1%. Only Amazon was able to maintain stable inflows of net new investment.

And so yes, the display advertising market decelerated in 2022. But this deceleration was not a uniform pull-back that can be explained by macroeconomic headwinds. Instead, the headline deceleration number is the result of underperformance by a handful of market leaders. Meta and YouTube drastically underperformed and lost share. Snap and Pinterest also lost market share. So did AppLovin and the newly-merged Unity + ironSource business[1]. What these companies have in common is a high dependence on the ability to track users across apps in iOS. Apple's App Tracking Transparency initiative kneecapped that cross-app tracking capability, triggering a multi-billion dollar reallocation of marketer investment toward platforms like Amazon that can engage with users from awareness through the point of sale in a 1st party environment.

Content Signal Loss

The impact of audience signal loss – both the current effects of Apple ATT and the likely forthcoming effects of cookie deprecation in the Chrome browser – is widely understood to be a major threat to the economics of the open internet. In our view, content signal loss has the potential to be equivalently impactful, particularly for the long term viability of programmatically-traded connected TV advertising.

1: Specifically Unity's "Grow" operating unit

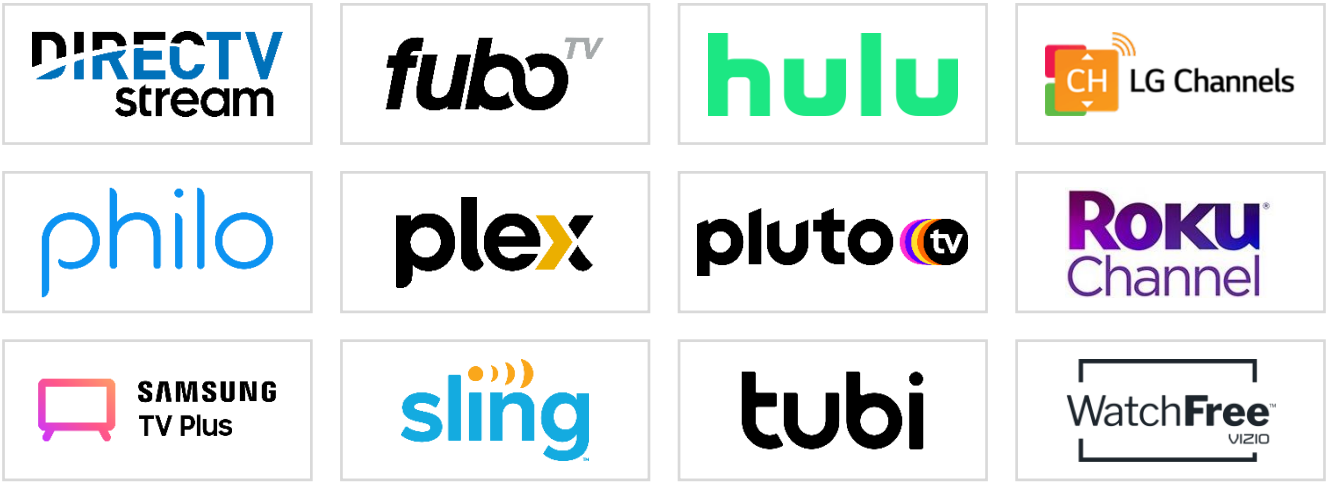
Bidstream Blindspots

Signal erosion & recovery

Programmatic buyers are well positioned to manage content adjacency (both avoiding sensitive content and targeting contextually-relevant content) on the web. Every programmatic bid request for web inventory declares the page URL where the ad will run, allowing bidding systems to recognize and manage content.

Programmatic buyers are also well positioned to manage content adjacency in mobile app environments. Every programmatic bid request for mobile app inventory declares a bundle ID (an alphanumeric string created either by Apple or Google) that uniquely identifies the app where the ad will run.

But in the connected TV environment, content disclosure is largely an unsolved problem because of the multi-channel nature of CTV apps. We estimate that 81% of RTB-traded CTV investments are currently allocated to just 12 apps:



But these 12 apps are collections of very diverse content that ranges from HGTV to Newsmax. Managing content adjacency is deep in the DNA of TV buyers, and it is business-critical for most TV buyers to recognize the difference between an HGTV ad break and a Newsmax ad break. But most CTV bid requests simply declare the app where the ad will run with no information about the content that is currently on screen.

Bidstream Blindspots

Signal erosion & recovery

This CTV content problem is a business issue, not a technical issue, and the business dynamics are moving quickly.

The industry has defined robust standards for disclosing information about connected TV content in programmatic auctions, but adoption is nascent. The overwhelming majority of CTV bid requests – particularly among the most premium media companies – do not provide useful content information to buyers. Auctions operated by Discovery, Disney, Fox, NBCUniversal, Paramount, and many others almost never disclose information about the content on screen. Buyers who want to target or exclude certain types of content must work directly with these media companies to curate inventory and cannot lean on automated bidding systems to make run-time decisions. The role of ad tech for these campaigns is demoted to workflow management with proportionally reduced fees – an attractive structure for incumbent media companies and an untenable structure for ad tech platforms.

But unlike audience signal disclosures, which are the result of policies set by two companies (Apple and Google), content signal disclosures are the result of fragmented business decisions by dozens of media companies. And so as powerful TV incumbents attempt to maintain their grip on advertiser budgets through content signal redaction, challenger CTV media companies are likely to acquiesce to ad tech requests for rich content disclosures with the goal of capturing incremental demand.

Signal Recovery & Publisher Proximity

The question for the open internet is who can create advertising products that deliver the audience signals and content signals that matter to buyers? Which companies look more like Meta and which companies look more like Amazon? What are the advertising products that will be kneecapped by eroding information about audience and content? And what are the advertising products that are positioned to take market share in the face of signal erosion?

Bidstream Blindspots

Signal erosion & recovery

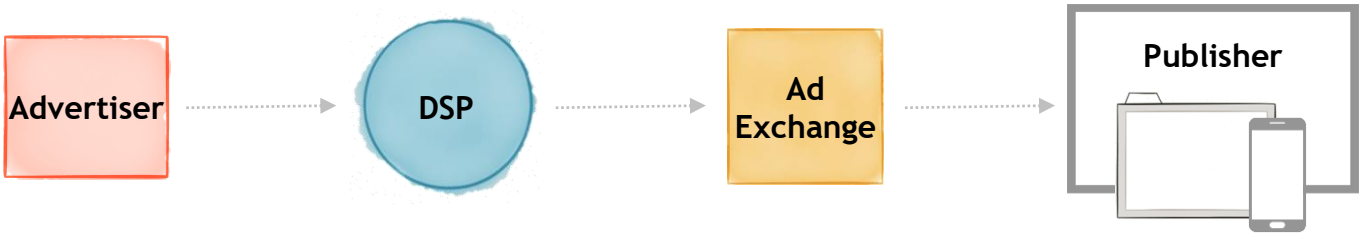
The answer to that question, framed broadly, is “publisher proximity.” Advertising technology needs to be as close to the publisher as possible in order to maintain signal fidelity.

We see three ways in which the programmatic supply chain is evolving to protect against signal loss:

Two-Sided Marketplaces

At a minimum, every ad tech company needs to become a two-sided marketplace. Google and Amazon primarily connect their advertiser demand with publishers via direct connections (Google Ad Manager and Amazon Publisher Services respectively). The Trade Desk is rebalancing investments away from third party exchanges in favor of publisher-direct OpenPath integrations. And Magnite is building buyer-direct relationships with no dependence on DSP integrations via Clearline.

In all cases, the programmatic supply chain compresses from this:



To this:

Bidstream Blindspots

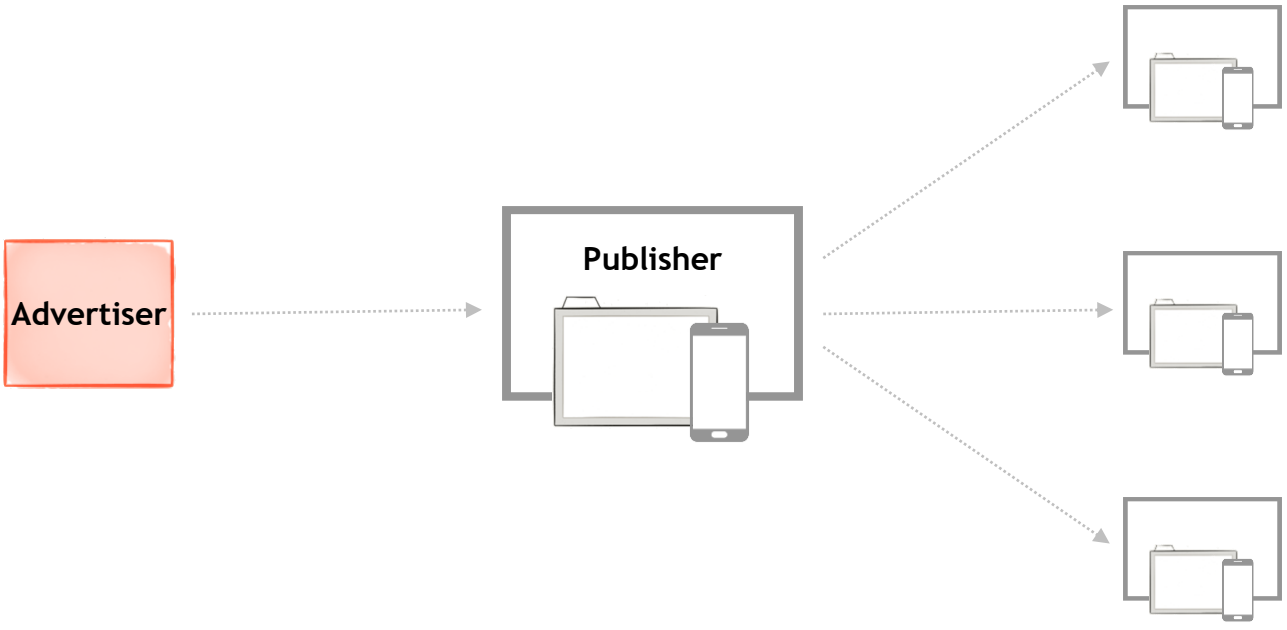
Signal erosion & recovery

Companies that operate two-side marketplaces can expand their margins while reducing the fully loaded cost of the supply chain for buyers and sellers. More critically, 2-sided marketplaces enable publishers to disclose information about audience and content to trusted buyers via a controlled access point that protects against data leakage and channel conflict.

Legacy DSPs and SSPs are moving from partners to competitors. As these companies angle to control the future of the programmatic supply chain, they will disagree on many details, but their actions demonstrate a foundational agreement that a multi-step supply chain is incompatible with the future of the open internet.

Publisher Ad Networks

In every two-sided marketplace, demand will concentrate around the most scaled and most performant pools of supply. Taken to its logical conclusion, powerful publishers can absorb the marketplace, creating a publisher-led ad network.



Bidstream Blindspots

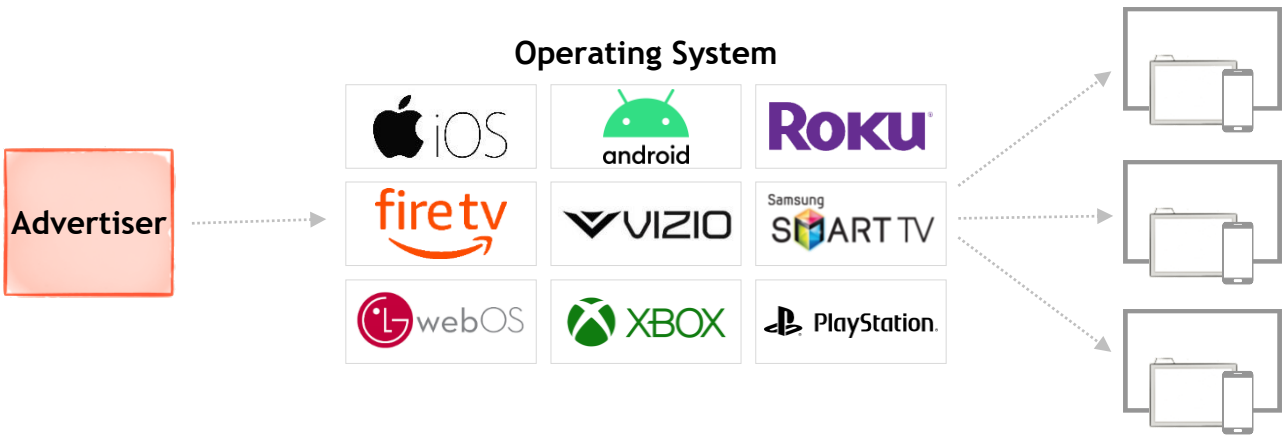
Signal erosion & recovery

Publisher-led ad networks have existed for at least a decade. YouTube is the anchor tenant of Google Ads; Amazon.com is the anchor tenant of Amazon DSP; LinkedIn is the anchor tenant of LinkedIn Audience Network; and Yahoo.com is the anchor tenant of Yahoo DSP. Advertisers come for the O&O and grow into the network.

Signal loss strengthens the value proposition of these businesses and creates opportunities for the emergence of new publisher-led ad networks, particularly in the retail media category. Walmart Connect (powered by The Trade Desk), Target Roundel (powered by Index Exchange), and Kroger 84.51° (powered by multiple ad tech platforms) represent the natural evolution of the way marketers activate signal-rich ad campaigns and the way ad tech companies facilitate those campaigns.

Operating System Ad Platforms

But the award for most privileged data access goes to the operating system. A publisher has a rich view of its audience and its content, but limited visibility of consumer behavior on third party websites and apps. Operating systems, on the other hand, have robust visibility across every consumer touchpoint.



In the connected TV category, Roku, Samsung, Vizio, LG, and Amazon have all launched advertising platforms that give buyers a unique ability to target and measure advertising across multiple consumer touchpoints in multiple apps.

Bidstream Blindspots

Signal erosion & recovery

Apple's ad network taps into the company's unique view of each user's app downloads, content consumption, and device location to deliver personalized advertising in Apple's O&O apps (the iOS app store, Apple News, and Stocks). Apple additionally controls the mechanism by which advertisers evaluate the effectiveness of iOS advertising. It seems inevitable that Apple will expand the scope of its ad platform to third party apps (i.e. the open internet), putting the company in direct competition with mobile ad networks like AppLovin and Unity Grow.

Google's Android is the only scaled operating system that does not leverage its privileged data access to inform ad delivery, and we think Google's prudence points to the only long term headwind for operating system ad platforms. Surely Google is aware of the opportunity to advantage its advertising systems in the way that Apple, Roku, and others are. But regulators would be unlikely to tolerate this degree of self-preferencing from Google.

And so the opportunity for OS ad platforms to take market share from pure play ad tech and publisher-led ad networks is really a question about permissible data use. Will consumers and regulators push back on cross-app tracking? Will content owners and app developers attempt to limit OS-level data extraction? Or will these stakeholders welcome OS ad platforms as a privacy-friendly advertising mechanism that preserves business-critical targeting signals?

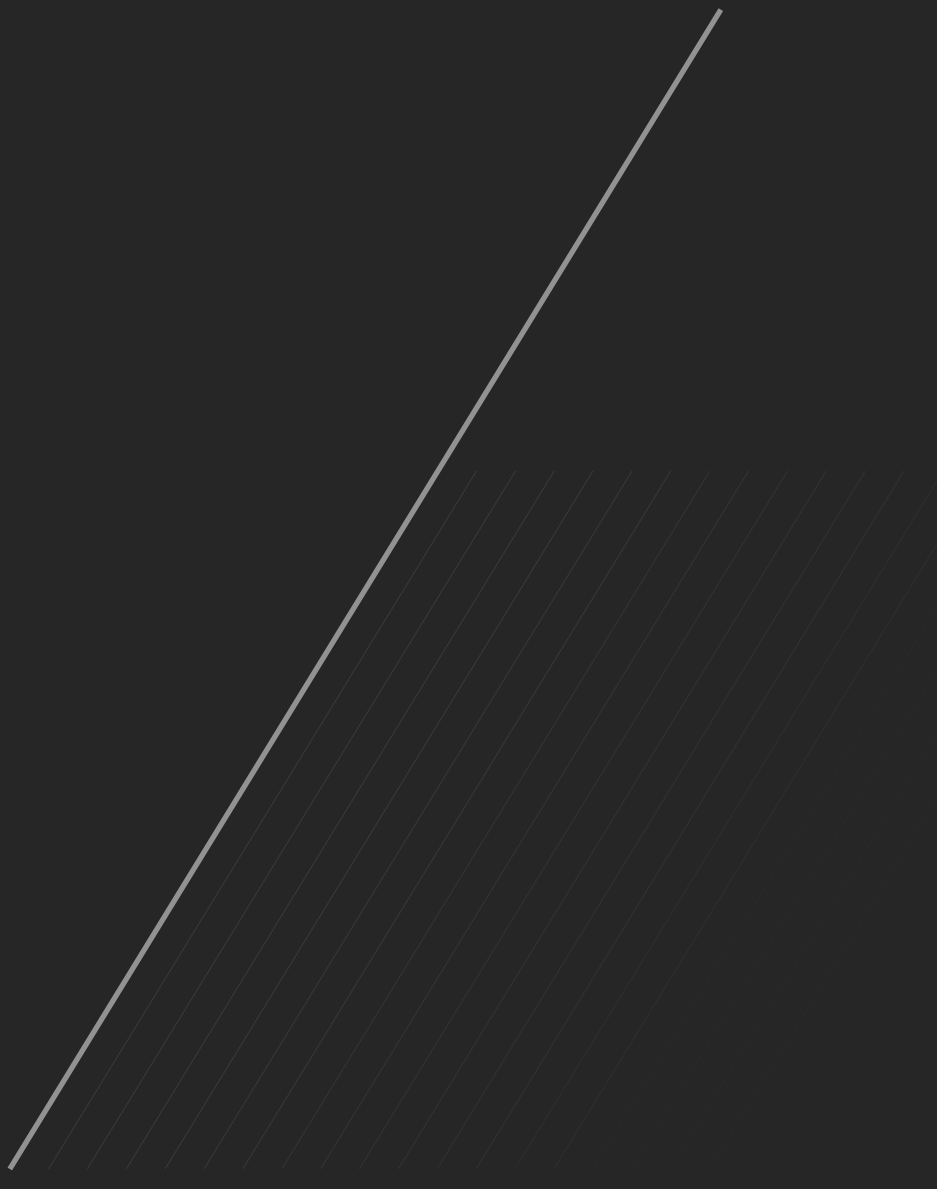
The long term market share of these three business models is unclear. What is clear is that all three models will co-exist and will put mounting pressure on the viability of today's sprawling supply chain. Open internet media companies and their ad tech partners have a short term financial requirement to contribute to bidstream bloat and a long term financial requirement to migrate demand toward two-sided marketplaces, publisher ad networks, and OS advertising platforms that protect against signal loss.

The Open Internet In 2023

To recap our view of the open internet in 2023:

- Open internet demand continues to consolidate with a small number of scaled buy-side advertising technology systems. Google, The Trade Desk, and Amazon will power more than 60% of open internet ad spend in 2023, making these companies powerful aggregators of demand.
- But the sell side of the market remains highly fragmented. Open internet media companies are financially rewarded for building non-exclusive partnerships with sell-side technology companies. The resulting bidstream bloat degrades the unit economics of programmatic advertising, distorts the allocation of DSP spend, and slows the emergence of long term winners in the SSP market.
- The sprawling nature of today's programmatic supply chain is structurally at odds with signal fidelity. Signal loss – both continued erosion of user identifiers and growing awareness among TV buyers about limited content controls – is the trigger for a reset of the programmatic supply chain. Open internet supply and demand is moving toward controlled marketplaces in which buyers have direct access to publisher-provided data.

Appendix: Market Sizing Data



Market Sizing Data

Total Global Paid Media

	Gross Ad Spend ($B)							
	2017	2018	2019	2020	2021	2022	2023	CAGR
Digital	$220.7	$244.0	$281.3	$312.2	$423.9	$455.4	$503.2	14.7%
TV	$178.4	$179.2	$176.2	$162.2	$171.4	$170.8	$169.4	-0.9%
Print	$81.1	$74.0	$67.5	$51.1	$47.6	$44.8	$42.9	-10.1%
OOH	$39.4	$40.9	$42.3	$31.1	$35.8	$39.4	$42.1	1.1%
Radio	$34.4	$34.9	$34.9	$27.0	$28.5	$29.3	$29.6	-2.4%
Total	$554.0	$573.0	$602.2	$583.5	$707.1	$739.7	$787.2	6.0%

	Share Of Total						
	2017	2018	2019	2020	2021	2022	2023
Digital	39.8%	42.6%	46.7%	53.5%	59.9%	61.6%	63.9%
TV	32.2%	31.3%	29.3%	27.8%	24.2%	23.1%	21.5%
Print	14.6%	12.9%	11.2%	8.7%	6.7%	6.1%	5.4%
OOH	7.1%	7.1%	7.0%	5.3%	5.1%	5.3%	5.4%
Radio	6.2%	6.1%	5.8%	4.6%	4.0%	4.0%	3.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Digital Marketing Categories

	Gross Ad Spend ($B)							
	2017	2018	2019	2020	2021	2022	2023	CAGR
Search	$82.8	$92.6	$103.7	$122.5	$152.8	$164.6	$177.4	13.5%
Walled Gardens	$54.4	$76.2	$100.5	$128.8	$185.9	$200.7	$231.2	27.3%
Open Programmatic	$64.5	$65.8	$67.6	$68.7	$76.5	$79.2	$81.1	3.9%
Reservations	$19.0	$11.9	$9.5	$4.8	$4.0	$3.8	$3.7	-24.0%
Total	$220.7	$246.5	$281.3	$324.7	$419.3	$448.4	$493.3	14.3%

	Share Of Total						
	2017	2018	2019	2020	2021	2022	2023
Search	37.5%	37.6%	36.9%	37.7%	36.4%	36.7%	36.0%
Walled Gardens	24.7%	30.9%	35.7%	39.7%	44.3%	44.8%	46.9%
Open Programmatic	29.2%	26.7%	24.0%	21.2%	18.3%	17.7%	16.4%
Reservations	8.6%	4.8%	3.4%	1.5%	1.0%	0.9%	0.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Market Sizing Data

Walled Garden Spending

	Gross Ad Spend ($B)							
	2017	2018	2019	2020	2021	2022	2023	CAGR
Meta	$37.9	$52.5	$66.5	$80.7	$112.6	$112.1	$121.9	21.5%
Google	$7.9	$11.2	$15.1	$19.8	$28.8	$29.2	$33.9	27.5%
Amazon	$4.1	$6.5	$10.1	$15.9	$25.0	$30.3	$36.7	43.9%
TikTok	$0.0	$0.1	$0.2	$1.3	$3.1	$7.6	$15.2	165.9%
Snap	$0.8	$1.2	$1.7	$2.5	$4.1	$4.6	$5.1	35.6%
Twitter	$2.1	$2.6	$3.0	$3.2	$4.4	$3.3	$1.6	-4.1%
LinkedIn	$0.9	$1.2	$1.6	$2.4	$3.6	$4.2	$5.3	34.9%
Pinterest	$0.5	$0.7	$1.1	$1.7	$2.6	$2.8	$3.0	36.4%
Walmart	$0.0	$0.1	$0.4	$0.9	$2.1	$2.7	$3.5	109.9%
Other Commerce Media	$0.1	$0.4	$0.8	$1.7	$2.7	$3.8	$4.9	82.0%
Total	$54.5	$76.3	$100.7	$130.1	$189.0	$200.7	$231.2	27.2%

	Share Of Total						
	2017	2018	2019	2020	2021	2022	2023
Meta	69.6%	68.8%	66.0%	62.1%	59.5%	55.9%	52.7%
Google	14.5%	14.6%	15.0%	15.2%	15.3%	14.6%	14.7%
Amazon	7.6%	8.5%	10.1%	12.2%	13.2%	15.1%	15.9%
TikTok	0.1%	0.1%	0.2%	1.0%	1.7%	3.8%	6.6%
Snap	1.5%	1.5%	1.7%	1.9%	2.2%	2.3%	2.2%
Twitter	3.9%	3.4%	3.0%	2.5%	2.3%	1.6%	0.7%
LinkedIn	1.6%	1.5%	1.6%	1.8%	1.9%	2.1%	2.3%
Pinterest	0.9%	0.9%	1.1%	1.3%	1.4%	1.4%	1.3%
Walmart	0.1%	0.2%	0.4%	0.7%	1.1%	1.3%	1.5%
Other Commerce Media	0.2%	0.5%	0.8%	1.3%	1.4%	1.9%	2.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Market Sizing Data

Open Programmatic Spending By Platform

	Gross Ad Spend ($B)							
	2017	2018	2019	2020	2021	2022	2023	CAGR
Google Ads	$12.5	$14.2	$15.3	$16.4	$22.5	$23.3	$24.7	12.0%
Google DV360	$5.1	$5.8	$6.3	$6.7	$9.2	$9.5	$10.1	12.0%
Meta Aud. Network	$2.0	$2.5	$3.1	$3.4	$3.1	$2.3	$1.7	-2.3%
Amazon DSP	$1.0	$1.6	$2.5	$3.9	$6.2	$7.5	$9.1	43.9%
TTD	$1.6	$2.4	$3.1	$4.2	$6.2	$7.7	$9.7	35.7%
Criteo	$2.3	$2.3	$2.3	$2.1	$2.3	$2.0	$1.9	-3.3%
All Other Buy-Side Platforms	$40.0	$37.0	$35.0	$32.0	$27.1	$26.9	$23.9	-8.2%
Reservations	$19.0	$11.9	$9.5	$4.8	$4.0	$3.8	$3.7	-24.0%
Total	$83.5	$77.7	$77.1	$73.5	$80.6	$83.1	$84.7	0.2%

	Share Of Total						
	2017	2018	2019	2020	2021	2022	2023
Google Ads	15.0%	18.3%	19.8%	22.3%	27.9%	28.0%	29.1%
Google DV360	6.1%	7.5%	8.1%	9.1%	11.4%	11.5%	11.9%
Meta Aud. Network	2.4%	3.2%	4.1%	4.7%	3.8%	2.8%	2.1%
Amazon DSP	1.2%	2.1%	3.2%	5.3%	7.7%	9.0%	10.7%
TTD	1.9%	3.0%	4.1%	5.7%	7.7%	9.3%	11.5%
Criteo	2.8%	3.0%	2.9%	2.8%	2.8%	2.4%	2.2%
All Other Buy-Side Platforms	47.9%	47.6%	45.4%	43.6%	33.7%	32.4%	28.2%
Reservations	22.8%	15.3%	12.3%	6.5%	5.0%	4.6%	4.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

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