The Programmatic Supply Chain

Deconstructing the Anatomy of a Programmatic CPM

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This document has been developed by the IAB Programmatic Fee Transparency Working Group.

About the IAB Programmatic Fee Transparency Working Group

The IAB Programmatic Fee Transparency Working Group is a group of IAB members who worked together to help shed light on the complexity of the many players and technologies in the programmatic ecosystem. The Working Group strives to reinforce the trust and liquidity in the marketplace.

IAB Programmatic Fee Transparency Working Group Roster

Accuen	IDG TechNetwork	The Exchange Lab
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About IAB

The Interactive Advertising Bureau (IAB) empowers the media and marketing industries to thrive in the digital economy. It is comprised of more than 650 leading media and technology companies that are responsible for selling, delivering, and optimizing digital advertising or marketing campaigns. Together, they account for 86 percent of online advertising in the United States. Working with its member companies, IAB develops technical standards and best practices and fields critical research on interactive advertising, while also educating brands, agencies, and the wider business community on the importance of digital marketing. The organization is committed to professional development and elevating the knowledge, skills, expertise, and diversity of the workforce across the industry. Through the work of its public policy office in Washington, D.C., IAB advocates for its members and promotes the value of the interactive advertising industry to legislators and policymakers. Founded in 1996, IAB is headquartered in New York City and has a West Coast office in San Francisco.

IAB Contact Information
Benjamin Dick
Director, Industry Initiatives
Programmatic | Data | Performance
ben@iab.com

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Overview

The diversity of programmatic ad technology services – as well their associated implementation options and cost models - has exploded over the past several years as the industry responds to changing marketplace dynamics. While these third party tools have provided an unprecedented level of control and efficacy for practitioners, the increasing complexity in the programmatic value chain has also created some unforeseen consequences.

First, given the number of ad tech services commonly applied to programmatic buys, it has become difficult for advertisers and marketers to keep track of a) what specific service types are being used, and b) their relative value compared to other components of the buy. Second, there is a lack of communication *between* buyers and sellers about the ad technologies being used by each side as well as the fees that are removed in the bidding process[1] before publishers' net CPMs are realized. This creates a discrepancy between buy and sell side inventory valuations, which has the potential to erode trust in the marketplace and reduce inventory and price liquidity. The first step in improving transparency is to deconstruct the individual components of these ad technology layers and their value propositions.

Participants in the Supply Chain

There are several factors that have contributed to the complexity of the programmatic supply chain as the marketplace has matured. The types of participants can be categorized based on the technologies or services that they provide:

- **Core Ad Technology (Costs of Doing Business):** There are several core technology services that are standard costs of doing business. They can be thought of as foundational technologies that are necessary to transact programmatically. Primary examples include ad serving, demand side platforms, and sell side platforms.

- **Management Services:** Management services have been developed to address buy or sell side technology and proficiency gaps. They often include access to programmatic resources, proprietary tools, and specialist campaign managers. Management services are most often used by advertisers or publishers who prefer to outsource programmatic activity or don't have the resources to build internal capabilities.

- **Audience Addressability Needs:** The ability of programmatic tools to evaluate and make decisions on individual impressions based on audience and/or optimization goals, has facilitated dozens of specialist services that provide audience targeting or segmentation. Examples include 3rd party data providers and Data Management Platforms (DMPs).

- **Inventory Verification:** Inventory quality concerns - specifically as it relates to brand safety, viewability, and fraud - has created a need to verify inventory delivery. Recent accreditation of verification tools by industry bodies has facilitated adoption by practitioners, and allowed advertisers and publishers to report and transact on verified impressions instead of overall impression delivery.

Overview of Primary Programmatic Value Layers

While it would be self-defeating to identify and define every type of programmatic service in a constantly evolving landscape, the table below describes the most common programmatic ad technologies and services within the supply chain, frequently used cost models, and the party (buy vs. sell) that generally applies the service:

SERVICE	VALUE	COST MODEL	PAYER
AD BLOCKING (PRE/POST)	Technology that allows advertisers to block ad delivery based on a set of inventory quality signals, which could include viewability, brand safety, and fraud. Can be blocked on either a pre-bid or a post-bid basis after inventory is won.	CPM	Advertiser
ADVERTISER AD SERVING	Technology that provides centralized storage, tracking, and delivery of media campaign assets	CPM	Advertiser
MANAGEMENT SERVICE*	Service for setting up, managing, and optimizing programmatic delivery, as well as building / maintaining buy or sell side infrastructure (inventory, technology, data, reporting relationships). There are many different types of managed service offerings, as outlined below.	FTE, % Media	Advertiser
DATA / TARGETING	3rd party data segments used for identifying and targeting specific types of users or devices. Generally speaking, 1st party segments (data collected and applied by user) are not paid for.	CPM, % Media	Advertiser, Publisher
DATA MANAGEMENT PLATFORM (DMP)	Technology service that allows operators to aggregate and normalize disparate data sets for advanced campaign analytics/reporting.	CPM, Flat Fee	Advertiser, Publisher
DEMAND-SIDE PLATFORM (DSP)	Software used to access and decision against publisher inventory. Other functions usually include bundled bidding algorithms / optimization techniques, 3rd and 1st party data integrations, tagging and attribution functionality, and media delivery reporting.	CPM, % Media	Advertiser
PRE-BID DECISIONING / TARGETING	Tools that allow advertisers to evaluate the quality of individual publisher impressions and influence decisioning *before bidding*. Quality is evaluated largely against viewability, brand safety and/or fraud, and is often coupled with ad blocking functionality (see above).	CPM	Advertiser
PUBLISHER AD SERVING	Software to manage advertiser creative tags and delivery priority amongst many advertisers.	CPM	Publisher
SELL-SIDE PLATFORM (SSP)	Software used by publishers to aggregate, consolidate, and manage available demand sources and exchange inventory. Sometimes includes ad serving functionality.	% Media	Publisher
VERIFICATION	3rd party technology intended to measure on target delivery, viewability, brand safety, or fraud. Often but not necessarily the same provider of pre-bid and post-bid tools.	CPM	Advertiser, Publisher

*See additional detail on Managed Service models in the next section

The Spectrum of Buy-side Managed Service Options

Due to advertisers' varying degrees of fluency with programmatic buying tools and concepts, there's been a stratification of managed service options that vary significantly in terms of service and fee levels. As such, the model an advertiser uses can significantly impact the executional costs of programmatic activity and requires additional clarification beyond the overview above.

Managed service models tend to be differentiated primarily based on level of advertiser oversight requested and the amount of upfront resource commitments to technology and human capital, however there tend to be a significant number of negotiable service options. Advertisers need to determine the most appropriate approach after careful examination with agency and technology partners. Below is a description of the five most common go-to-market models, beginning first with the most intensive service levels and ending with the least.

Holding Company Oversight: Shared Trading and Data Storage - Advertiser shares programmatic technology and human resources with other advertisers within a larger agency or holding company.

- *Pros*: Due to specialized nature, this model tends to offer bespoke technology and data visualization solutions, minimizes upfront programmatic investments in human capital, and leverages collective buying power for forward market data and inventory cost reductions

- **Cons**: Minimal advertiser involvement in daily operations, often non-disclosed fee models, some restrictions on inventory and targeting pending forward market commitments, limited advertiser control over technology stack unless specified

Agency Oversight: Managed-service DSP – Advertiser's media agency manages portfolio of DSP-operated programmatic services.

- *Pros*: No need for investment in programmatic resources, no barriers to entry, media managed and optimized by trained personnel inside DSP, fees usually disclosed by DSPs

- **Cons**: Many DSP partners have interests in supply partners and are thus not media agnostic, limited advertiser oversight of daily operations, limited control over technology stack or inventory

Agency Oversight: Hybrid Managed Service / Self-service Desk – Advertiser's media agency uses a combination of managed service programmatic offerings and self-service trading (see below).

Agency Oversight: Self-service Dedicated Desk – Advertiser's media agency houses dedicated agency personnel that manage advertiser programmatic campaigns and usually builds custom technology/data /inventory relationships.

- *Pros*: Holistic view cross media investments, full cost and inventory transparency, allows for consistent optimization and cross channel reporting, dedicated resources, can leverage agency scale for technology and inventory negotiations, client dedicated in-house expertise

- *Cons*: High upfront costs for agency to train talent, develop inventory relationships, and develop internal processes and workflow

Advertiser Oversight: In-house Desk - Advertiser sources personnel, training, and technology development inside organization instead of a media agency.

- *Pros*: Complete control over how communications objective gets translated into media investment, centralized oversight of proprietary data, full autonomy to select technology partners

- *Cons*: Requires heavy financial and resource commitment, takes time to develop / train staff and build processes, reduces negotiation leverage on inventory, data, technology fees

Mapping Value Layers within RTB Ad Calls

It's often helpful to visually place these services within the anatomy of a bid request / response to understand when each service is engaged. Where a value layer sits within this sequence – specifically pre or post bid - could also determine whether a fee is charged upon ad delivery.

While the actual ad call sequences are bi-directional and much more complex than depicted here, the below diagram provides a directional outline of where each service identified above sits within a standard auction based (vs. fixed price) programmatic transaction.

Latency and Security Considerations

Almost all technologies applied to programmatic executions add additional communication requirements for a user's browser. These requirements can increase page load times and pose data security problems that have the potential to detract from overall user experience and efficacy of paid media. Advertisers and publisher should work with their technology partners to thoroughly review latency and security implications of their services.

Page Latency - Ghostery estimates that, on average, each additional technology layer (and associated tracking pixels) adds ˜500ms to a user's page load time[2]. As advertisers and publishers evaluate ad technology solutions, especially those beyond core technologies, they should weigh the value of the service relative to its impact on the ultimate user experience with the web content.

Security – publisher pages increasingly require secure http browsing, which prevents third parties from eavesdropping on the information being sent between a user and publisher via http. If the ad technology applied to an ad creative has tracking that's not secure, the user's browser can prompt consumers with what's known as a mixed content security warning, which often dissuades users from loading the webpage containing the advertisers content. Additionally, on the publisher side, SEO and SEM rankings can suffer if high levels of non-secure content are allowed on secure pages. As such, both buyers and sellers should have checks in place to ensure that the ad technology tracking applied to programmatic buys is SSL compliant.

Ad Technology vs. Publisher Revenues

While ad technology fees incurred by buyers and sellers vary greatly depending on which services are applied and the levels of managed services being requested, they cumulatively represent a significant portion of programmatic revenues. The IAB estimates that, in 2014, ad technology services cumulatively captured 55% of programmatic revenue while publishers captured the remaining 45%[3].

While these fees are an inevitable and important part of the ecosystem that support the platforms that enable programmatic transactions, it's clear that buyers and sellers need to have better tools to help them evaluate the overall costs of programmatic technologies and services relative to the benefits they provide.

Publisher vs. Ad Tech Programmatic Revenues - 2014

55% / 45%

Publisher ▪ Ad Tech
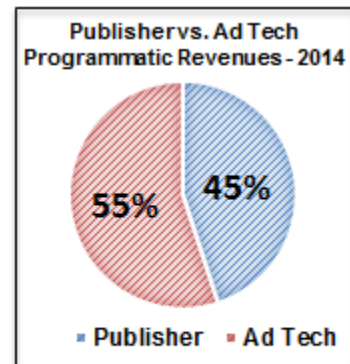
Source: IAB Programmatic Revenue Report 2014 Results, July 2015

Programmatic Fee Transparency Calculator

This document is intended to outline the value and cost structures of key ad tech components, provide context for their use, and arms practitioners with the information they need to effectively manage their portfolio of technology vendors and publisher relationships.

For those who want to go one step further, the IAB has developed a *Programmatic Fee Transparency Calculator* that can be found on the IAB website at iab.com/calculator. The calculator is intended to provide advertisers and publishers more granular, campaign specific cost breakouts based on their particular implementations. The tool tabulates the overall cost of each actor in the supply chain (as a percentage of the effective CPM) after the user enters his/her channel specific planning rates, budgets, and ad technologies/services.

We hope this document and corresponding tool helps arm practitioners with a keen understanding of the components that make up their programmatic activity and helps effectively manage and maximize its value.

References

1. This paper focuses on programmatic technology services only. For more information on fee transparency, see "Transparency is the Key to Programmatic Success:"
    http://www.iab.net/media/file/IABDigitalSimplifiedProgrammaticAdvertisingTransparency.pdf

2. Ghostery, Inc. *Interview with Ghostery CEO Scott Meyer*. IAB Annual Leadership Conference. January 26, 2016.

3. IAB Programmatic Revenue Report 2014 Results. July 2015. Full report can be found here:
    http://www.iab.net/media/file/PwC_IAB_Programmatic_Study.pdf