iab australia

# AUCTION MECHANICS HANDBOOK

## V3 - UPDATE APRIL 2021

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# INTRODUCTION

For some time now the Standards & Guidelines council have been looking to review and update this handbook, which was last edited in February 2019.

Since then we've seen header bidding increase in popularity exponentially, an industry shift to first price, an explosion of solutions working across more devices and in-app environments and a genuinely positive evolution in both the range and adoption of transparency standards.

We cover-off on all of these topics (and more) in this edition and also try to provide some information on other expected improvements that we should see coming later this year.

Additionally we introduce Prebid as it's now so much more ubiquitously adopted these days, is now openly supported by IAB Tech Lab  and as a collaborative open-source approach it is increasingly being supported, at least philosophically, now by the entire industry.

Be aware that in this updated edition we have moved the explainers of the various techniques such as bid caching and bid stacking into the appendix at the end, along with a few other bits that we feel are useful as references but not necessarily vital to one and all.

Lastly, thanks very much to all the contributors (listed below) without all of you, these types of specialist publications would be impossible.

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# THANK YOU TO OUR CONTRIBUTORS

This paper has been driven the IAB Standards and Guidelines Council and we would in particular like to thank following for their contributions in terms of both writing content and relentless editing.

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# HEADER BIDDING AND IT'S RELENTLESS EVOLUTION

**What is header bidding?**
Header bidding is a method of offering publisher inventory to multiple advertising exchanges and demand side partners simultaneously, prior to the ad server being called. This is done by utilising header bidding technology that manages the process of sending ad requests to all connected exchanges and partners, collecting winning bid responses and passing it through to the publisher's ad server for final decisioning.

The publisher is in control of defining the rule sets governing the header bidding auction.

**What did header bidding look to resolve?**
Publishers utilise ad servers to manage and optimise advertising campaigns across their inventory, including their programmatic partners. Ad servers are built to ensure that each campaign fulfills its delivery goals within a defined period of time given and across a certain set of targeting.

Prior to header bidding, an impression followed a strict waterfall model within the publishers ad server setup:

1. When an impression becomes available, the ad server is called first.
2. The ad server will check through each campaign booked in the system to determine which one needs to be fulfilled.
3. If all campaigns are on track, the ad server would then select the line item containing the exchange/demand partner's ad tag which would start the auction process.
4. If there was a winning bid from the exchange/demand partner, the winning bid would render on page.
5. If the exchange/demand partner did not have any winning bids, the impression is "passed back" to the ad server and another SSP/demand source was selected (e.g. SSP #2).

Each SSP, ad network or demand source was effectively "waterfalled" using priorities and inflated value CPM's in the ad server, each only called when the vendor prioritised ahead of them was unable to fill the impression. This meant that publishers may have been missing out on high value bids from partners that were not called, as they were further down the waterfall.

Header bidding aimed to resolve the inefficiencies of the waterfall model for both publishers and buyers. It has introduced an equal playing field amongst partners, increased transparency and competition, improved yield management and helped buyers gain access to premium inventory that may have not been previously available.

**How does header bidding work?**
Header bidding flipped this logic around so that the exchanges were called first, before the ad server. This is achieved through a piece of JavaScript code implemented on the header of the web page:

1. When an impression becomes available, the header bidding wrapper is called first.
2. The wrapper will make a request to all ad exchanges/demand partners plugged into it via an 'adapter'.
3. Each exchange/demand partner will conduct their auction process and return a winning bid to the wrapper.
4. The wrapper is then responsible for processing the bids and converting them into a language that the ad server understands -key values. The most important key value is the one representative of the price of the bid e.g. hb_pb=1.50 (hb_pb is the Prebid.org key value for price).
5. Be aware that the wrapper can be set to send the highest bid or to send all valid bids from each exchange/demand partner back to the adserver (depending on publisher requirements).
6. The key values are sent back to the ad server, and the ad server is responsible for determining the winning line item based on the price returned, if hb_pb=1.50 is returned, then the 1.50 line item is activated.
7. The ad server will use the value CPM of that 1.50 line item bid to conduct an internal auction to determine if another demand source needs to be served (Google OpenBidding or Direct campaigns).
8. If the ad server determines nothing else needs to be served, the winning exchange/demand partner will serve their ad.

# AUCTION MECHANICS AND THE INDUSTRY SHIFT TO FIRST PRICE

**In-app Header Bidding:**
The in-app ecosystem has had a different evolution over the years to web based environments.

Firstly, in-app header bidding is a much harder solution to implement and is a significant tech effort for the publishers and SSPs.

Secondly, given the importance of SDKs and the data models built over user exposure in various waterfall positions, there is a large amount of revenue that is generated in the “traditional” way, and so publishers have a large risk associated with any such technology shift.

SSPs also are not all equally advanced to set up header bidding for app inventory. In addition, a few header bidding solutions do not allow SSP SDKs to be deployed and that further reduces the momentum. As a result, the adoption rate for header bidding is not just low but also likely to be never as complete in in-app as it is in the web ecosystem.

However, SDK is not the only way to access in-app supply for advertising. Buyers can usually find direct in-app supply through both SDK and API integrations. SDK-integrated supply, however, performs much better than that via API for buyers for three main reasons.

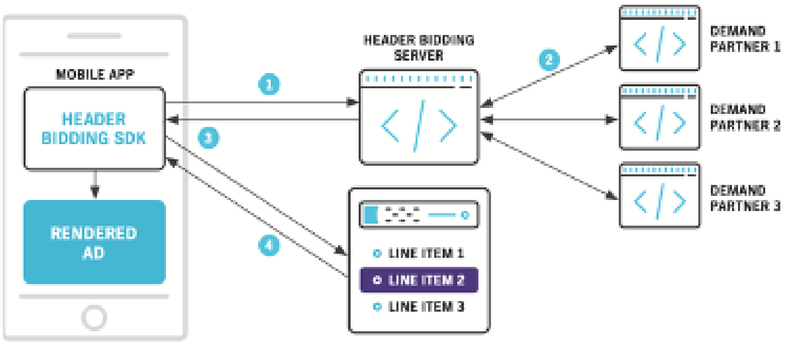
**1.** SDK integrations allow SSPs to control ad rendering providing consistent user experience and predictable campaign KPIs for its buyers across thousands of publishers. Contrast this with API integrations where SSPs rely on publisher-side code for ad rendering and have little or no control of their own. As a result, buyers running on API supply could potentially see their creatives render incorrectly on many publishers because of any one of several variables that could make the creative incompatible with the publisher’s app.

**2.** SSPs are able to report impressions and bill advertisers more accurately using SDK integrations. Mobile app impressions can be reported at two stages – one, when the ad markup is fetched by the SSP at pre-load, or two, when the ad container is actually displayed to the user (i.e. ad render). Impressions at ad render will be lower than impressions at pre-load, and more accurately reflect impressions seen by the user. So when advertisers and DSPs pay for impressions at ad render, they get more exposure to users for the same cost (than if they pay for impressions at pre-load). SSPs with SDK integrations are more likely to support reporting impressions at ad render, and therefore create more value for buyers.

**3.** Supply coming through SDK integrations allow SSPs to collect more data signals and standardize them across thousands of publishers for the buyers. In API integrations, SSPs rely on publishers sending accurate signals, if they choose to even send signals in the first place. As a result, SDK supply is data-rich and offers more accurate targeting.

App publishers are increasingly adopting a hybrid solution where they add a header bidding solution for certain select SSPs while continuing the waterfall monetization setup. This hybrid approach creates more complexity for DSPs as they now risk seeing duplicate impressions but with little recourse to identifying the truly duplicate from the initial impression.

## IN-APP HEADER BIDDING WITH A PRIMARY AD SERVER



# HEADER BIDDING AND IT'S RELENTLESS EVOLUTION

**Header Bidding wrappers**
There are two types of header bidding wrapper technology providers that publishers should be mindful of, however it's also worth noting that proprietary companies can also manage open-source wrappers.

**Open-Source:**
Open-source wrappers are transparent, crowd sourced, adaptable and neutral solutions that are developed and managed by collaboration amongst various technology partners within the industry.

**Proprietary**
Proprietary wrappers are closed, non-transparent solutions managed by a single business, whereby the development of the technology is determined and executed solely by that business.

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**Client Side:**
A client side header bidding integration relies on the user's browser to call all partners. The wrapper code on the page is responsible for facilitating the sending and receiving of bids from all partners.

**Pros:**
High cookie match rates
Transparent auctions (when open-source tech is used)

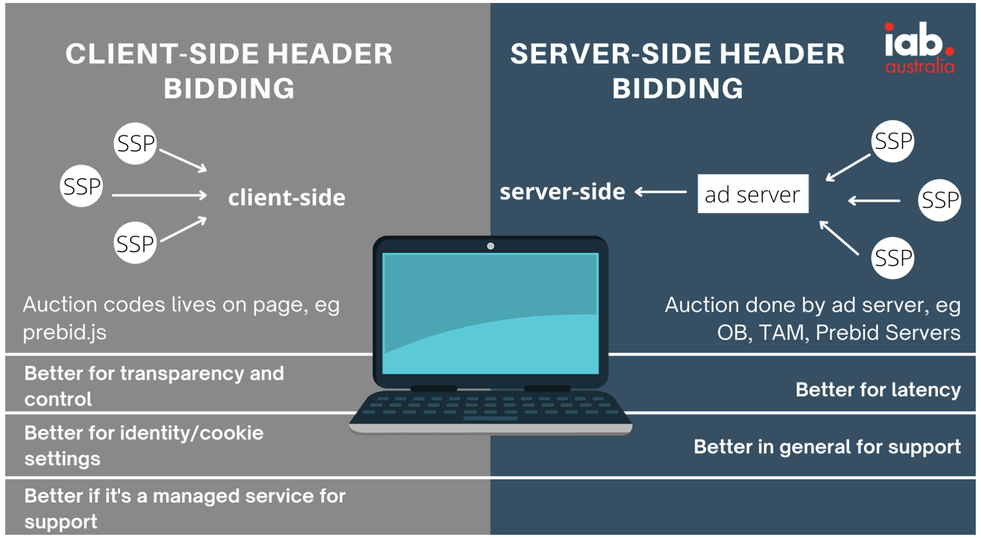
**Cons:**
Latency (but can be controlled by defining timeouts)
Browser limitations which will limit the volume of ad requests

**Server Side:**
A server side header bidding integration moves the call to all partners off the browser and onto a server. The wrapper calls the server, and the server is then responsible for facilitating the sending and receiving of bids from all partners.

**Pros:**
Less latency and quicker response times
Less processing power required from the users browser
Ability to scale more demand partners

**Cons:**
Low cookie match rates
Fewer transparent controls for publishers

# HEADER BIDDING AND IT'S RELENTLESS EVOLUTION



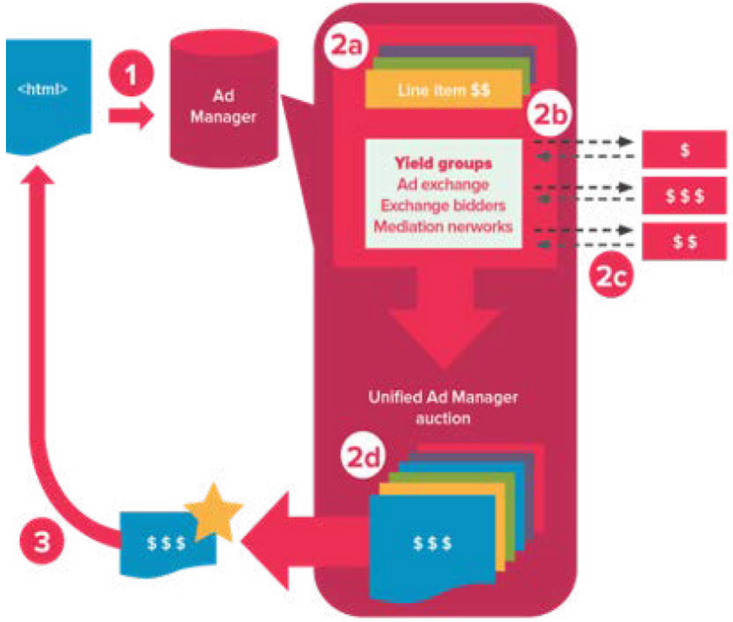

These days header bidding solutions are offering so much more in terms of capabilities, and with the increased demand for high impact and video solutions the model has evolved to allow not just SSPs access to inventory, but also high impact ad tech vendors - thereby improving yields and opportunities for publishers.

**Open Bidding**

Open Bidding, previously known as Exchange Bidding in Dynamic Allocation (EBDA), is only available for Google Ad Manager 360 users and was launched in response to the increased demand for header-bidding type solutions.

It allows Ad Manager users to quickly enable any eligible inventory to take advantage of Open Bidding with no additional technical development required, making it simple for Ad Manager users to implement. Furthermore publishers can also manage their pricing in a simple way, by changing settings in a single place centralising the yield management of target CPM or floor prices across all your programmatic demand via unified pricing rules (see image below).

Before Open Bidding can begin, there are a few tasks for both demand partners and publishers to complete. Each publisher and demand partner must have an established contractual relationship with one another. Google is not involved in these contractual relationships.



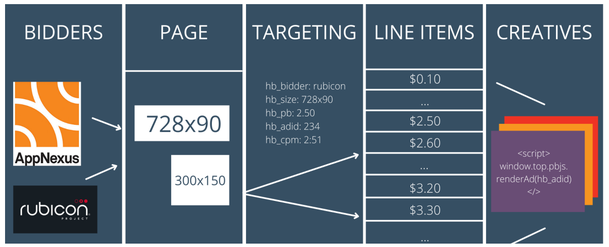
# PREBID: AN INTRODUCTION

**Prebid History**
Header bidding came about as a modern response to what is typically known as the 'traditional waterfall' method of supply monetization. Instead of offering supply to one demand partner at a time sequentially, header bidding allows all partners to bid simultaneously, with the increased competition often leading to greater yield and revenue for publishers.

The success of header bidding led publishers to adopt more and more "bidders," and eventually, publishers needed a new solution, commonly known as a container or wrapper, just to manage all of their header bidding partners. Publishers had a few options to do this. They could work with a fully managed service container, outsourcing everything to a third party, or they could put together their own solution, using various pieces from multiple vendors.

Prebid.js launched in 2015, designed to be a new type of container for publishers. Prebid is open source, meaning any publisher can use the code, and any company in the ecosystem to add to the code. The transparent and open nature of Prebid helped many rethink what was possible with a container, and the community that built up around Prebid helped unify a fragmented ad tech space and provide a level of consistency that was not there before.

From this framework, Prebid has continued to grow and today, it is the fastest growing header bidding solution in 2021.




**What is available to use?**
- Prebid.js (more info in later section)
- Prebid Mobile – SDK available (Lightweight SDK enabling app publishers to move beyond the waterfall)
- Prebid Server (Moving Prebid and Header Bidding to the cloud for efficiency, scale and performance)

**Benefits**
Implementing Prebid across your business brings a number of benefits. These benefits can lead to higher bid density, increased CPM and yield, smarter business decisions, and ultimately removing reliance of any one vendor in your ad stack.

**Some key benefits include:**

- **Open Source by design**: Being open source allows the clearest view of your supply, and is seen as a very transparent way to transact on supply.

- **Widely supported**: A huge benefit of Prebid.js is how widely adopted it is. With over 150+ demand sources and supporting connections along with over 15+ analytics adapters you are not hindered by market location, and or lack of options. This enables healthy competition amongst your demand.

- **Large ad tech collaboration**: Prebid.js is also an ongoing project being supported by the wider ad tech community. Including many of the largest ad tech companies in the world. This leads to a better product and outcome for Publishers.

- **Complete product suite – web, app, client, server:** Regardless of your supply Prebid.js can help. Including web and app, multiple formats, and also various integrations i.e. client side vs. server side. This means you can implement what works for your business.

# PREBID: AN INTRODUCTION

- **Free to use:** Prebid.js is free to use However, if you are not equipped with an adops team with the required technical knowledge to install and setup Prebid.js, then you might need to pay engineers to do that for you. Although there are also many supportive communities of like-minded Publishers out there keen to infomally help.

- **Analytics Support:** With support of over 15+ analytic adapters you can be sure to find one that fits your business. More information helps you as a Publisher make better decisions long term about your demand partners. This could be across many different filters and dimensions that can be captured in the bid stream.

**Best Practices:**

**Some considerations pre-implementation:**

- Identify what connection would suit your business i.e. client vs server integration. From there you can look at what kind of setup you will require in a business. There are pro's and con's covered in our handbook on these.

- Build vs buy models. Some Publishers will not have access to product and engineer teams. Therefore, a managed deployment and service may be a better fit.

- For those that are more confident you can of course deploy Prebid.js yourself. You will need to look into the benefits for both and way up these based on your business needs.

- It's always good to have a variation of demand partners. With over 150+ supporting demand partners globally you will be sure to cover almost all demand available. However, keep in mind more demand partners do not always equal more revenue overall. You will need to balance page load, and browser overhead's vs yield and revenue. Too many partners can lead to revenue loss due to processing and latency issues.

- Establish analytics to make informed decisions.

- Ask for help when needed, community, FAQ's, documents Prebid.org

**Prebid.org:**

- Major hub for Prebid.js updates and news

- It's widely supported with 150+ demand sources, 15+ Analytics adapters.

- Adtech collaboration to the wider vision, and capabilities to improve header bidding. A very active community of supporters, constantly being improved on, new features and knowledge base.

- Prebid.org has been in operation for 3 years now and is driven by the industry's largest ad tech collaboration including OpenX, Index Exchange, PubMatic, Magnite, The Trade Desk, MediaMath and Xandr.

For a full list of Prebid member organisations please follow the URL below:

https://prebid.org/membership/member-directory/

For a full list of Prebid members that can help configure, manage and host your Prebid implementations please follow the URL below:

https://prebid.org/product-suite/managed-services/

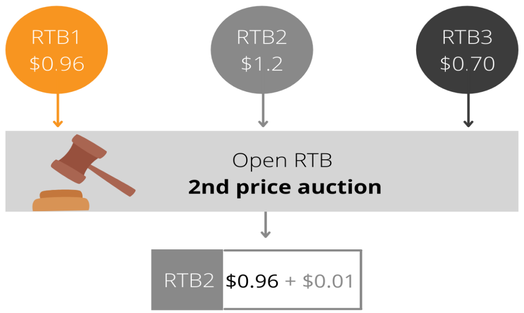
# AUCTION MECHANICS AND THE INDUSTY SHIFT TO FIRST PRICE

Auction dynamics refer to the factors affecting the negotiation between the DSP (buyer) and SSP (seller) in order for an advertiser to bid on inventory across digital media, thus determining the final price that is paid for that impression. In this section, we'll go over some of the key mechanics that contribute to the auction process and will start with second price (rather than first) as this has, until recently, been the more prevalent approach in programmatic trading

**Second Price**

When programmatic first began, buyers typically implemented bidding strategies and practices based on "second price" auction mechanics. Put simply, the highest valid bid will win the auction, but the winner will only pay the value of the second highest bid, plus $0.01 (USD). Therefore, it was within the buyers best interest to bid the highest on the impressions that they sought to win.

**Example:**



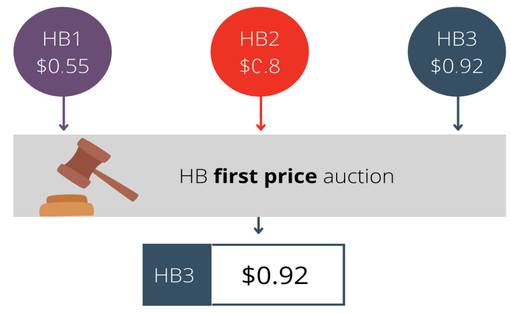

In this example, the winner is the buyer RTB2, who bid $1.20, however as the auction is second price, they will only pay $0.97, which is the second price of $0.96 plus $0.01.

Second price auctions attract more demand density as buyers know they will only pay the 'market rate', however, it does not maximise revenue for the seller. In the example above, the winning buyer was prepared to pay $1.20, but only had to pay $0.97, leaving a potential $0.23 left on the table. With header bidding becoming the main form of integration type for publishers, the concept of first price auctions came into play.

**First Price**

The transition from second price to first price auctions was accelerated by the fast adoption of header bidding. With first price auctions, the highest bid will win the auction, and the buyer will pay exactly the amount that they bid.

**Example:**




In this example, the winner is the buyer HB3, who bid the highest at $0.92.

The increased adoption of header bidding meant that exchanges were not only competing against each other in one singular auction to win the impression, but also against a second and third auction downstream held within the publisher's ad server, against direct sold inventory and Google's Open Bidding.

Therefore, first price has now become the standard within the programmatic industry due to:

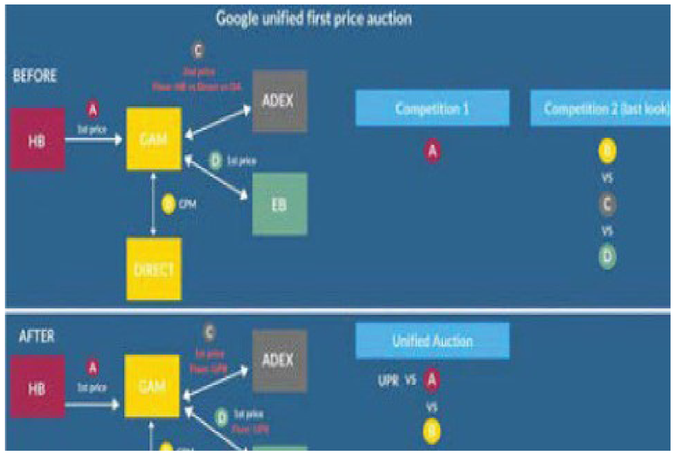
- Transparency: buyers now bid what they are willing to pay and this value is clear to publishers
- Reduced complexity
- Ease of yield management - publishers are now able to ascertain what the true value of their inventory is and no longer have to worry about increasingly complex floor pricing strategies when it came to second price auctions

First price auction is now widely used within the programmatic industry. However it's swift introduction did initially highlight some issues that needed to be addressed.

# AUCTION MECHANICS AND THE INDUSTRY SHIFT TO FIRST PRICE

With more exchanges adopting the first price model, DSPs and buyers had to adjust their strategies and algorithms to be able to participate efficiently in a first price auction world.

Once Google Ad Manager fully transitioned to unified first price auctions by September 2019 the rest of the industry soon followed as a standard practice.




**Bid Shading**
One practice that has now standardised as a result of the shift to first price is Bid Shading.

This auction mechanic was created to assist DSP's and buyers adjust to a first price model and works by reducing the bid amount submitted from a DSP, whilst still remaining competitive enough to win the auction.


Where previous campaign configurations may have worked efficiently in a second price auction model, this would become problematic in a first price world as the maximum bid being used to win the auction would now effectively be the clearing price. This introduced the risk of overpaying for an impression and burning through campaign budgets.

The tech vendor that is applying the bid shading algorithm will utilise historical bid data to calculate the appropriate value for that impression, which will be somewhere between the first price and second price bids

Bid shading is now widely used by DSPs and SSPs. It is recommended that you speak to your tech partners to understand how this is being utilised - and review the appendix section at the end of this handbook for more info.

**Price Floors**
There are many different types of price floors within the ad tech ecosystem, below are the most common:

| FLOOR TYPE: | DESCRIPTION: |
|---|---|
| HARD FLOOR | If the bid does not exceed the value of the hard floor, the inventory remains unsold. |
| SOFT FLOOR | The bid can win if it is under the specified floor value by a certain percentage. This increases fill rate whilst not compromising yield. |
| DYNAMIC FLOOR | The floor rate for the impression changes based on historical bid data that is present within each tech vendors platform. |

# AUCTION MECHANICS AND THE INDUSTRY SHIFT TO FIRST PRICE

**Deal Types:**
Deals or private marketplaces (PMPs) are a strategic negotiation of inventory and price between sellers and buyers, transacted between the SSP and DSP of choice via unique deal ID. Deals can be struck for various reasons, but the most common are to obtain priority or to reach a certain audience.

The below table shows the common deal types that you will encounter within the ad tech ecosystem.

| TYPE | RELATIONSHIP | PRICING |
|---|---|---|
| Automated Guaranteed | 1:1 | Fixed Rate |
| Programmatic Guaranteed | 1:1 | Fixed Rate |
| Preferred | 1:1 | Fixed Rate |
| Private Auction | 1:1<br>1: Many | Fixed Rate<br>Floor Rate |
| Open Market | 1: Many | Floor Rate |

# SUPPLY PATH OPTIMISATION (SPO) & DEMAND PATH OPTIMISATION (DPO)

While the term ‘SPO’ has been used to refer to different parts of the supply decisioning process - for the purposes of this Guide, we define SPO as ‘a process in which multiple variables are assessed to drive buyers towards the most efficient buying path’.

First and foremost, it is important to remember that, in programmatic, sometimes less is more — particularly when it comes to tech partners — and consolidation often leads to accelerated innovation. Ultimately, fewer pipes can economically push more value by taking less from the buyer or advertiser.

SPO is a powerful way for buyers to control their buying paths and strengthen their supply relationships. The goal of SPO is for buyers to access the inventory that matters most to them – consolidating around the buying paths that are low cost and transparent and ultimately increase their buying power.

Successful SPO begins and ends with optionality: understanding how brands and advertisers can achieve their desired business outcomes by working with the right partners, and the right pipes.  Buyers want to maximise working media in relation to transaction fees. It’s this type of thinking, this type of innovation, that is going to open buyers and advertisers up to better campaign outcomes and return on ad spend.

Further, in order to establish a more transparent, innovative digital environment, we have to start by clarifying the inner workings of the supply chain. Many buyers across the ecosystem are forging relationships with SSPs and exchanges for the first time ever. As a result, advertisers and buyers have begun to build a more trusting relationship with programmatic players on the sell-side. The capacity to build trust with selected partners, to differentiate between transparent and non-transparent participants, is one of many ways in which supply path optimisation can help boost trust and transparency (not simply for buyers, but for the ecosystem at large).

When Header Bidding emerged as a new technology, every participant in the space had to compensate with increased investment in order to manage the increased volume of bids that were often duplicated as a result.

More routes being made available to the same impression obligated demand-side platforms (DSPs) to better understand the endless differences in price, quality, audience match rate and latency.

Having to evaluate each path to inventory on how well it performs, based upon various critical criteria, resulted in Supply Path Optimisation (SPO) emerging as the preferred solution to finding the most transparent, most direct and best performing path to any underlying impression. When implemented correctly SPO will result in:

- Improved ROI (Return on Investment) for marketers.
- A reduction in levels of invalid traffic.
- Improved decisioning with enhanced bid opportunities.

Since DSPs do not have full visibility into everything that occurs with an impression on the sell side, the primary mechanisms that DSPs can use to optimise their supply paths are:

- Eliminating intermediaries that do not add value.
- Working with SSPs to optimise the auction dynamics.
- Understanding how their bidding performs within their auctions.

These three methods are powerful ways that DSPs can drive a more transparent and hygienic media ecosystem for advertisers.

# SUPPLY PATH OPTIMISATION (SPO) & DEMAND PATH OPTIMISATION (DPO)

**How does Supply Path Optimisation Work?**

Most DSPs are essentially taking two steps in implementing SPO today.

- Auditing their entire supply chain to remove supply partners that do not add value or provide differentiated inventory.
- Implementing decisioning that will enable the DSP to evaluate each bid opportunity based on the value of any particular path over another, determined on factors such as price, match rate and latency.

This results in higher performance and lower cost for advertisers, since less advertising budget is wasted on unnecessary intermediaries.

Utilising SPO allows the supply teams at DSPs to monitor exchanges so as to detect auction manipulations via instituting custom changes such as automated bid shading, which prevent advertisers from paying more on exchanges that institute soft floors without telling buyers, or moving to first-price auctions, which can reduce advertiser CPMs without reducing bid rates in header-bidding environments.

When DSPs are optimising their supply paths, they are doing much more than simply removing duplicate inventory – they are ensuring that all of the inventory available within platforms can be reached on paths that genuinely add value. On an ongoing basis, many DSPs now have teams regularly analysing every relationship with exchanges to ensure that they are not purchasing re-sold inventory and that each exchange only sends the inventory that they have direct access to along the approved paths. In doing so, you are then looking at attributes that are not analysed in the bid request and which could not be optimised for in real-time decisions for campaigns based on the information available.

SPO is gradually becoming a key way that DSPs have been able to mitigate the additional operational burden of Header Bidding whilst increasing the overall value that can be provided to both consumers and marketers. All sides see improved revenue by providing more strategic value to clients even as the volume of bid opportunities have decreased.

Any solution that helps bring greater transparency in ad tech and help remove bad actors is a good thing. From a publisher perspective helping buyers streamline the supply path from buyer to seller, in the long term, should not only improve unnecessary expenses for the buyer (by resolving issues around auction duplication) but also improve demand for the publisher (by providing the buyer with a publisher specific optimized path).

SPO also helps with transparency - it attempts to resolve issues around where advertising dollars are attributed in the supply chain, which has been a problem with complex set-ups in this space. This in turn then helps with revenues (by helping improve publisher fill-rates - buyers are much more likely to improve their bid-rates on trusted environments) and helps to decrease ad fraud (by providing shorter supply paths with a smaller vendor group and with trusted players).

**How should Buyers Implement SPO for In-App?**

Buyers are usually well-versed with SPO in the mobile web and desktop context. But buyers would benefit from understanding the in-app nuances and using them to tailor their SPO strategy for the in-app world.

Below, InMobi outline four broad principles for the SPO strategy for buyers, in order of application onto an assessment of SSPs:

**1. Direct Path to Supply**

The ‘direct path to supply’ is the foundation of all supply path optimization practices and it is no different in in-app. Buyers should look to partner withSSPs that can provide them direct access to their preferred in-app supply. How can buyers identify direct supply? The in-app programmatic system has multiple supply chain transparency tools, in particular app-ads.txt, sellers.json and schain object, that are also present in the mobile web and desktop world.

# SUPPLY PATH OPTIMISATION (SPO) & DEMAND PATH OPTIMISATION (DPO)

Similar to how they would in a mobile web or desktop setting, buyers can use a combination of these tools to identify and eliminate all indirect supply. For example, buyers can use the schain object (in the bid request) to get the list of seller IDs of each party that the ad request or impression has passed through. They can then map it to sellers or publishers through sellers.json, which is a public-facing metadata file that allows buyers to look up all sellers (or publishers) on the SSP and the type of seller they are through the seller type field (which classifies each seller ID as a “Publisher,” “Intermediary” or “Both”).

**2. Efficient Paths**

Buyers should note however that all direct paths are not equally efficient. Some SSPs provide a higher ROI supply path than others on average, and buyers should prioritize supply through those SSPs. This difference in ROI – on the same app inventory accessed through different SSPs – can be because of multiple factors like nature and depth of integration type (either SDK or API), support for ad formats, or access to or coverage of data signals.

While IAB frameworks for supply chain transparency help buyers automate identifying direct supply, identifying the most efficient paths is a more manual and analytical process. One way for buyers to identify high ROI supply paths is to evaluate their current in-app SSPs on campaign ROI delivered across their portfolio. Most often, DSPs will be able to provide buyers with reporting that can help break out performance by SSP. But buyers extend their evaluation beyond current data as well. Buyers should evaluate SSPs on multiple factors including:

- Corporate vision and value
- Reach and scale of inventory, diversity of audiences, and ad format types
- Record of inventory quality, transparency into auction dynamics, fees, supply paths
- SSP’s product roadmap, their alignment with buyer needs, and the extent of buyer participation or influence in the roadmap
- Support for identity solutions, custom technology, reporting, automation, etc.

These data points reveal a lot about an SSP’s focus on in-app advertising as a channel, and are usually a good proxy to identify SSPs that will be able to provide high ROI supply paths for the buyers’ choice of inventory.

**3. Preference Header Bidder Access**

Buyers should prefer header bidding supply paths as much as possible.
Here are a couple key reasons for this:

- Header bidding allows buyers to access the maximum available audience with a much lower infrastructure overhead than in a waterfall setup.
- Header bidding also results in a more transparent auction for the buyers.
  In a header bidding setup, bids from all demand sources participate in one single auction run at first price.
  The buyers’ bid (and the winning price) for the publisher’s inventory is not affected by competing bids or the clearing logic in intermediate auctions that are common in waterfall setups.

The complication that buyers have to deal with though is that header bidding adoption in the in-app ecosystem is low. Still, buyers can prioritize SSPs based on the volume of supply available via header bidding paths compared to waterfall setups. To facilitate this, buyers should ask their partner SSPs for identifiers to signal whether the traffic is coming through a header bidding path or not.

# SUPPLY PATH OPTIMISATION (SPO) & DEMAND PATH OPTIMISATION (DPO)

**4. Optimised Reseller Paths**

All forms of reselling are not bad, and there are multiple examples of how value-added reselling that unlocks new and valuable access paths for advertisers and publishers and are ultimately beneficial to buyers. Some forms of reselling are straightforward. For example, bundled SDK partnerships and outsourced yield management help solve for the operational and distribution muscle of the sell side to provide greater access to buyers. Yet others (like custom ad placements) help bridge technical gaps between publishers and buyers. It is easy to see the value they bring to the programmatic value chain even though they add another financial entity between the buyer and the publisher.

On the other hand, some reselling forms like OTT content syndication can seem opaque to buyers. But even OTT content syndication is an important component in the video content ecosystem and plays an important role in enabling a viable business model for content producers and owners.

Thanks to the various supply chain transparency tools available to buyers and the enhanced discourse in the ecosystem, buyers can now engage in more nuanced conversations with their SSPs to understand the kinds of reseller partnerships that they have behind their partner SSPs, and selectively turn on the ones that are truly adding value and turn off those that are not.

**What is Demand Path Optimisation (DPO)?**
Publishers can utilise DPO techniques by assessing the data they can access such as win rates and bid response times to then try to identify their best buyers - enabling sellers to bring further value to the demand side as they can help them to make more informed decisions on which inventory to bid on. This results in more committed buyers and also strengthens brand safety as the paths are visible and verified for trusted partners.

DPO can also involve building an understanding of what the buy-side needs from sellers in order to be able to bid on inventory, and ensuring these things are available. A seller might find, for example, that while their audience is very valuable to a particular buyer, that buyer needs to be able to measure certain quality metrics which the seller doesn't currently provide. Identifying these blocks to investment and correcting them can lead to more efficient demand sourcing.

Auctions can then be carried out much faster with DPO in place, benefiting publishers with reduced latency and improving user experience.

Although similar umbrella terms, SPO and DPO differ as the latter places a focus on how ads and impressions are sold whereas supply-path optimisation is concerned with 'how impressions are acquired to eliminate technologies or non-essential resellers with the verified log-level data' in order to find the most direct and efficient route possible.

In the short term, these processes may seem to decrease yields due to there being less duplicate bids generated from the same impressions (which artificially increase bid density). However via DPO, publishers will start to open-up the most efficient paths to connect with key buyers - and as the value chain becomes more transparent more money will start being committed resulting in yield uplifts in the longer term.

# SUPPLY PATH OPTIMISATION (SPO) & DEMAND PATH OPTIMISATION (DPO)

**Transparency Initiatives**

1. Supply Chain Transparency Standards

Over the past three years, the IAB has developed some initiatives to help combat fraud and reduce the prevalence of bad actors within the ad tech ecosystem. These tools are increasingly also enabling more transparent paths through the supply chain and supporting the efforts related to path optimization still further. See below for a summary.

| INITIATIVE: | DESCRIPTION: | SPECIFICATIONS: |
|---|---|---|
| Ads.txt | A mechanism for publishers to list their authorised digital sellers, in order to fight against fraud and misrepresented/counterfeit domains. | Ads.txt spec |
| App-ads.txt | An extension of the original ads.txt standard to meet the requirements for software applications distributed through app stores, connected TV app stores and other distribution channels of this nature. | App-ads.txt spec |
| Sellers.json | Provides a mechanism to enable buyers to discover who the entities are that are either direct sellers or intermediaries in the selling of digital advertising. | Sellers.json spec |
| OpenRTB SupplyChain Object (sChain) | Enables buyers to see all parties who are reselling a given bid request. This is represented as a set of 'nodes' indicating the list of sellers that were paid in that particular bid request. | Supply chain object |

**2. Buy-Side Transparency Standards**

IAB Tech Lab have recently launched two new buy-side programmatic transparency standards to replicate the sell-side transparency standards that have been so successful in enabling DSPs and buyers to verify supply sources and interrogate all the intermediaries involved in delivering any inventory offered in bid requests.

Buyers.json and the DemandChain object

Called buyers.json and DemandChain object (dchain), these standards work by providing transparency into any of the entities involved with publishing low quality ads.

*Buyers.json* is a mechanism for advertising systems and other intermediaries to publicly declare to sellers any of the buyers that they represent. With this information, publishers and SSPs can easily identify sources of malvertising attacks, identify problematic buyers across multiple demand sources, and take appropriate action to protect themselves and their users.

The *DemandChain Object* enables sellers to see all parties involved in buying the creative embedded in any given bid response and this information can be used to help combat fraud and invalid traffic.

# HOW SHOULD THE INDUSTRY WORK TO BETTER ENABLE DPO & SPO VIA STANDARDS?

Publishers

- Keep your ads.txt and/or app-ads.txt files updated accurately.

- Check that the authorised sellers listed on your ads.txt and/or app-ads.txt files all have sellers.json files hosted and that the information maintained on these files is accurate.

- Start reviewing the proposed buyers.json specifications, feedback if you have any input before the commentary period ends and work with buy-side vendors and buyers to encourage adoption.

- Ensure that your AdOPs teams are becoming familiar with regularly reviewing both sell-side and buy-side standards.

- Start seeking out, the 'data-ad-creative-source' string from reports (once they can be generated). This string will precede identifiers which can enable Publishers to clearly reveal which DSP has won an impression, along with the identity of the buyer on that DSP, and the specific creative ID.

Media Agencies

- Publish a buyers.json file on its corporate domain listing the brands it represents.
- Encourage transparency in the buyers.json files of the DSPs it buys through, and provide the corporate domain where its buyers.json file is located to those DSPs to include in their buyers.json files.

Advertisers

- Work with all and any representative media agencies to ensure that the agency has published and is maintaining a complete buyers.json file and that they are accurately reflected within it.
- Encourage transparency in the buyers.json files of the DSPs they are bought through, and a commitment to enabling transparency through the demand chain.

DSP Tech Vendors

- DSPs should publish and maintain a buyers.json file on its domain.
- Expose buyer seat IDs in all bid responses.
- Expose 'data-ad-creative-source' identifiers in ad markup in all bid responses.
- Initiate DemandChain objects and include them in all bid responses.
- Work closely with their buying clients to make them aware of all these transparency standards and their benefits.

SSP Tech Vendors

- SSPs should publish and maintain a sellers.json file on its domain.
- Upgrade OpenRTB integrations to include support for the SupplyChain object.
- Openly evangelise and educate on these authentication tools and encourage adoption.

The intentions of these new buy-side standards are to protect ad sellers and their site & app visitors from malvertising and quality violations – and provide the building blocks for better demand path optimisation. Malvertisers compete with legitimate advertisers for publisher inventory and negatively impact consumers experiences with generally.

**What are the benefits for the industry of these Transparency Standards?**

The core overall benefit of the industry committing to these standards is to establish better trust and collaboration through improved transparency. This can be achieved through:

Minimising opacity – to stop the unhelpful dialogue regarding 'murkiness' and focus instead on value, creativity and innovation. With widespread adoption, the majority of programmatic trading activity will not require too much continuous monitoring. If there are still pockets of irresponsible rogue trading that remain then the tools are now more fully available to interrogate and resolve these issues.

Maximising operational efficiencies – by more competently supporting and enabling both supply path and demand path optimisation efforts (SPO and DPO), which help buyers and sellers to and 'cut through the noise' and trade more effectively.

Fighting fraud – as this is wholly unacceptable and must be fought on every front. The IAB Tech Lab standards are a very solid starting point. Buyers must always understand what levels of risk they are prepared to accept and work with capable verification vendors, as sophisticated fraud is highly complex.

# BEST PRACTICES AND RECOMMENDATIONS

**Expectations related to Clarity**

Full clarity on the auction type being either 1st price or 2nd price. This is managed via the mandatory usage of the 'auction type' variable in the OpenRTB protocols (i.e. where 1 = 1st Price, 2 = 2nd Price Plus).

Currently this is not enforced.

Exchanges are responsible for the auction type declaration and DSPs are responsible for the related transparency and must assist in its enforcement.

Both buyers and sellers should be prepared to demand clarity on the bidding strategies being employed by vendors. Amend contracts and request log-level data if necessary.

Both buyers and sellers should utilise standards such as the IAB's ads.txt and the transparency standards (both buy-side and sell-side) to build trust and minimise the levels of unintentional fraudulent programmatic trading.

**What can buyers do when wanting to know more about Auction Mechanics?**

There is still some debate over auction dynamics and what is in the best interest of the industry which will likely continue as publishers look to yield the highest possible return for their inventory. As buyers continue to navigate an ever changing and complex ecosystem, below are some recommendations for navigating auction dynamics:

1. Speak to your publisher partners and SSPs to ensure you know which auction type they are using.
2. Pick a DSP that can utilise bid shading and algorithmic technology to drive efficiencies in your campaigns.
3. Develop new programmatic buying practices that factor in multiple auction types being used across your publisher supply.
4. Continually test and analyse your campaigns and remove partners who do not comply with transparent practices.
5. Push for industry alignment on 'auction type' being declared in bid requests as standard practice.

**How does this impact me if I am a Publisher?**

1. Ensure that you speak with your tech vendors and buyer partners around the auction mechanics that are being used to buy/sell your inventory. The techniques being used and products being offered by different programmatic partners will impact the effectiveness of how you monetise your inventory.
2. Ensure all your SSPs are bidding at net, and not gross values - and within the same currency. If currency is not the same, you will need to adjust CPM so that all SSPs can compete on a level playing field.
3. Bid adjustments that need to be done.
4. Floors: Ensure your pricing floors are unified across all the SSPs you are working with as well as the floors setup in your adserver. A mismatch in floors could result in lost opportunities.

**How does this impact me if I am an SSP?**

1. Declare to your publisher partner if you are bidding in net or gross.
2. Ensure that all bidding partners are bidding in the same way (typically all net).

# BEST PRACTICES AND RECOMMENDATIONS

### What about Google's Unified Pricing?

Due to Google's prevelence as an ad serving vendor we've included some specific recommendations related to their unified pricing:

In a first-price auction buyers pay what they bid, therefore floor prices no longer serve the purpose of closing the gap between the highest bid and the second bid.

You can simplify your pricing strategy by focusing on your business objectives and constraints. Here are some things to consider when setting unified pricing rules:

- Manage channel conflict with your direct sales or private marketplace for specific sections of your inventory.

- Evaluate the opportunity cost of serving a paying ad versus a House campaign (which could drive subscriptions or purchases) or not serving an ad at all (e.g. to avoid cannibalisation).

- Setting floors too high can result in lost revenue when bidders drop out of the auction, potentially leading to an increased volume of House and unfilled requests.

- Consider setting unified pricing floors to align with your previous anonymous Open Auction floors, while still respecting your business rules (revenue may decrease if you set unified price floors at prior branded Open Auction floors).

- To increase your revenue, consider using target CPM in UPRs. Use the "Optimization type" dimension in reporting to assess the uplift of target CPM on your network.

### Pricing structure and rules priority

UPRs are not prioritized, and their order is not important. This means that unified pricing rules are chosen based on targeting.

- If two UPRs target overlapping inventory, the rule with the higher floor price applies.

- To structure your pricing rules, consider using a 'broad to narrow' targeting approach.

- Set lower floors for pricing rules that apply broadly (e.g. Run-of-Network).

- As you narrow down targeting to segment your inventory, set higher floors. Common examples of how you could segment your rules include Geography, Size and Ad unit (top level).

- If no rules match the targeting, the unified floor price defaults to zero.

- To manage channel conflict, use advertiser-specific floors that apply to Authorized Buyers and Open Bidding demand.

- You can specify up to 50 advertisers per pricing rule.

- Per-buyer floors and per-buyer pre-negotiated CPM can still be set for deals.

# CONCLUSION

As mentioned in the introduction, the intention of this updated edition is to bring our guidance up-to-date with the ever-changing capabilities that are available and to further support all of our members, regardless of their levels of experience.

We hope that you have found the content both useful and educational, whilst helping build an awareness of what to be cognisant of and giving you the confidence to grow your capabilities.

If you have any constructive feedback then please do contact us at iabaustralia@iabaustralia.com.au

Programmatic has all too often been treated as the bête noire of digital advertising, upon which everything we can blame all the practices that have recently eroded trust within the industry. Hence in our first edition of this handbook we set out some principles for auction mechanics, which still remain perfectly relevant today - and to which we have attempted to align with this update.

- **Auction type clarity** – We need to start enforcing clarity on the auction type for any bid and believe that this should be mandatory. Not knowing whether the auction is 1st or 2nd price only confuses buyers and returns the industry to the mystical 'black box' practices, which the entire programmatic industry recently has been working so hard to move away from.

- **Process transparency** – Making the exchange vendors responsible for the declaration of the auction type puts the onus on them to provide full clarity to all participants. Auction type insight enables DSPs in turn to provide clarity for marketers which can ensure a fair and transparent marketplace for all advertisers. The auction type should follow the IAB recommendation of standardisation of 1: 1st price, 2: 2nd price, 3: fixed price.

- **Establishing trust with traders** – vendors contractually allowing buyers and sellers to have full clarity on any bidding strategies, and access to auditable log-level data, will help to establish trust in programmatic processes. This should be offered by vendors, and buyers and sellers need to be prepared to ask for full transparency. If, for example, strategies such as bid caching are in place and activated, then buyers must be made fully aware and vendors must ensure that the criteria is fully understood. If the buyer is unhappy with the practice, then the SSP or exchange vendors must ensure and confirm that it has been switched-off. Again, this should be underpinned by enabling full access to log-level data and if necessary, written into contracts.

- **Fighting fraud via standards** – ad fraud remains a key issue for the industry and a unique problem with programmatic trading is that buyers are unknowingly and unintentionally buying fraudulent inventory. The combination of ads.txt to protect against domain spoofing and the sellers.json are the cornerstone in the industry's fight against programmatic fraud. However, these solutions can only work through widespread adoption and relentless industry collaboration. When combined with buying best practices and best-in-class advertising technology, we can all work together to truly minimise unintentional fraudulent programmatic trading.

Please treat these as suggested best practices and we are very open to feedback.

Thanks again to all the contributors and to the IAB Australia Standards & Guidelines Council for their support in producing this document.

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# APPENDIX: BID SHADING, CACHING AND STACKING

This section contains some reference information on bid shading, bid caching, bid stacking as well as some considerations on net vs. gross bidding.

**BID SHADING:**
Background:
Bid Shading is a function of 1st price auctions and is the process whereby the bid amount submitted from a DSP is reduced just enough to avoid the buyer overpaying, but still remain high enough to win the auction taking place. This calculation can be made by either the DSP or, sometimes, the SSP can also bid shade on a buyer's behalf.

Bid Shading came about due to increasing adoption by SSPs and publishers moving to a 1st price auction model. Where previous buying configuration may work efficiently in a 2nd price auction model, keeping the same set up in a DSP would be problematic for buyers in a 1st price model. This is due to the maximum bid often being set at two, or three times the amount of the floor price in 2nd price in order to win the auction but knowing it's unlikely that high price would actually be paid at the point of winning. This maximum bid amount now in a 1st price auction would be accepted, which becomes a risk of steep cost inflation.

**BID AMOUNTS AND ACTUAL PRICES PAID BY AUCTION MODELS:**


With the buy side not able to react quick enough, and platforms not able to adapt in time, bid shading was introduced in an aim to reduce bids that are unnecessarily high by reducing the bid automatically on behalf of the buyer to a lower amount that will still win the auction, and maintain a resemblance to a fair 'market' prices can be done.

**Who benefits from it?**
Bid shading is built with buyers in mind to ensure cost efficiencies remain, and costs do not shoot up overnight in 1st price auctions. However, publishers should also consider the long-term view that maintaining cost efficiencies ensures buyers don't remove budget altogether due to higher costs.

**How do I know if my DSP or SSP is bid shading?**

Most DSPs have now adopted some form of bid shading to help buyers adapt to a first price auction model, and some SSPs also reduce bids that are inflated. This is a free tool in majority of cases for buyers to help manage costs. However, this information is not readily available in most platforms, and buyers in programmatic should consult with their tech stack to get a complete view of bid shading practices in place. It's extremely hard to verify this information, so buyers have to place trust in their partners that they are paying a fair price.

**How do I know if my DSP is competently bid shading? Could I be overpaying?**

It is very difficult to 'prove' that any DSP, or SSP, is good at bid shading. Cost inflation should be looked at, if buying strategy and sources have remained the same, to analyse any cost increases that may have occurred after a move to 1st price model.

A good DSP would also have a lower win rate when it comes to bid shading. A lower win rate indicates your DSP is likely being cautious with its bids to find the right balance between winning and paying more than is needed. If a DSP is seeing very high win rates it could indicate that it is submitting your highest bid every time, thus winning – but you could actually pay less and still win the impression if effective bid shading is in place.

# APPENDIX: BID SHADING, CACHING AND STACKING

## BID CACHING

Background:

The core argument in favour of bid caching is to the benefit of publishers. Bid caching allows publishers to increase revenue relatively easily; as the SSP increases their win rates by holding onto that bid and re-submitting in another auction on the buyer's behalf. There is also an argument that it has been introduced as a necessity in a latency environment to enable a better win rate.

As an example, here is a normal bid scenario:

- When a real-time bidding auction occurs, the OpenRTB protocol provides a rule-set to ensure that all parties are acutely aware of what is being sold.

- This includes information about the ad size, format and, in the case of browser-based auctions, the page URL, and each auction is uniquely identified within the protocol.

- At time of the auction, a buyer knows exactly what they are bidding for so it can set the level of its bid accordingly, for example:

· Auction ID 1234
· www.ThisSpecificDomain.com.au/thisSpecificPage
· A specific ad unit (eg. ATF 300x250)
· Imagine the buyer was happy to bid CPM $2.00

**What happens with Bid Caching?**

When a buyer's bid does not win, normally that is the end of the action for that buyer - someone else has bid higher, better luck next time.

However, imagine that, without the buyer's knowledge, that losing bid was held, and used in a later auction, with different ad targeting information, seconds or maybe minutes later? That's what bid caching is.

For example, we know our earlier CPM $2.00 bid was meant for:

· Auction ID 1234
· www.ThisSpecificDomain.com.au/thisSpecificPage
· A specific ad unit (eg ATF 300x250)

What if, without the buyer's knowledge or consent, that bid was held by the SSP and used several minutes later for:

· Auction ID 6789
· www.ThisSpecificDomain.com.au/anotherSectionEntirely
· A different 300x250 ad unit placement that was below-the-fold?

Rather than the buyers ad delivering against the user the buyer has intended to bid upon (at the time the buyer thought they were bidding, on the page the buyer thought they were bidding on, or even on the ad unit the buyer thought they were bidding on), instead the buyers ad delivers on another sub-section of the site, on a different ad unit further down the page, minutes later, to a user who may have lost interest?

**The buyer does not get what they paid for. What is it not?**

Bid caching is not ad caching. Ad caching is a legitimate practice whereby an auction is run, and the winning ad is held for a short period before delivery. A common example is long-form video where an ad unit may be auctioned and then shown later in the video to aid the user experience.

**Note the key differences:**

- Caching an ad means delivering a buyers RTB auction winning ad at a later moment and crucially, on what was agreed with the buyer at the time of auction.

- Caching a bid means using a buyer failed RTB bid at a later moment to deliver that ad on something that was not agreed with the buyer at the time of auction.

# APPENDIX: BID SHADING, CACHING AND STACKING

**Is it all bad?**

The technique of caching - holding a piece of information within a browser – is not bad and is a useful, commonplace functionality on the web.

For example, caching is how you remain logged into a website.

As such, bid caching as a technique is not 'wrong' per se.

Where it becomes a problem is in a commercial transaction and there is no disclosure to the buyer - the behaviour could be deemed as misrepresentation at best, and fraudulent at worst.


**How do buyer's know it is happening?**

Bid caching was a surprising event to the industry as it's impossible for average buyer to tell from looking at their campaign in their DSP. Buyers actually don't know when bid caching is happening, which is a concern as it can compromise a range of factors that are important to the brand, such as brand safety.

To find out, buyers must ask their SSP if bid caching is in place. If it is activated, ensure that the criteria for bid caching is understood firstly, and from there the buyer can ask the SSP to turn bid caching off.

**BID STACKING**
Background:

Bid stacking is when SSPs or exchange vendors place multiple bids on the same ad inventory. This dramatically increases the match rates and as a result the chance of winning any available impressions.

When a real-time bidding auction occurs, the OpenRTB protocol provides a rule-set so that all parties are acutely aware of what is being bought & sold. The assumption is that for each ad request at auction, buyers each submit a single bid for a single piece of inventory.

At time of the auction for example, the range of bids may for example, be:

- SSP A bid CPM $2.00
- SSP B bid CPM $2.50
- SSP C bid CPM $2.25

Typically, SSP B would win this auction at CPM $2.50.

As well as the chance to display their winning ad, SSP B will now have 'seen' that user and is typically better placed to 'recognise' and match that user to an advertiser at a later date, than Buyer A or C may be (who haven't 'seen' the user).

What happens with Bid Stacking?

Using the previous auction example, this now looks like:

- SSP A bid CPM $2.00
- SSP B bid CPM $2.50
- SSP C bid CPM $2.25
- SSP C also bid CPM $2.35
- SSP C also bid CPM $2.45
- SSP C also bid CPM $2.55

# APPENDIX: BID SHADING, CACHING AND STACKING

**Why would an SSP attempt to Bid Stack?**
Increasing match rates means better chances of increasing wins. Each win is a payout for the vendor. Soliciting multiple responses from DSPs can have the following results:
• Winning more auctions.
• Seeing more users (as a result on more auction wins).
• Subsequently benefit further from being better placed to match users to advertisers.
• Make the SSP more money from greater wins (via seller fees).

**Why might it be ill-advised?**
• The SSP artificially inflates demand.
• It drives up prices in auctions.
• Multiple bid requests for certain parties won't allow for an even playing field.
• DSPs may be unknowingly bidding multiple times for the same inventory.
• It overcharges publishers.

**How do we know when it's happening?**
• It's unfortunately tough to see without log-level transactional data.
• Buyer rates may increase.
• It has always been possible, but now questions are being asked that can lead to a fairer marketplace.

**How can I ensure it's not happening?**
• Be prepared to bring it up as a topic.
• Be prepared to ask for log-level data.

Another variance of this is when the SSP is conducting multiple auctions for the same impression, such as if SSP auctions the impression, calls DSPs and then it calls the DSPs for yet another auction for the same impression. This then results in DSPs repeatedly bidding upon the same inventory.

**Net Versus Gross Ad Server Bidding**
If you use Google Ad Manager as your ad server then you are probably familiar with how Dynamic Allocation changed the state of play within the ad server. By allowing indirect and exchange line items to compete against each other based on price, without impact to direct booked campaigns, we saw the first evolution of the waterfall and the development of yield optimisation practices at publishers.

In the old ad server waterfall, when a publisher partnered with an exchange they would use the exchanges effective CPM (eCPM) yield as the price point set for their line items. This might have been a  blended rate for the whole exchange or broken into more granular levels, such as ad size and placement to help the exchange better reflect their demand versus the demand of other indirect, ad network, exchange/SSPs demand set as a gross eCPM amount (pre-removal of exchange fees). At the time, the exception here was AdX who would only bid and pay on the Net amount to publishers, so their price points within Google Ad Manager would be set to Net.

It was important for exchanges to represent their bids as the gross amounts, because in the waterfall model, there was also an amount of unsold inventory that would occur within an exchange environment, as they were the ones responsible for clearing the impression once it hit them.

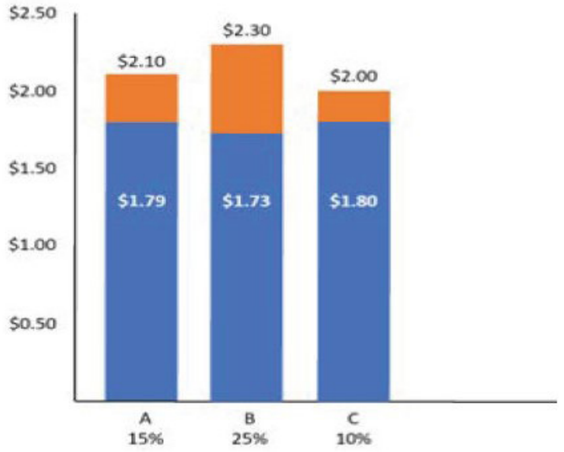
Simple factors like a floor price within an exchange could impact their ability to fill all of the impressions that were sent their way. If, in this instance a publishers pricing and yield management team did take fill rate into account, this could take an Exchanges competitive price set within the ad server from $2.00 Gross down to $1.00 Gross (all still pre-exchange fees) if they could only fill 50% of the impressions sent to them. If the publisher was then to reduce this amount by the exchanges fees as well (hypothetically 20% revenue share), this would bring down the price to $0.80 CPM Net. This would have a large flow on impact into their priority within the waterfall rank, performance of Private Marketplaces (PMPs) set up within them and a number of other factors.

# APPENDIX: BID SHADING, CACHING AND STACKING

When exchanges moved out of the waterfall and into the header, this changed things completely by levelling the playing field out. Exchanges were no longer competing at a fixed CPM, nor were they the ones that decided if the impression was won or lost (so potential fill rate was no longer a factor). The power to make this decision is now completely in the hands of the ad server with all exchanges representing their true demand for each and every impression.

However, in some instances, the ad server is still unable to make the most yield effective decision for each impression as bid prices are still reflected in Gross and not Net (removing the exchanges fees). In a gross bidding environment, it is impossible to determine who the highest bidder will truly be, and therefore impossible to ensure that both buyers and publishers are being treated fairly throughout the auction process.

Take for example, if exchanges were bidding in Gross per below, the ad server would decide that Exchange B would win based on the $2.30 Gross amount, but Exchange C at $1.80 Net would be the most yield optimal outcome for the publisher, even though they had the lowest Gross bid.




While transparency throughout the value chain is being demanded, this is one point in that chain that is still operating in a level of opacity.

**Why Net and not Gross**

- Correct reflection of exchanges demand within the adserver
- Effective publisher yield management practices
- Accounts correctly for fee variations between open and private marketplace fees
- True representation of end of month billing
- Accurate win rates for buyers to enhance decisioning

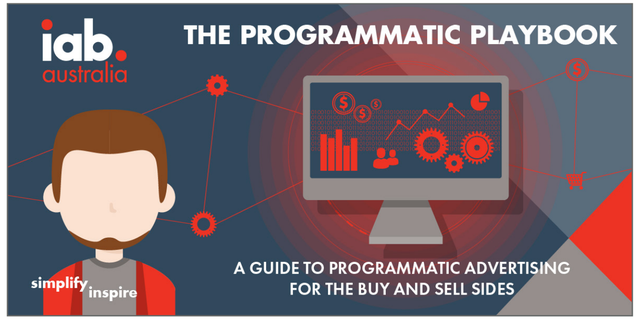
**What can publishers do?**

- Ask their exchange partners if they are bidding in Net or Gross
- Decide on one common model and request exchanges submit bids in this fashion - the easiest is Net if using Google Ad Manager as this ensures parity competition with Google's Ad Exchange and delivers on the above outlined benefits.
- If leveraging Prebid, you can apply a Bid CPM Adjustment to exchanges bidding in Gross if you have decided on Net.
- Continually check to ensure exchanges have not changed their default model for bidding.

# MORE RESOURCES FROM IAB AUSTRALIA

## IAB PROGRAMMATIC PLAYBOOK

Download the *IAB Programmatic Playbook* here




This playbook expands and revisits the simple definitions of programmatic developed in the 2015 playbook, while further breaking down terminology for both the buy- and sell-sides.

## AD TECH PURCHASE GUIDELINES

Download the *Advertising Technology Purchase Guidelines* here


There is no template for today's data-driven scenarios we are planning for, so transparency and knowledge sharing are a must. For that purpose, IAB Australia has created these guidelines for IAB members to download.

## AUCTION MECHANICS WEBINAR

Download the *Auction Mechanics and Prebid update*


The Standards & Guidelines council have been working on updating last years' Auction Mechanics handbook to bring it up-to-date. In this session we heard from some of the contributors on the content and how the programmatic marketplace has been evolving through 2020.

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