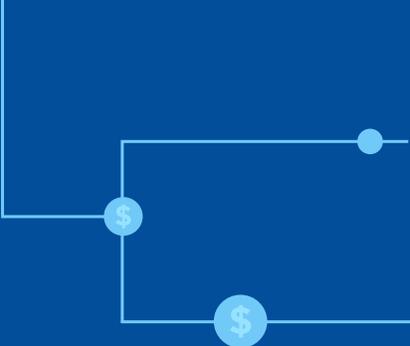




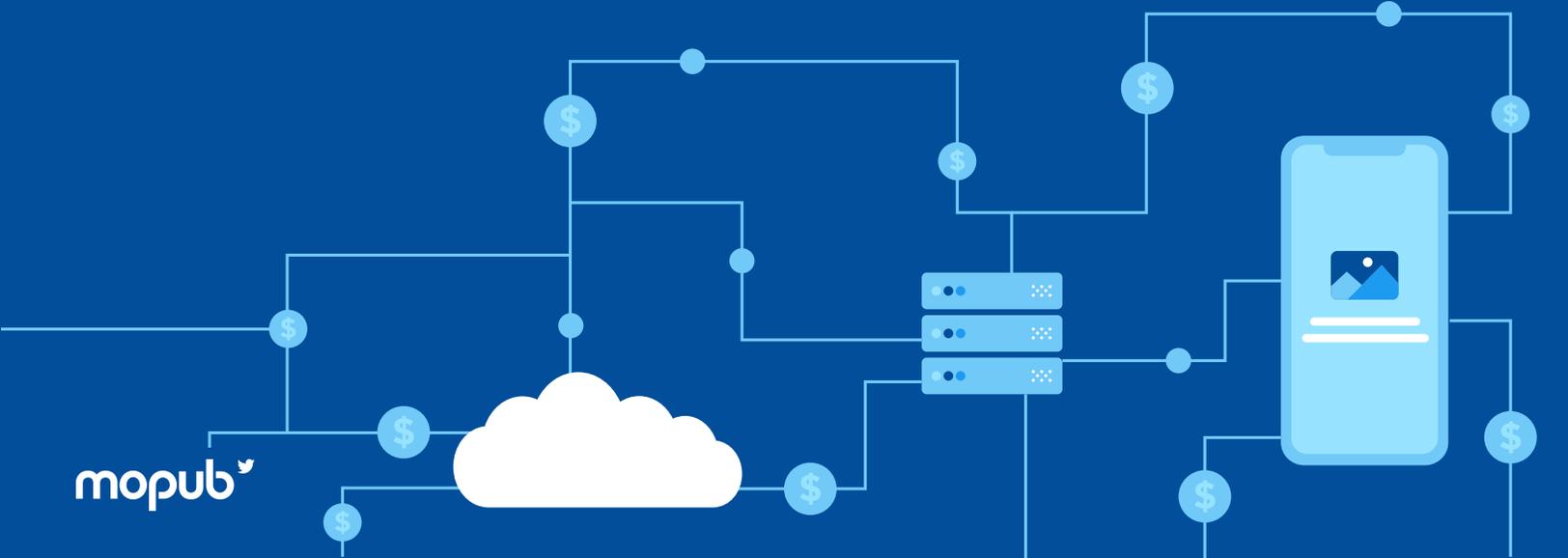
WATERFALL BEST PRACTICES  
& RECOMMENDATIONS:

# Top 14 dos and don'ts





Over the years, MoPub has worked closely with top app publisher partners like [Voodoo](#), [BitMango](#), [Gamejam](#), and [Playrix](#) to help them grow and succeed in their journey with top-class advertising solutions. One thing we've learned: [mobile ad monetization](#) and ad mediation is complex work, and requires the right balance of testing, ad network management, pricing, and country targeting to bring value to each specific audience. The goal of constant testing and optimization is to deliver higher performance and [ARPPDAU](#) (average revenue per daily active user) for our clients. While the industry is moving toward an in-app bidding world, [waterfall](#) management remains a reality for monetization teams. MoPub's mission is to help publishers scale their ad business and support advertising teams increasing their games' ARPPDAU and [LTV](#) (lifetime value). With that in mind, we've compiled our best advice for publishers to consider to help improve and fine tune their waterfall setups.



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## DO activate Advanced Bidding

Whenever possible, we recommend activating [networks available on Advanced Bidding](#). This will help reduce the waterfall latency, improve fill rate, and increase the number of impressions per daily active user (DAU) across many geos, all of which can lead to a higher average revenue per daily active user (ARPDau). MoPub's largest publishers have all activated Advanced Bidding. The measured results via A/B tests have confirmed between +5% to +45% higher ARPDau and a reduced time in waterfall management.



## DO use MoPub Marketplace

MoPub Marketplace is a strong demand source. It gathers brand and performance campaigns from Twitter and more than 130 DSPs. Marketplace creates additional competition with the networks and has proved to increase average eCPMs and ARPDau when it competes at all levels of the waterfall (we've A/B tested having [Marketplace](#) active vs. disabled in waterfalls with several publishers, and found that revenue and ARPDau are consistently higher when Marketplace is enabled). To ensure fair competition amongst all demand sources, which helps maximize earnings, our advice is:

- Give fair access to the MoPub Marketplace by having one MoPub Marketplace line item at the bottom of each priority (ideally just one priority and one Marketplace line item for the whole waterfall).
- Or, simply activate Marketplace on [Advanced Bidding](#) (without necessarily having other networks live on Advanced Bidding).



## DON'T have too many calls or too few ad network calls

What is an ideal number of network calls? MoPub has performed A/B testing with multiple publishers and has found that the following number of calls are a good balance of maximizing revenue with minimal latency. We found that for Tier 1 countries with high eCPM average, an interstitial waterfall should have between 40 to 70 calls. For rewarded video, between 30 to 60 calls and for Banner between 15 to 30 calls. For lower [eCPM](#) country tiers, try to shorten your waterfall. Using MoPub Analytics, you can measure your "inventory" waterfall latency and your network "demand" latency for each call.



Consider your gameplay and player ad frequency needs and adjust the waterfall length accordingly for optimal pricing and minimal latency. A short waterfall may see lower latency and more impressions per users, but the networks' competition and eCPMs could be lower, and lead to lower ARPDAU (try to add new calls in some main geos and measure the ARPDAU impact via an A/B test).



## **DO** create country tiers and specific geo-targeting

Not all countries have the same eCPM and ARPDAU average, and not all networks have a strong global demand. Therefore, we recommend adjusting the country targeting of your waterfall to remove unnecessary latency. Publishers can create country tiers in two ways.

One way is to create two to four different waterfalls for each tier: one high, one middle and one low tier, following the countries' average eCPM. The high tier waterfall will have more calls and start at a higher price, and the lower tier one have fewer calls with lower eCPM average.

The second way to create country tiers is to have one single complete waterfall and to adjust the country targeting at the line item level. We would recommend to simplify into one waterfall and limit the number of line items in an ad unit. The top calls with high eCPMs will target only the most valued geos like the US, UK, JP, KR etc. You will then extend the geo targeting as you go down in the waterfall, having then a WW targeting from the middle to the lower calls. Consider that some networks only have a good demand in Tier1/Tier2 geos, and therefore can be excluded from Tier3-Tier4 geo targeting. This can be easily observed per line item call for each network in MoPub Analytics. As an example, China being a specific country, it will only have certain networks included in the targeting.



## **DO** use the maximum number of available networks

There are many ad networks available for [in-app monetization](#). Some of them offer strong added value, while some others may add little value for the integration work needed. That said, we recommend that you integrate at least eight to 10 strong ad networks to maximize the competition and variety of the demand and ad campaigns. This can help you increase ARPDAU.

Please consult with your dedicated MoPub Partner Manager or [the MoPub support center](#) to learn about the best performing networks per country and per format and see which networks you could be missing out on, according to your inventory.



## **DO use Auto-CPM**

It's important to have the eCPM on MoPub's line items reflect the real eCPM that networks are paying. Most networks have the ability to set up fixed CPM floors (hard floors), but those can vary by a few cents or a dollar. Some larger networks even have more dynamic averages where the eCPM can increase by 20%-30%. [The MoPub Auto-CPM feature](#) updates the line item's eCPM every 24 hours based on the past seven days' data collected via the network API reporting connection. The updated eCPMs will allow supported networks' line items to be rightly organized in the waterfall, from high to low CPM calls. In addition, Auto-CPM will permit a more accurate [impression-level revenue data](#) (ILRD) collection and more accurate ILRD reporting.



## **DO simplify the use of priorities**

MoPub mediation allows publishers to use priorities for special calls (Private Marketplace, Deals, cross promotion). Some publishers also use priorities to organize their different country tiers' waterfalls. Apart from those two reasons, we recommend publishers to have one single priority for their entire waterfall, using one MoPub Marketplace line item at the bottom of that priority. Having one priority is also recommended for the best use of the Auto-CPM feature for line items to freely move up and down without being blocked in a priority.



## **DO consider backfill calls**

In order to maximize your placement [fill rate](#), consider having networks backfill ad calls. They will be set up floor-free on the network side, and have Auto-CPM enabled on MoPub's side. If your ad unit fill rate per country is already at 90%+ you don't necessarily need a backfill. Some publishers may find that backfill calls may lower their average eCPM, so we recommend A/B testing the efficiency of such calls. Backfill is also more important on rewarded video than interstitial for example, where users ask for an ad.



## **DO** have enough granularity in your waterfall

Ideally, create your networks' floors to have enough granularity in the waterfall. For example, have \$20, \$19, \$18, \$16, \$15, instead of \$20, \$20, \$20, \$15, \$15. Those granular calls will help allow you to capture different pricing and campaigns from the different networks.



## **DO** divide the number of calls per network according to their performances

A largely used ad network has a limited number of three calls per ad unit format and per country, so you should use all the calls allowed. For the other networks, we recommend allocating a proportional number of calls to each network according to their performances and their share of revenue in the waterfall. Low performing networks should have one to three calls, while strong networks should have six to 12 calls.



## **DO** optimize at the country level the networks with limited number of calls, and use Auto-CPM

One widely used network has a limitation of three calls per country and per ad unit format. It also uses more variable eCPM floors (compared to hard floors for other networks). The eCPM can go down by 10% and has no limit upwards if the algorithm bids higher to gain more traffic. So we recommend two optimizations for this network on MoPub mediation.

- First, activate the MoPub Auto-CPM feature. It will allow the line items' CPMs to be correctly updated, keeping them at the right position in the waterfall.
- Secondly, we recommend the three calls to have a different CPM pricing target per country on the network side. Create country tiers for geos that have the same eCPM average. This will allow maximal revenue and fill per country. Have three line items calls per geos group on MoPub. Example: three line items targeting US only, three other line items for Japan, three line items for Europe or Tier 1, three line items for Tier 2, Tier 3, etc. Splitting the countries into different line items geo groups will allow Auto-CPM to be more accurate and updated at the country level rather than at a global average.



## **DO** organize your networks' calls per fill rate

If two or more networks are at the same price floor (or a close eCPM), we recommend prioritizing them from the top filling one to the less filling one to reduce latency. For example: if three networks (A, B, and C) are set at a \$20.00 floor, with Network A serving 10,000 impressions, Network B serving 50,000 impressions, and Network C serving 70,000 impressions, then you would want to set MoPub networks' CPMs as follows: C: \$20.02, B: \$20.01 and A: \$20.00. Ideally, by having the Auto-CPM feature enabled for all certified networks, this floor optimization will not be necessary.



## **DON'T** call the same network twice in a row

For optimal competition, we recommend trying to avoid calling the same network twice in a row in the waterfall. If both calls receive a close number of attempts, the network might tend to fill more on the lower call and perform less on the top eCPM call. Try to include another network call in between to lessen the likelihood of this happening.



## **DO** A/B test to confirm the ARPDAU-lift results

All the recommendations above can be tested and validated with MoPub A/B test solution. This feature allows you to split your users and inventory 50/50 into two cohorts and adunits A and B. You can then track your results per ad unit on MoPub Analytics looking at the following metrics: ARPDAU, impressions per user, eCPM, latency etc. Talk to your MoPub Partner Manager for advice (*note: this is a managed-publisher tool only*).

# Questions?

Please contact your MoPub partner manager or [MoPub Support Center](#) for any questions.



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Vincent is Publisher Account Director at MoPub for the EMEA region. He manages Southern Europe and Israël's most important gaming publishers. Over the past two years he worked closely with their monetisation teams to design successful monetisation and ARPDAU recommendations.

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