

The **WTF Dictionary**  
explains, in plain English,  
the terms and tools of  
programmatic advertising.

# WTF PRO- GRAMM- MATIC

# WTF IS PRO- GRAMMATIC?

## **Automation isn't coming. It's here. And it's confusing.**

In just three years, programmatic advertising has moved from the wings into the limelight, becoming an essential strategy for advertisers and agencies aiming to keep costs low and publishers looking to keep pace. In just the past three years, programmatic advertising has overcome the skepticism of

in-house sales teams and old-school marketers to become a genuine staple of digital media buying and selling. It's moved from remnant to premium to mobile and native. And it continues to morph at a pace that keeps even digital media natives bewildered.

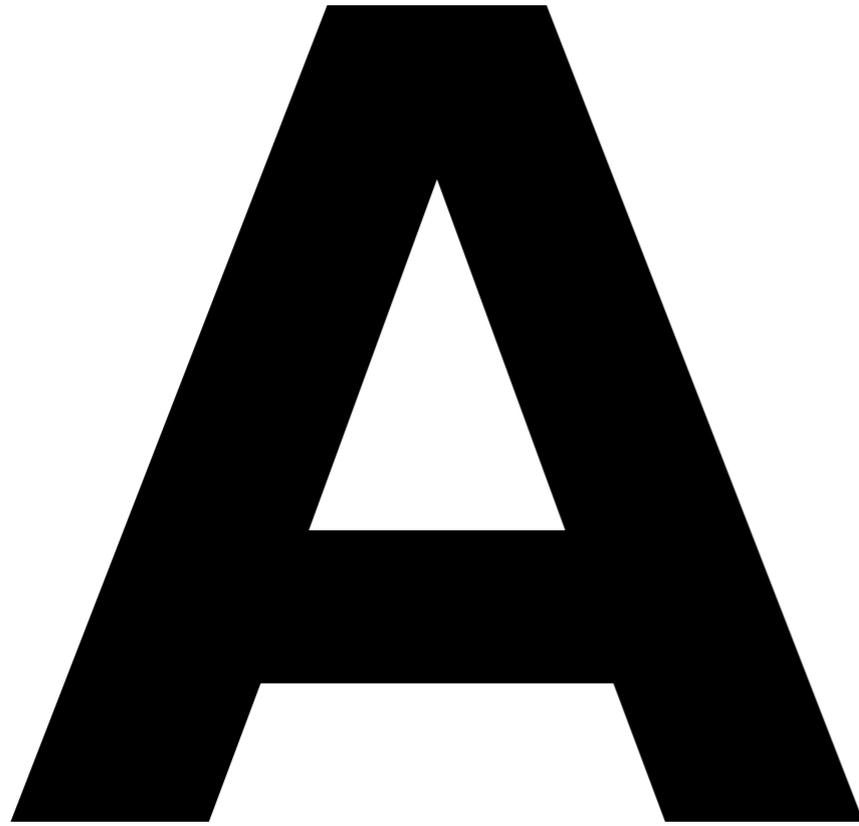
This year, Digiday began its **“WTF Programmatic”** series of articles that sought to explain, in plain English and with a dose of humor,

the many facets of ad tech. To our surprise, they became our most popular articles. What's more, several agency and publisher executives have told us they've become required reading for ad tech's newcomers.

With that in mind, we've compiled this dictionary to spell out all the terms you need to know to keep up with the programmatic conversation. Never again will you

nod your head blankly during a meeting, then rush to the restroom to Google some ad tech term to figure out what you just agreed to.

**WTF is Programmatic?**  
**Keep reading.**



# Acronym

A set of initials representing a name, organization or concept. The alphabet soup of the digital industry, you must know these basic terms before going any further.

**CPA:** Cost per acquisition

**CPA PC:** Cost per acquisition, post click

**CPA PV:** Cost per acquisition, post view

**CPL:** Cost per lead

**CPC:** Cost per click

**CPM:** Cost per thousand, where M equals 1,000 in accounting (and Roman) terms

**CTR:** Click through rate

**Daas:** Data as a service

**DMP:** Data management platform

**DSP:** Demand side platform

**IO:** Insertion order

**KPI:** Key performance indicator

**LI:** Line item

**PII:** Personally identifiable information

**ROI:** Return on investment

**RTB:** Real time bidding

**SaaS:** Software as a service

**SDK:** Software development kit

**SSP:** Supply-side platform

# A

## AD EXCHANGE

An ad exchange is a digital marketplace that enables advertisers and publishers to buy and sell advertising space, often through real-time auctions. They're most often used to sell display, video and mobile ad inventory.

Basically, an ad exchange is just a big pool of ad impressions. Publishers tip their ad impressions into the pool hoping someone will buy them. Buyers then pick which impressions they wish to purchase using technologies like demand-side platforms. Those decisions are often made in real time based on information such as the previous behavior of the user an ad is being served to, time of day, device type, ad position and more. Exchanges enable advertisers to easily buy ads across a range of sites at once, as opposed to negotiating buys directly with specific publishers.

## AD NETWORK

A company that connects websites that want to sell advertising, then aggregates that inventory in a way that appeals to advertisers, usually via programmatic exchanges. Traditionally, ad networks are all about audience reach, rather than premium context, though you can find some that aim for both.

## AGENCY TRADING DESK

These are in-agency teams that execute online media buying as a managed service. All of the major holding companies have agency trading desks — Havas has Adnetik, Omnicom has Accuen, WPP has Xaxis, etc. Their goal is to execute buys in such a way that recaptures some of the markup costs associated with middlemen like ad networks, for their clients and themselves. But as more media is transacted programmatically, the long-term future of the centralized trading desk model could hang in the balance. Agency desks may tout data and technology expertise and the ability to optimize, but so do programmatic champions. Maybe the robots really are coming for you.

## ALGORITHM

Remember that time your elementary school teacher told you to write down the steps for making a peanut butter and jelly sandwich? You were writing an algorithm. It's a set of instructions to do... something. These procedures can be highly complex (with the use of conditional rules, for example), but the focus is usually on making a process more efficient and/or effective by including only essential steps.

With the rise of ad tech, they're most often encountered in this industry in the code that makes decisions to buy, sell and serve ads.

# B-C

## BEACON

A transparent image that's 1x1 pixels in size that third-party data collectors drop on a website and in emails to track user behavior. Basically, beacons are the invisible eyes that freak out conspiracy theorists.

Among the information beacons retrieve are IP address, browser type, time on site and previously collected cookie information.

## CLICK-THROUGH-RATE

This is how you tell how successful your ads are in terms of driving traffic to a particular web location. It's basically a percentage arrived at by dividing the number of times your ad was clicked by the number of times it was seen.

## COOKIE

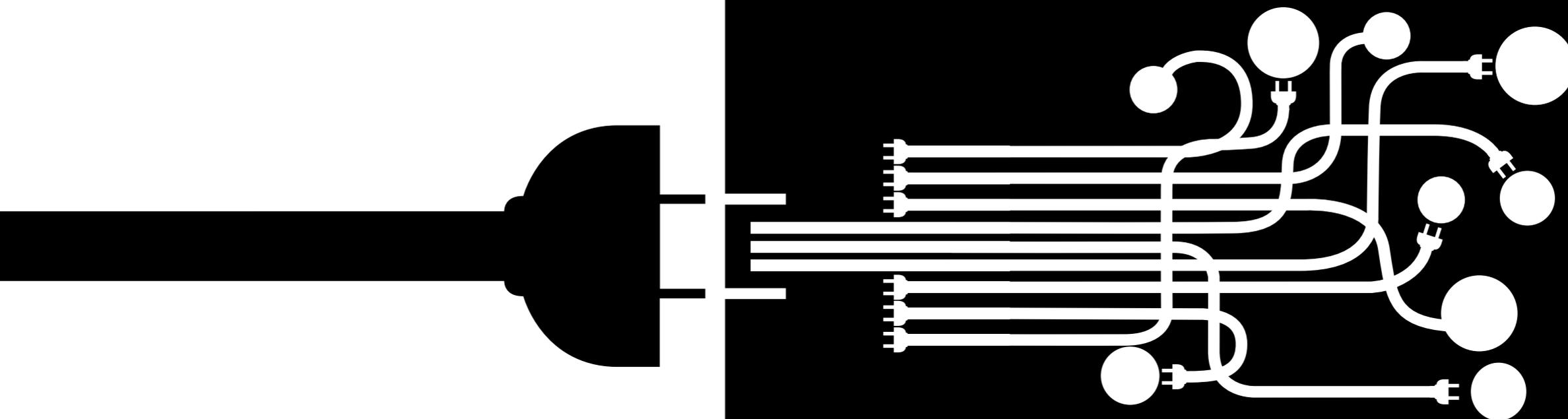
A small, baked confection.

Or, a piece of data that a website or third party stores in a user's browser to fulfill a variety of functions, from tracking browsing behavior to authenticating user accounts (so you don't have to log in every time you visit Amazon).

For a long time, cookies were the dominant way to track users across sites from an advertising perspective. But with the rise of mobile and the cookieless environment it presents, marketers are searching for an alternative. In the meantime, it's the dominant method by which publications and advertisers collect enough consumer information to target their programmatic advertising based on behavior profiles.

## COST PER THOUSAND

The price of 1,000 impressions on a web page. Publishers have accused programmatic advertising of driving down the price of the CPMs because the open auction system primarily targets based on behavior, not context, a key selling point for premium publishers. Programmatic boosters, on the other hand, call it a boon, because publishers are selling more inventory via programmatic.



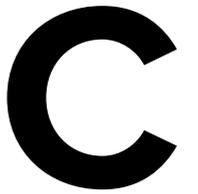
## PLUG INTO PROGRAMMATIC

bRealTime offers inventory monetization solutions for supply side partners and automated demand side partners. *Learn more at [bRealTime.com](http://bRealTime.com)*

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# Cross-Device



## **CROSS-DEVICE TRACKING**

Cross-device tracking describes the myriad ways platforms, publishers and ad tech companies try to identify individual Internet users across smartphones, tablets and desktop computers. The goal of cross-device tracking is to be able to know that the person using smartphone X is the same person who uses tablet Y and laptop Z, and then allow brands to retarget that person accordingly.

It's important because retargeting on mobile is essentially impossible without it. Retargeting occurs when a brand identifies a visitor to its website and

subsequently serves an ad to that consumer when they are browsing elsewhere. Since cookies don't work on the mobile Web, outside of a few apps, it can be hard to track a consumer's activity both within and across particular devices. And given the mind-boggling and ever-growing number of mobile devices, platforms, publishers and mobile operating systems, the problem is only becoming more complex.

## **CROSS DEVICE TRACKING, DETERMINISTIC**

Deterministic cross-device tracking is when publishers and platforms ask their users to sign into their websites and apps on every device they use. This

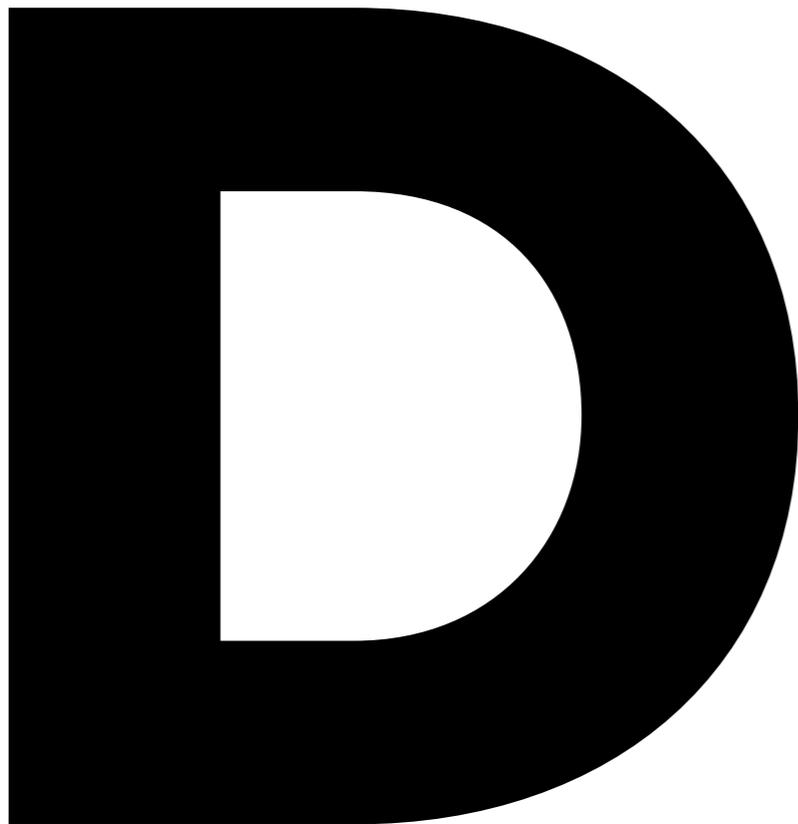
allows digital media properties to directly track their users across devices. Facebook and Twitter, for example, require users to sign in for both their desktop and mobile experiences, thus allowing them to offer precise retargeting capabilities across devices.

## **CROSS DEVICE TRACKING, PROBABILISTIC**

Probabilistic cross-device tracking is an inexact science carried out by ad tech companies. These companies aggregate information about ads served on smartphones, tablets and desktops, and then use statistical models to infer who is using which device. It's an

incredibly complex process that requires troves of data to do well. Tapad, for instance, collects 250 billion distinct data points per month, including the IP address, device type and app or Web browser associated with various ads served. Over time, patterns emerge about how consumers move across devices.

As the name indicates, probabilistic cross-device tracking is a well-informed estimate.



### **DATA, FIRST-PARTY**

This is data collected by website operators — publishers, e-commerce sites, brand homepages, etc. — about the actions their users take while on that site. Publishers can use their first party data to better sell their own inventory by offering more precise targets, via a public or private exchange.



### **DATA, SECOND PARTY**

This is first-party data that advertisers buy directly from the source either through a DMP or a direct relationship with a publisher or advertiser.



### **DATA, THIRD PARTY**

This is the data aggregated from sources other than the website operator, usually collected through cookies. It's expensive and sometimes imprecise but there is a lot of it.



### **DATA MANAGEMENT PLATFORM**

In simple terms, a data management platform is a data warehouse. It can be used to house and manage any form of information. For marketers, it's most often used to manage cookie IDs and to generate audience segments, which are subsequently used to target specific users with online ads.

Agencies, publishers and marketers all use DMPs. With advertisers now buying media across a huge range of different sites and through various middlemen, including DSPs, ad networks and exchanges, DMPs can help tie all that activity and data together in one, centralized location and use it to help optimize future media buys and ad creative. It's all about better understanding customer information.

# Data, big

A lot of freaking data. The “big” in big data doesn't so much emphasize its importance as much as its abundance. All those clicks, emails and tweets consumers send, among other online and offline actions, generate 1s and 0s that marketers must sift through in order to tailor and target their messages in the hyper-relevant way consumers have come to expect (and, in some cases, dread). Programmatic advertising aims to help marketers put this data to use by way of algorithms that target specific users: Creative unit A to women over 35 who are heads of household and have bought within the last 30 days.



### **DEAL ID**

The unique number assigned to an automated ad buy, used to match buyers and sellers individually, based on a variety of criteria negotiated beforehand. The idea is to take the best of auction buying and merge it with direct. So, a publisher might make a set of inventory available to premium advertisers over their private exchange, then assign a deal ID to the package in question. Those advertisers bid on the package, commanding what some say is three times the rate of an open auction.

Detractors claim deal ID is flawed because it's still trying to retrofit the technology used for live auctions (RTB) with the very different dynamics of direct buys.

### **DEMAND-SIDE PLATFORM**

A demand-side platform is a piece of software used to purchase advertising in an automated fashion. DSPs are most often used by advertisers and agencies to help them buy display, video, mobile and search ads.

DSPs help make the buying process cheaper and more efficient by removing humans from parts of the equation, along with the need to negotiate ad rates and to manually fax ad insertion orders.

They allow advertisers to buy impressions across a range of publisher sites through ad exchanges while targeting specific users based on information such as their location and their previous browsing behavior. The price of those impressions is often determined through real-time bidding and takes place in milliseconds, as a user's computer loads a webpage.

### **DO NOT TRACK**

An opt-out function available on browsers including Firefox, Chrome and Safari, signified by the header DNT, that allows consumers to disable data collection by advertisers and other third parties by inserting the header "DNT1." Currently, the industry is self-regulating DNT efforts. However, privacy advocates, like the Electronic Frontier Foundation, want the Federal Trade Commission to step in.

Do Not Track as a movement suffers from a lack of political momentum, but the industry seems to agree we should all be on our best behavior, so as not to stoke that fire. If enough consumers opted out, there would be less data to go around, making it harder to target ads and buy audiences programmatically.



## FIRST LOOK

Also known as first dibs. When offering inventory to two or more buyer networks, the process usually takes a multi-tiered approach, with the next network not being offered the inventory until the previous one in the series declines. The first buyer to be offered the inventory gets (drumroll please...) the first look.

## HASHING

The process by which Personally Identifiable Information is disguised, usually by translating it into a string of numbers and letters. Hashed identifiers are currently being pursued as the best alternative to cookies on mobile devices. By creating a hashed device ID, advertisers can identify individuals closely enough to target ads programmatically across screens.

## IMPRESSIONS

The number of times an ad appeared on any user's screen. Keep in mind that impressions are not a count of how many unique individuals saw your ad: One person seeing the ad twice from the same browser will register two impressions. In programmatic advertising, most buys will include a minimum number of impressions served.

## INSERTION ORDER

Remember the fax machine? The noisy little bastard that was the office equivalent of nails on a chalkboard? Publisher sales people used to — and sometimes still do — use them to send insertion orders, aka sales orders for online inventory, back and forth. In the programmatic world, insertion orders are submitted via an online exchange, eliminating the screeching cross-town duet of dueling fax machines.

## INVENTORY

This is where the ads go.

**Premium:** No one would argue the front page of the *New York Times* is premium. But otherwise, this loosely defined term can mean different things to different people. For some, it's context — viewable ad space at a well-known national publication.

For others, it's relevance to the category, and for still others it's all about the audience. But no one has ever been fired for buying class A, above the fold, adjacent to relevant content impressions on a top 100 trafficked site.

**Long-tail:** Ad inventory that won't see huge audience numbers on a single day, but instead accumulates reach over time. Prior to programmatic marketing, these placements were too disparate to buy. Automated, they can be bundled together in such a way to target very specific audiences.

# M-P

## **MOBILE FINGERPRINTING**

One possible way to target advertising in a cookieless mobile world, mobile fingerprinting aims to track consumer movements across iOS and Android, apps and the mobile web. It does so by stringing together pieces of mobile and Web data like screen size, timezone and software that a device registers each time it makes a connection. Detractors point to a lack of accuracy and potential privacy implications, since users do not opt in.

## **OPEN AD EXCHANGE**

Unlike private exchanges, which operate like exclusive night clubs, you don't need to know someone who knows someone to get access. Any agency, advertiser or publisher may participate in trading in an open exchange.



## **PII**

Personally identifiable information. This is what the conspiracy theorists, and maybe your mother-in-law, is freaking out about. It is digital information that can be used, on its own or together with other information, to track back actions to a specific, known individual. Marketers, bowing to privacy concerns, generally avoid using such information, though sometimes programmatic targeting gives consumers another impression. PII might include credit card information, social security cards and login information.

## **PRICE FLOOR**

No seller wants to run the risk of accepting a bid that's far lower than the market price. As a result, the floor price is the lowest any bidder can offer for an impression package.

## **PRIVATE EXCHANGE**

Private exchanges are used by publishers to more carefully control who can buy their inventory, and at what price. Instead of throwing its ad impressions out into an "open" exchange and letting anyone buy them, a publisher might instead wish to offer them to a handful of its favorite advertiser clients, or an agency it has a close relationship with. It might also wish to cut off access to networks and other third parties that could turn around and sell those ad impressions again.

# P

# Programmatic

## **PROGRAMMATIC AD BUYING**

“Programmatic” ad buying typically refers to the use of software to purchase digital advertising, as opposed to the traditional process that involves RFPs, human negotiations and manual insertion orders. In other words, it’s using machines to buy ads. Before programmatic ad buying, digital ads were bought and sold by human ad buyers and salespeople, which are expensive and can be unreliable. Programmatic advertising technology promises to make the ad buying system more efficient, and therefore cheaper, by removing humans from the process wherever possible. Humans get sick, need to sleep and come to work hungover. Machines do not (yet).

This doesn’t mean robots are replacing people, exactly, just the ones who performed more menial tasks, like sending insertion orders to publishers and dealing with ad tags. People are still needed to optimize campaigns and to plan strategies, at least

until further notice. Programmatic technology will probably mean there are fewer ad buyers in the world, but it could also allow both marketers and sellers to spend more of their time planning sophisticated, customized campaigns instead of getting bogged down in bureaucracy. It is not the same as real-time bidding.

It’s impossible to tell what portion of advertising is now traded programatically, but it’s definitely on the rise. Some agencies now say they’re eager to buy as much media as possible through programmatic channels, and some major brands have even built in-house teams to handle their programmatic ad buying as they spend more of their marketing budgets that way. At the moment, it’s mainly online ads that are traded programatically, but media companies and agencies are exploring ways to sell “traditional” media this way, including TV spots and out-of-home ads.

# Programmatic

P

## **PREMIUM PROGRAMMATIC**

The transaction of higher value inventory through the programmatic landscape. While remnant inventory fueled the programmatic landscape during its early evolution, as publishers have become more comfortable with the technology, they have become more willing to “trust” the process with their high priced inventory, creating an upward spiral of quality and acceptance. This arc is not dissimilar to the arc experienced by ad networks at their inception, where the ecosystem was first populated by remnant traffic and gradually came to include a premium element.

## **PROGRAMMATIC A/B TESTING**

Using a programmatic dashboard, advertisers can test different versions of the same ad at scale, in order to determine which ad is more effective. Automating this process in real time allows marketers to serve the ads that are working best in a particular time and place and discard the underperformers or test them elsewhere.

## **PROGRAMMATIC ATTRIBUTION**

The ability to automatically gather data through demand-side, data-marketing or programmatic marketing platforms, in order to learn which combination of marketing touch points is achieving the best return on investment. The idea is when you know which ads are working best with whom and when, you can move your budget around quickly to take advantage of it in real time.

## **PROGRAMMATIC BUY, GUARANTEED**

These ad buys secure specific inventory, run dates and reach and often take place outside the bidding model.

# Programmatic

P

## **PROGRAMMATIC BUY, NON-GUARANTEED**

Also sometimes called remnant inventory, a non-guaranteed programmatic buy is most often executed programmatically through ad networks and exchanges (vs. directly with the publisher). Buys are negotiated based on audience targets and volume rather than context. Ads can sometimes end up in wonky places — below the fold, next to two other display ads, on [CatChannel.com](http://CatChannel.com), for instance.

## **PROGRAMMATIC CREATIVE**

This process allows advertisers to mix and match art and copy lines in an automated way, then serve them programmatically in order to find the most effective ads for each segment. Of course you still need to write copy and render art that is compelling for your audience, but the idea here is to save creative teams the time they would spend cutting-and-pasting so they can put more work into crafting those variations.

## **PROGRAMMATIC DIRECT**

A way to automate direct ad buys, usually executed by real, flesh-and-blood salespeople, for set campaigns. Programmatic direct buys can involve guaranteed and non-guaranteed sales, but they're still a tiny sliver of the programmatic market.

More than any other facet of programmatic, this is the development that makes sales folks panic — but it's more likely that a “Rise of the Machines” scenario will take down their ad-ops counterparts. Besides, right now there are too few buying systems available to send orders to programmatic guaranteed provider systems, which generally sit with publishers. So everyone just exhale for the time being, okay?

# Preferred Programmatic

P

- 1 A view of programmatic media in which the needs of both buy and sell sides are balanced to develop a mutually beneficial ecosystem.
- 2 For publishers – creating and nurturing demand relationships that result in the highest yield for their inventory.
- 3 For advertisers – offering full transparency to facilitate informed strategies and decisions.
- 4 Preferred programmatic removes the distinction between technology and service in order to create a preferred way of doing business.

## ***Origin:***

### **2014 bRealTime – A Programmatic Division of Digital Media Holding Company CPXi**

Middle English *preferre* < Latin *praeferre* to bear before, setbefore, prefer, equivalent to *prae-* *pre-* + *ferre* to bear<sup>1</sup> + < Greek *programmat* - (stem of *prógramma* ) program + *-ice*\_

# R

## Real-Time Bidding

### REAL-TIME BIDDING

Real-time bidding refers to the buying and selling of online ad impressions through real-time auctions that occur in the time it takes a webpage to load. Those auctions are often facilitated by ad exchanges or supply-side platforms.

As an ad impression loads in a user's Web browser, information about the page and the user is passed to an ad exchange, which auctions it off to the advertiser willing to pay the highest price. The winning bidder's ad is then loaded into the webpage nearly instantly; the whole process takes just milliseconds to complete.

Advertisers typically use demand-side platforms to help them decide which ad impressions to purchase and how much to bid on them based on a variety of factors, such as the sites they appear on and the previous behavior of the users loading them.

For example, Zappos might recognize that a user has previously been on its site looking at a specific pair of shoes — and may therefore be prepared to pay more than Amazon or Best Buy to serve ads to him. The price of impressions is also determined in real time based on what buyers are willing to pay, hence the “real-time bidding.”

Real-time bidding is good for ad buyers, who no longer need to work directly with publishers or ad networks to negotiate ad prices and to traffic ads. Using exchanges and other ad tech, they can access a huge range of inventory across a wide range of sites, cherry-picking only the impressions they deem most valuable.

Publishers, on the other hand, have been a bit more wary of RTB because they feel it enables advertisers to pay them less for their inventory. Increasingly, however, they're becoming more comfortable as exchanges and supply-side platforms enable them to control the minimum prices at which their inventory is sold through price floors.

**REAL-TIME FOCUS GROUPS**

No need to canvas mall shoppers with a clipboard and the promise of a \$50 payout. The speed and scale of programmatic advertising creates the ability for digital marketers to segment out specific audiences and quickly test message variations at a scale large enough to be considered statistically relevant but in a period short enough to be reacted to with shifts in budget/strategy within the lifecycle of a single campaign 'flight'.

**REMNANT INVENTORY**

Ahem, "non-premium" please! This is the inventory that exists deep in the bowels of publisher sites, three or four clicks away from the marquis and not wrapped up in pre-existing deals. They're typically standard units sold via exchange and using behavioral targeting or retargeting tactics. See also, non-guaranteed.

**RETARGETING**

Unlike behavioral targeting, retargeting focuses on a consumer's online actions (clicks, page visits) more directly tied to an incomplete conversion. You've looked at those jeans in Forever 21's online catalog? You added them to your shopping cart, but then left the site? Those ads are going to follow you around the Web and make you regret not buying them. Best of all, they're all served in real-time, programmatically.



# S

## Supply-Side Platform

### **SUPPLY-SIDE PLATFORM**

A supply-side platform is a piece of software used to sell advertising in an automated fashion. The yin to the DSPs' yang, SSPs are most often used by online publishers to help them sell display, video and mobile ads and to maximize the prices their impressions sell at.

SSPs allow publishers to connect their inventory to multiple ad exchanges, DSPs and networks at once. As well as opening up inventory to a large range of potential buyers, SSPs also offer the ability for publishers to set "price floors," which dictate the minimum prices for which their inventory can sell to specific buyers or through specific channels.

By opening up impressions to as many potential buyers as possible — often through real-time auctions — publishers can maximize the revenues they receive for their inventory. Because of this, SSPs are sometimes referred to as yield-optimization platforms.

# S—W

## SECOND PRICE AUCTION

Afraid of overshooting the mark and massively outbidding a competitor only to pay double what they were offering? Second price auctions avoid that risk by having the winner pay only one cent over their closest competitor's final bid. For example, if Buyer A bids \$2 and Buyer B bids \$1.50, Buyer A wins, but only pays \$1.51. If two buyers bid the same highest price, the winner is chosen randomly. This process helps maintain pricing efficiency within an automated RTB marketplace.

## TARGETING, BEHAVIORAL

Sometimes, the best way to know what consumers will do or purchase next is to look at what they've done in the past. Behavioral targeting takes this to heart, analyzing your general online behaviors before deciding what ad to serve you in real-time.

## TARGETING, CONTEXTUAL

Wondering why dog food ads are flanking the page whenever you visit a pet adoption website? Think it's a coincidence that there's a banner for the newest bestseller on your go-to book discussion community? Contextual targeting seeks to serve ads in a relevant context alongside relevant content.

## VIEWABILITY

Viewability is an online advertising metric that aims to track only impressions that can actually be seen by users. For example, if an ad is loaded at the bottom of a webpage but a user doesn't scroll down far enough to see it, that impression would not be deemed viewable. Viewability is designed to let advertisers pay only for the ads that users could possibly see. It's another way for buyers to put pressure on sellers, and the IAB supports a switch.

## VIEWABLE IMPRESSION

There's still a lack of consistency around what a "viewable impression" actually is and what technology could measure its viewability. The IAB defines a "viewable" impression as one that's at least 50 percent visible for at least 1 second, but vendors offering viewability solutions use various methods and technologies to establish whether impressions meet those criteria or not. As a result, the Media Ratings Council advises that it's still too early to transact on viewable impressions until these discrepancies are understood and accounted for.

## WIN RATE

This is the RBI of ad tech geeks. Put simply, it's the ratio of submitted bids to the number of impressions actually won. It's used as a barometer of efficiency for programmatic marketplace technology.

# DIGIDAY

Did we miss something? Email us at [wtfleads@digiday.com](mailto:wtfleads@digiday.com)

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