WTF
IS PROGRAMMATIC?
Introduction

It seems like only yesterday that programmatic was an upstart technology, a novelty, and a way to dispense with remnant inventory. Today, advertisers and publishers are locked in an arms race that began with digital display and has escalated to the once unbreachable linear TV.

Programmatic is everywhere, from the TV Upfronts to the in-house trading desks of big name brands, but it’s still a source of confusion. The programmatic landscape is fast changing enough to confuse professional media journeyman and entry-level apprentices alike. Don’t go alone…take this guide to all things programmatic. What’s on the horizon, what’s standing in the way, what the heck is header bidding and how is it different than automated guaranteed?
Programmatic advertising is a bit like an osmotic membrane: Inventory and audience data, insertion orders and digital ads flow back and forth fluidly. In fact, the IAB says programmatic allows for digital ad inventory to be offered, bid on and fulfilled faster than you can blink your eyes. Here’s how it works.

1. The advertisers creates a profile based on behavioral, contextual, or demographic data using a data management platform (DMP).

2. This profile is used to supply an inventory request via a demand-side platform (DSP) to an ad exchange.

3. The ad exchange matches that request to available ad space provided by publisher supply-side platforms (SSP) and profiles crafted by publisher DMP using its own first party data.

4. Once a match is found, bidding begins. Using any of a variety of bidding mechanisms, both parties arrive at an agreed upon cost per thousand (CPM) for those ad impressions.

5. When a price is agreed on, the ads are supplied through the above chain from the advertiser’s server to the publisher’s server until they ultimately appear on the publisher’s site (hopefully) in front of the intended consumers.

6. Alternative both parties can go through an agency trading desk. The mechanism and the outcomes are largely the same.
3 (lingering) programmatic problems

Every new industry has challenges to overcome. Though it shows signs of increasingly maturity programmatic is not without its stumbling blocks. These three major challenges emerged last year and don’t show signs of disappearing, but progress is being made and in some cases new challenges have emerged from the old.
An ad isn’t much use if no one can see it, and an unfortunately that’s sometimes the case with display ads served programmatically. Either ads aren’t loading all the way, they’re loading in places where they can’t be seen, or they’re loading on pages that aren’t meant to be seen. (Fraud is another major stumbling block for programmatic, but we’ll get to that later.) In either case, viewability problem has been with us since the dawn of display, and despite efforts of trade groups and industry power players it’s still a major headache for advertisers.

The problem is complicated by the fact that the industry can’t seem to iron out what level of viewability advertisers should expect. For now the IAB is sticking with their 2015 ruling which holds that publishers and ad tech vendors should be able to guarantee that 70 percent of all ads served are visible. (They must be grading on a curve, because that’s a C- in most schools). Meanwhile the Media Rating Council is even more pessimistic. They recommend that an ad be counted as viewable if at least 50 percent of it is visible for more than one second.

While trade groups quibble about how many unviewable ads advertisers should be willing to tolerate, at least one agency power player is putting the onus back on publishers. Group M, the media agency that controls roughly one third of global digital ad spend through its various subsidiaries, will begin demanding 100 percent viewability on digital display and video. That’s a tough pill for publishers, and their programmatic partners, to swallow.

Despite the best efforts of standard-setting organizations and the demands of media agencies viewability isn’t on the fast track to improvement. In Europe it’s actually declining with overall viewability—as measured by the 50 percent viewable for more than one second standard—dropping from 68 percent in Q3 of 2015 to 58 percent in Q4. The US still boasts the lowers viewability levels among mature digital media markets, just 45 percent at the end of 2015. That drop is driven by the rise of ad blockers and an increase in fraudulent ad serving that have combined to create a shortage of viewable inventory. Bad news for advertisers who hoped to force the needle to move the other way in 2016.
Ad fraud

The big pitch for programmatic is that it’s an automated process. That means more efficiency and ease for advertisers, but it also means that the process is more hands off than traditional media transactions. With machines, rather than humans, in the driver’s seat, the process is vulnerable to fraud. Bot networks and other forms of non-human traffic game publisher numbers and generate false impressions. Unless advertisers have the tech savvy, patience, and resources to dig into the data, that fraud goes largely undetected.

A 2016 Association of National Advertisers and Forrester survey found that 69 percent of advertisers making programmatic buys worry about fraud. And they should be. According to the same study, up to 60 percent of all impressions may be fake and an estimated 36 percent of web traffic is fraudulent.

With CPMs declining as a result of fraud, low viewability, and a glut of inventory publishers are under even more pressure to generate impressions. That pressure is pushing more publishers toward the dark side. If the data is to be believed 2016 is set to be a banner year for fraud.

A study dropped earlier this year by the Association of National Advertisers and Forrester estimated that ad fraud would cost marketers $7.2 billion by the end of 2016. Not surprisingly, programmatic ads were most affected. Fourteen percent of all programmatic display impressions were fraudulent and programmatic video generated 73 percent more bot impressions than the industry average. As much as advertisers might like the convenience of automation, numbers like these make it tough to take your hands off the wheel.

FURTHER READING

- Survey: As programmatic buying soars, so do fraud concerns
- Confessions of an ad tech veteran on fraud
- Programmatic transforms digital media buying
Advertisers argue that one way to build confidence is to improve transparency. Transparency has been an issue across the board in digital advertising this year and programmatic is no exception. A more transparent ecosystem would, for starters, provide less opportunity for fraud. Transparency on the part of publishers, programmatic platforms, and media agency trading desks would curb the pervasive problem of non-human traffic and stem the proliferation of ad arbitraging tactics.

The problem is that a rising tide, even a fraudulently generated one, has the potential to lift all boats. Even legitimate players who operate by the rules can benefit from a system that allows false impressions and system gaming to go unnoticed. More impressions benefit publishers and ad tech providers alike by raising CPMs and attracting more investment dollars to digital advertising. In that way, turning over the programmatic rock with more transparency could cause a slowdown that affects legitimate and fraudulent players alike.

Lack of transparency is an industry wide problem in 2016 with agencies being called out by trade groups and the media for non-transparent practices. The programmatic side is no exception. Programmatic’s pitch for automation might make life easier for media buyers, but it also creates a black box of technology around the process, the whole idea is that the machines do the driving for you, and it’s a lot of machines. A 2016 study by the Boston Consulting Group found that advertisers might need to work with up to 20 intermediaries to deliver a single digital ad and all of those players are keeping mum about how they actually do their jobs.
Programmatic’s graduating class

As programmatic continues to change the way ads are bought and sold, practices that were once cutting edge have quickly become standard. Here are four pieces of programmatic that have gone from newbies to staples this year.
Premium programmatic

Programmatic buying was once dinged as a channel for remnant inventory, the low-quality leftovers of direct buying. But the industry has worked hard to reverse this perception by engineering platforms for buying the top-shelf stuff en masse (and by direct arrangement in a process called automated guaranteed which we’ll cover later). Private marketplaces and exchanges now offer advertisers access to the good stuff. Premium placements on high quality media are now available through closed automation. (The Guardian, The New York Times, and NBC are all selling programmatically these days)

Many high quality publishers including Hearst, The New York Times, and Forbes have made inventory available through private marketplaces. On the video side YouTube and NBC Universal now participate in PMPs, as does AT&T, and have organized themselves into private marketplaces. These marketplaces serve as their own upscale programmatic ecosystems, making it easier for luxury brands to commit resources to programmatic channels without fear of seeing their creative mingling with the digital riff raff that could conceivably be found on an open exchange.

For big media brands this might mean setting up their own proprietary programmatic exchange. Publishers like Vox Media and streaming outlet Hulu have both gone that route and they have the inventory to back it. Smaller publishers and broadcasters have teamed up to build their own private ad networks in order to reach the scale advertisers are looking for while still keeping quality high. These networks have been particularly successful in the US and parts of Europe where regional publishers are attracting interest with PMPs from advertisers still skeptical of big open programmatic exchanges.

FURTHER READING
• Channel 4 launches its own premium video programmatic exchange
• Viral site LittleThings is building a $50 million ad business largely from programmatic
• Are private exchanges overhyped?
Algorithms are eating our world and ad creative is no exception. That’s the promise of programmatic creative, a still nascent technology that allows advertisers to manipulate ad creative programmatically, swapping out different elements and iterations in an endless loop of optimization. The ultimate extension of putting the right ad in front of the right person is building an ad that suits the audience at an individual or at least a segment level. This technology has had the programmatic space buzzing for years, and though it’s still in its formative stages it has definitely attracted enough attention and investment to be considered a staple.

More recently, digital agencies like Maxus Global have been putting programmatic creative in the field for a diverse group of brands including Barclays and Axe deodorant. These digital campaigns optimize for everything from weather and time of day to major events in the calendar. The growing centerpiece of programmatic creative has been dynamic creative optimization which goes beyond which version of an ad to serve by actually assembling that ad piecemeal from a bucket of existing elements allowing for even more situational customization.
In the early days, publishers were reluctant to embrace native ad formats and branded content. The fear was that these ads, dressed up in editorial drag, would turn off readers and potentially damage their brands. Since that time publishers have come around on native. This change of heart, helped along by advertiser dollars, is owed in large part to audience response to native. Viewers haven’t abandoned media in droves nor pitchfork wielding mobs descended on branded content studios. Still, publishers were initially squeamish about the possibility of allowing native content to be served by an algorithm without editorial oversight.

Programmatic players like Google, Xaxis and Rubicon have introduced native solutions and media giants like Vox, Conde Nast, and Hearst have all dabbled in automation for native content and video. Platforms like Snapchat, which specializes in native rich media and video ads has intimated that it will roll out a programmatic solution this year. For smaller publishers without a big native inventory to offer programmatic has been less of a hot ticket item.
Programmatic video

Digital video has taken off. Former traffic kings like UpWorthy and Mashable have dumped staff and undergone a radical rebuild as video first publishers. Even titans like Buzzfeed and Vice are slowing their roll on written content and sinking millions into video production. Meanwhile, traditional publishers like Hearst, Condé Nast, and Time Inc have also thrown their weight into video. NBC Universal saw so much revenue in the space that they inked a first-of-its-kind side deal with YouTube to sell their own ads on popular web video content.

With so much new inventory on the market advertisers, are turning to programmatic to automate their buying. Video content publishers, once touted for their ability to aggregate massive audiences, are now talking segmentation and targeting. While a string of Facebook live-video stunts have generated splaschy headlines millions of views, advertisers are more interested in going niche and publishers are rushing to meet their demands via programmatic.

FURTHER READING

• Sky brings programmatic to video
• Why CNN’s Great Big Story is looking beyond Facebook
• Mashable’s new content chief on ditching general news
What’s new in 2016?

Over the last year programmatic has grown globally, albeit somewhat unevenly. The tech side has grappled with creating solutions to some of the industry’s ongoing challenges. Programmatic is making it’s mark on linear TV in a bigger way than ever before and a new set of publisher focused technologies aim to bring more revenue to the sell side and level the playing field between buyers and sellers.
Global programmatic

Early expansion in programmatic focused around the US and comparable markets like the UK and Canada. Many first generation programmatic vendors were either American or launched to serve American media brands. In 2016 programmatic has taken on a more distinctly international flair, expanding to markets in Asia, Europe, and South America. However, programmatic inroads haven’t been evenly forged. Take a look and see which regions are trading the most inventory programmatically, and who is lagging behind.

1. The US, Canada, and The UK were early to adopt programmatic practices and the technology remains most widespread in these culturally and linguistically similar regions.
2. German privacy laws make it illegal for publishers to collect user’s IP addresses, device IDs, or other personal info. Without this data for audience segmentation programmatic development has been slow.
3. The Netherlands, a small but relatively mature market, moves more inventory through private programmatic marketplaces than even the US. Nearly 10 percent of all digital inventory.
4. In Brazil a system of strict privacy regulations make it hard for global media companies to collect segmentation data without first establishing or partnering with a local entity.
5. In China global media brands have found it hard to compete if they didn’t have deep pockets and a local partner. Since programmatic has largely been a US export development has been slow in the region.

FURTHER READING

• Online Privacy Laws - Europe
• The state of mobile programmatic in Europe in 4 charts
• EU Commission and United States agree on new framework for transatlantic data flows
Programmatic TV

Just a few years ago, it seemed like a pipe dream: Combine the prestige placements of linear TV with the efficiency of programmatic automation. This industry where Nielsen is king could never make a meaningful steps toward programmatic, or so we thought.

But this year, NBCUniversal and Fox both made programmatic a feature of their Upfront presentations putting programmatic front-and-center during the high holidays of direct buying. The rise of connected TV platforms, which offer the experience of television with the targeting potential of digital has accelerated programmatic TV as have data partnerships between cable providers and broadcasters that allow greater targeting and addressability of linear TV households.

Major broadcasters have expanded their data gathering capacity in a bid to get advertisers on board. NBCUniversal has teamed up with its corporate parent Comcast to build a programmatic platform that uses data from Comcast’s ubiquitous set-top cable boxes to slice and segment linear TV audiences. Notable connected TV providers like Hulu and Roku have opened their own programmatic exchanges allowing advertisers to buy inventory programmatically in an experience that mirrors traditional TV while staying grounded in the digital.

IPG’s Magna Global estimates that programmatic TV as a whole will take in roughly $4 billion in revenue in 2016. Interest in programmatic TV is only expected to grow as marketers, raised on the measurability and automation of digital begin to demand more of the same from linear TV dinosaur. The same report estimates that the total size of the programmatic TV business could reach $10 billion by 2019, approximately 17 percent of total TV spending.

FURTHER READING
- WTF is programmatic TV?
- Evolution of Television: Programmatic TV
Header bidding is a publisher-side programmatic technique that’s captured the attention of media players on both sides of the ad buying equation. Sometimes referred to as pre-bidding or advanced bidding, header bidding tech lets publishers offer inventory to multiple ad exchanges simultaneously before making calls to their ad servers. In most cases that means taking power (and money) out of the hands of Google’s DoubleClick for Publishers, a platform that many feel has accumulated too much market power.

By letting multiple demand sources bid on the same inventory at the same time, publishers can “generate lift and increase their total yield.” (That’s programmatic-speak for “make more money.”) Here’s how it works: Publishers insert a short piece of javascript at the top of their page code that tells their exchanges to accept multiple bids from multiple exchanges. This increases competition for ad spaces and, theoretically, revenue. Without header bidding, publishers are forced to rely on waterfalling, in which inventory is offered to one buyer, and then another, until a sale is made.

So if header bidding is the key to programmatic nirvana, what’s the catch? The primary hold-ups are technical. Making calls to multiple ad exchanges increases latency—the time between the click and the response that digital civilians call slowness—and slows down page load times. Publishers interested in header bidding have to balance the revenue promises against user experience concerns. In the age of ad blocking, UX is king.

Still, header bidding offers publishers a chance to escape the waterfall and to challenge the diminishing returns of Google—and other ad servers—so it’s catching on. Trade groups like the IAB have yet to officially weigh in with guidelines, header bidding has got the industry’s attention and if it catches on it stands to shake up the distribution of power and influence in the digital ad economy in the coming year.
Automated Guaranteed

Programmatic is all about automation, but that doesn’t mean that direct buyer-seller relationships are dead. New programmatic practices like automated guaranteed are putting publishers and advertisers face-to-face once again, but this time automation is in the mix. Sometimes referred to as automated reserved, AG is basically automated ad insertion on premium inventory that has been reserved in advance at the publisher level.

The practice allows advertisers to buy directly with publishers of desirable premium content and skip some of the pitfalls of open programmatic exchanges while still benefiting from the automated ad insertion process. Publishers can count on guaranteed revenue from reserved inventory. More importantly, automated guaranteed preserves the direct relationships that have been the cornerstone of media buying since the Mad Men era. Fraud and lack of transparency have damaged buyer-seller trust but automated guaranteed allows the two sides of the media buying equation to reconnect.

Essentially, automated guaranteed takes the cumbersome RFP process and brings into the programmatic age. Lengthy back-and-forths between planners, buyers, and publishers have been replaced with an automated process that lets everyone know exactly what they can expect.

The practice hasn’t taken off with the same speed as header bidding, but it definitely picked up traction with some influential players in 2016. Major media buyers like Amnet, part of the Dentsu-Aegis network, dabbled into automated guaranteed exchanges this year through a partnership with media giant Hearst.

FURTHER READING

• Amnet’s bet on automated guaranteed
• How Vox is embracing programmatic advertising
Real-time bidding (RTB) has driven much of the programmatic growth thus far. But as audience marketing strategies mature, advertisers are increasingly looking beyond RTB and into different programmatic channels.
Fixed-Priced Programmatic

As the name indicates, this method allows publishers to set the price before the ad is bought. There are two types of fixed-priced programmatic:

1. Automated Guaranteed:
   Also known as programmatic direct, this refers to fixed-price, reserved inventory that’s negotiated directly between the advertiser and publisher. It’s the programmatic ad type that’s most similar to old school, people-driven ad buying, except with automated guaranteed, the RFP and campaign routing process is automated, and the deals are negotiated directly through API calls.

2. Unreserved Fixed Rate:
   Also called preferred deals, is fixed-price, unreserved ad inventory. In this scenario, publishers will make blocks of inventory available on the ad exchange for advertisers to buy directly without having to fight for each impression in a real-time auction.

Auction-Based Programmatic

Auction-based programmatic is inventory that’s available for advertisers to bid on in a real-time auction. Since each impression is bought and sold individually, all auction-based inventory is unreserved. Like fixed-price programmatic, there are two types of auction-based programmatic:

Invitation Only Auction:
   Also known as as private marketplaces or private auctions, ad inventory is sold in a private real-time auction. Publishers have control over the participating advertisers by setting whitelists or blacklists. Advertisers like private marketplace deals because it allows them to take more control over where their ads run.

Real-Time Bidding:
   RTB can be a confusing term, because it’s both a programmatic ad format and a transactional method. It’d be more accurate to call RTB an “open auction” because it refers to ads that are sold in an auction where any advertiser can bid.

This programmatic categorization is important, because it often defines what ads are delivered with what priority. So, on a website, an ad may be displayed following the priority below:

- Ads bought via automated guaranteed receive the highest priority and typically get the best placements.
- Any inventory that isn’t bought through automated guaranteed deals can then be made available to advertisers via preferred deals.
- Any inventory that isn’t sold at a pre-negotiated price will often find its way into the auction environment.
- Publishers may choose to make the ad inventory available within private marketplaces first, in order to try to wrangle as much value as possible from their ad inventory.
- And finally, any inventory that hasn’t sold through the above channels could be made available in the open auction to any interested advertiser.
Cross-Device Retargeting for Performance Marketers

Retarget your website visitors across their desktops, mobile phones, and tablets

Your customers are harder to reach, especially as they switch back and forth between their different devices. Cross-device retargeting from Marin Display can link your website visitors across all their different devices – without using any personally identifiable information.

And we’ve partnered with the top ad exchanges, including Rubicon, OpenX, AdX, MoPub, Millennial Media, PubMatic, and Smaato – to help you reach your customers, whether they’re playing the latest mobile game or browsing the web on their phones and tablets. With Marin, when your web site visitors tune into their favorite mobile apps, they’ll see your ads and interstitials.

Marin Display - find and convert your lost customers no matter what device they are using or where they are online.

www.marinsoftware.com/display
**The more precise cousin of programmatic TV. In the old days TV advertisers used Nielsen ratings to guess at which channels and shows would draw the audiences they wanted to reach. A broad–and wasteful–play to reach the right eyes. Programmatic let them slice the audience more thinly by targeting specific demographic segments, but there was still waste. Addressable TV advertising allows marketers to target ads at an individual household level, hitting only those sets that fit their campaign, cutting waste even further.**

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.

When an agency buys media for clients before the clients pay them to do so, adds something to it (like innovative analytics, say), and then turns around and sells it at a higher price. It’s a money-making play for agencies, and one that’s attracted a fair bit of criticism from those who say it’s a conflict of interest. The critics say that agencies are supposed to offer their clients unbiased advice about what inventory to buy – and that agencies can’t do that if they own that inventory themselves.

Downloadable apps and plugins that allow consumers block the ads being served on the sites they visit. These technologies, available for desktop and mobile, have gained traction over the last year leaving marketers and publishers worried about loss of eyeballs and revenue respectively. The rise of ad blockers has triggered an industry wide conversation about user experience and ad quality and a new class of technologies designed to counter ad blockers. (See AD REINSERTION, SERVER-SIDE STITCHING)

A technique by which ads are inserted into webpages without the permission of those pages’ owners. Ad injection happens when a Web user downloads and installs a browser extension or app that’s bundled with software that quietly injects unwanted ads into his browser. Advertisers shell out affiliate fees to that software’s developers every time a user clicks an injected ad; the site owner doesn’t see a dime. When people get the vapors about “transparency” and “fraud” in the glorious new world of programmatic, this is part of what they’re worried about.
The whole tricky issue of how agencies spend client dollars. When some agencies secretly take kickbacks from publishers in return for flowing ad-buying dollars to those publishers, that’s a transparency issue. The issue is especially pressing now, when all that new programmatic tech is adding another dollop of mud to waters that were Harlem River-level murky to start with. The programmatic system tends to lump together cost of media, cost of staff, and cost of systems. When it’s all boxed together like that, clients don’t know the cost of each element, and don’t know exactly what they’re paying for.

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.

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 content, though you can find some that aim for both.

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.
Short for “web robot” or “Internet robot.” Bots are just software applications that perform simple, repetitive tasks over the Internet. They have their positive uses, but mostly they’ve got a nasty reputation owing to their widespread use for malicious purposes, such as click-fraud schemes. Sleazy advertisers might set up bots to endlessly click on ads, thus driving up their own traffic numbers. Bots are one of the reasons that fraud remains such a problem in programmatic.

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.

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.

Another fraud scheme in a digital advertising ecosystem that breeds them like a suburban lawn breeds ticks. Basically it’s a way of hijacking the affiliate marketing system that generates a living for digital publishers both big and small. Say a publisher’s signed on for Amazon’s affiliate system. That publisher gets paid every time his site drives a visitor over to Amazon. What the fraudster does is, via things like pop-ups, litter the visitor’s browser with cookies that give him – the fraudster – credit for the referral to Amazon. The fraudster gets paid. The original publisher gets screwed.

Data about (yep) the contexts in which consumers make their buying decisions, and a potential goldmine for marketers, if they can use it right. The most common example of such data is weather data. Knowing that it’s going to rain on Memorial Day weekend, for instance, can make all the difference to a marketing team. Cancel the sno-cones. Go all in on umbrellas.

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.
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.

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.

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.
A lot of freaking data. The “big” in big data doesn’t emphasize its importance so 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.

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.

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.

This is 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.

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 demand-side platforms, 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.
When a third party like a brand or agency collects data about a website’s audience and then uses that data without the initial publisher’s permission, the third party gets its hands on that data by using things called tracking pixels on other people’s websites. Then it uses it to target consumers for its own purposes. Example: a luxury watch maker runs ads on GQ’s website. By pixelating GQ’s site it learns who’s clicking on its ads. Next it stops paying GQ for premium ad space and targets those people itself, on the cheap. Perfectly legal – and an inspiring example of market forces in action. Right? Yeah… not if you’re GQ.

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.

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.

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.
Like so many before it, the idol that was the click-through rate is in eclipse, the victim of a changing media ecosystem. Programmatic requires innovative new ways to measure campaign impact. So say hello to metrics that do a better job at measuring engagement with your brand. How and how often are people interacting with it? What actions are they taking in response to it? Are they commenting on it, sharing it, Pinning it, retweeting it, reVining it? The programmatic gods require ever more raw data as tribute.

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.

A growingly popular way of measuring attribution, it stands in distinction to last-click attribution and last-view attribution. Fractional recognizes that your decision to buy a pair of boots from, say, NineWest.com may have been influenced by a variety of factors, not just the ad that popped up on Facebook that you ended up clicking (last-click attribution) or the last ad you saw that impacted your decision (last-view attribution).

Oh boy, we could be here all day with this one. The problem is the sheer complexity of the programmatic ecosystem. There’s a lot of underbrush out there, so the rats have a lot of places to hide. The black-box model that characterizes programmatic doesn’t help either: God knows what’s going on in there. Bots are drumming up phony traffic, hucksters are lying about their visibility rates, and the metrics are easy to game.

Restricting the number of times a specific visitor to a website sees a particular advertisement. You don’t want to drive a viewer crazy and send him or her to Twitter to disparage your brand.

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

A piece of java script that publishers can add to their pages allowing them to make to offer inventory to multiple ad exchanges simultaneously before making calls to their ad servers. This should theoretically get publishers the best price for their inventory, but it also means taking power away from the the ad servers – this means youDoubleClick for Publishers – and avoiding the diminishing returns of the RTB waterfall.
** 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 count as two impressions. In programmatic, 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 that the front page of The New York Times isn’t 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 as to target very specific audiences.
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.

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.

Personally identifiable information. This is what the conspiracy theorists, and maybe your mother-in-law, is freaking out about. It’s 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.

Archaically, a raised platform that someone can stand upon when performing or speaking. In technology, the environment in which a piece of software or code runs, usually including hardware and an operating system. Nowadays, just about everything calls itself a platform. Closest to meeting both definitions are social media “platforms” like Facebook, Pinterest and Twitter, which give voice to their millions of users, including publishers and advertisers, and operate in their own environment. Publishers also claim to be platforms— for their journalists, readers and, of course, advertisers.

Finally, programmatic technology companies also call themselves platforms, though they are platforms entirely in the computing sense. Chances are, though, that your programmatic provider also has a Facebook page.

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.

The highest price that any bidder can offer for an impression package.

Private marketplaces 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. Also called a private exchange.
“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, who 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.
Pre-Pro

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.

Using a programmatic dashboard, advertisers can test different versions of the same ad at scale, in order to determine which ad is more effective. Automation 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.

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.

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

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, or on CatChannel.com, for instance.

An alliance between smaller publishers in which they pool their programmatic ad inventory. The two key concepts here are “scale” and “security.” Publishers get the benefits of programmatic buying at more scale than they could provide on their own. Advertisers wary of programmatic get assurance that their messages will appear only on premium sites. Particularly popular in Europe, where achieving scale is harder.

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.
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?

Just what you think it is, and it stands to revolutionize TV advertising by turning it on its head. Traditionally marketers have relied on show ratings to determine desirable audiences for their ads. Now they’ll be able to use programmatic tech to reach a more specific subset of consumers. They won’t care what shows the ad runs on, as long as the target audience is watching. It’s been slow to happen, for one thing because TV is a conservative field with a robust business model. (If it isn’t broken…) Programmatic TV remains the fat $70 billion per year holiday ham of the advertising world, and the thought of getting their hands on a chunk of it sets programmatic tech vendors drooling.

What a brand needs to have to make its programmatic initiatives successful: a pool of data that it alone possesses. As marketing types like to repeat when they get a little oiled up in the hotel bar after the analytics seminar, “The general who knows something that his enemy doesn’t tends to win the battle.” Bonus marketing cliché: “Our great proprietary data is our competitive advantage.”

The hot new thing, the marriage of native advertising and programmatic ad technology. Several industry players promise to deliver native advertising programmatically, by matching readers’ interests and marketers’ goals. The success of programmatic native rests largely on publishers’ willingness to open inventory to programmatic native platforms.
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 term “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.
No need to canvass 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.”

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

Unlike behavioral targeting, retargeting focuses on those of a consumer’s online actions (clicks, page visits) that are 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.

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.

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.

The revenue a publisher gets from selling a thousand ad impressions on its site.

Revenue Per Thousand Impressions (RPM)
Se–T

### Server-side Stitching

Sometimes referred to as video ad stitching, this anti-ad blocking practice allows video publishers to stitch ad content directly into their videos at the server level before they are delivered to the consumer. This makes ads indistinguishable from the content in which they are embedded and therefore impossible to block.

### Sequencing

The process of arranging the order in which you send a consumer a bunch of marketing content so as best to lead him towards a purchase. For example, first you hit him with a display ad, then with a piece of branded content, then with a call to action -- and so on.

### 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.

### Transparency

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.

What the programmatic ecosystem needs a lot more of, according to its critics. The proliferation of data in programmatic makes it opaque; so does the fact that, while you don’t really need a PhD from CalTech to understand how the ecosystem works, it doesn’t hurt. The lack of transparency makes it easier for bad actors to get up to their games (See “fraud”). It also makes it much harder for clients to figure out just where and how their money’s being spent.
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.

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 one 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.

Waterfalling

A technique publishers use in programmatic to maximize both the pricing and sell-through rate of their inventory. Trying to squeeze as much revenue out of each ad impression, publishers work with the ad networks or supply-side platforms that offer the highest rates first. Then they move onto those that offer lower rates, and so on until they’ve sold every impression. Also called “daisy chaining.”

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.
WTF IS PROGRAMMATIC?