From: Jim Giles <jimgiles@google.com>

To: Eisar Lipkovitz <eisar@google.com>, Max Lin <whlin@google.com>

**Sent:** Fri, 21 Jul 2017 01:05:56 +0000

Subject: Re: Display RevForce

Vivek Rao <vivekrao@google.com>, Meg Davy <davym@google.com>, Joan Hunter Cc: <joanhunter@google.com>, Yvonne Chou <ychou@google.com>, Bill Halpin <halpin@google.com>, <gjakenagel@google.com>, Tobias Maurer <tmaurer@google.com>, Eddie Higgins <ehiggins@google.com>, John Dukellis <dukellis@google.com>, Daniel Prodan <dprodan@google.com>, David Goodman <davidgoodman@google.com>, Tarun Singh <tarunsingh@google.com>, Scott Silver <ssilver@google.com>, Deepak Ravichandran <deepakr@google.com>, Aparna Pappu <apappu@google.com>, Max Loubser <maxl@google.com>, Brad Bender <a href="mailto:bradbender@google.com">brad B <muret@google.com>, Jayavel Shanmugasundaram <jaishan@google.com>, Madhu Vudali <madhuvudali@google.com>, Jonathan Bellack <jbellack@google.com>, Alvin Dias <alvindias@google.com>, Andrey Aredakov <aredakov@google.com>, Nirmal Jayaram <nirmaljayaram@google.com>, Chris Harris <ckharris@google.com>, Terrence Bentley <terrenceb@google.com>, Jason Bigler <jbigler@google.com>, Ramil Sobti <ramilsobti@google.com>, Deepika Phakke <deepikaphakke@google.com>, Ross Monro <rossmonro@google.com>, Payam Shodjai <pshodjai@google.com>, Becky Susel <bsusel@google.com>, justiner@google.com, Jerrod Howlett <jhowlett@google.com>, Rocky Cole <rtcole@google.com>, Jon Greenberg <jongreenberg@google.com>, Diya Jolly <djolly@google.com>, Becky Afergan <bafergan@google.com>, Gabe Kronstadt <gabekronstadt@google.com>, Guillaume-Henri Huon <ghh@google.com>, Benjamin Malthus <bmalthus@google.com>, Sandra Robles <sjanky@google.com>, Nick Radicevic <nickrad@google.com>, Bodhi Mukherjee <bodhi@google.com>, Eric Schoenfeld <schoenfeld@google.com>, Sagnik Nandy <sagnik@google.com>, Sissie Hsiao <sissie@google.com>, Roshan Khan <roshank@google.com>, Matt Guio <mattguio@google.com>, Ali Nasiri Amini <amini@google.com>, Rany Ng <rany@google.com>, Danielle Romain <dromain@google.com>, Leah Caldarone <lcaldarone@google.com>, Chris Williams <cbwilliams@google.com>, Jessica Mok <jmok@google.com>, David Mitby <dmitby@google.com>, Ben Fink <baf@google.com>, Bahman Rabii <bahman@google.com>, Lauren Taralli <laurentaralli@google.com>

We suspected higher ADX floors is what was happening both for HB and for Jedi, but without the Jedi data we didn't have a way to conclusively prove it.

Now that we know for sure, there are several things we can do about it. Early in the design of Jedi we talked about Jedi Floors (go/jedi-floors) that would override ADX and apply to everyone, but we decided not to do it right away because of complexity for publishers and that it would add a barrier to adoption. It is something that we will revisit.

Max Lin also has an idea that would make publishers strictly more money and solve this issue at least for Jedi --- on a per query basis, if any bid from an exchange is lower than the ADX floor, then we would ignore the ADX floor and let ADX compete. Unlike last look that only benefits us, this makes the publisher strictly more money and can be viewed as an optimization feature for them.

Beyond that, for non-Jedi, we have TargetCPM and Managed CPM that tries to get the publisher to give us more control over the floors (either total control, or at least hitting an average rather than an absolute number. With our opportunities and experiments framework, we are also recommending lower floors.

Eisar, I think your fairness point is right, but the issue is that it is the SSP controls and not the

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DFP controls that are the problem. DFP isn't setting a floor for anyone (including ADX). Each SSP, including ADX, has controls/rules/floors that the publisher can set and these rules are important to them for a variety of reasons -- an example is a publisher not trusting a particular buyer very much, so they only want higher quality (higher priced) demand from them where others they will take whatever. The fact that each SSP has different controls lets publishers treat them differently. This is where having Jedi Floors that override ADX could at least help us as long as publishers don't get too aggressive and cause other exchanges to stop buying.

I also think the comment about first price is right -- with first price there can still be discrimination against buyers with higher floors or blocks.

In terms of why publishers set a higher floor for ADX, one of the patterns we suspected from waterfall times is high floor in ADX through the DFP backfill ADX account, and then call us again through an ADX direct account (or adsense) with low/no floor to get around the two calls limitation. That is, try to get ADX to pay a lot and then as a last resort get us to fill at a low price.

On Thu, Jul 20, 2017 at 8:40 PM Eisar Lipkovitz <eisar@google.com> wrote:

It was a good discussion, I am not convinced that moving the AdX auction to 1st price is the right answer. Even if it is this sounds like a very big change we need to analyze carefully and roll our slowly, so let's agree it's a very long term solution if at all.

Until then, I am worried that inadvertently our platform business (the ability to make ad decisioning, mediate through floors and/or reserve price management/optimization, EDA or EB) is indeed helping us to get access BUT it comes at a cost for our share.

Something feels very wrong about this picture and I think we should look at solutions both on the buy and the sell side.

Starting with the latter, I think we need to check whether this setup actually yields in higher RPM to the Publisher and whether the defaults makes sense. There was a supposition the setup some of these pubs created is intentional and rational and I worry some of it is accidental and goes against us.

As far as what DBM should do, I worry that my toy example things are working as expected from the advertiser standpoint, we got them better prices by buying through SSPs with lower floors.

So when I go to first principles and observe the publishers getting value from slicing demand via multiple calls done in parallel via different pipes, I am left asking why should AdX be always the high floor?

My supposition is that if the publisher rotated those floors across different SSPs in EB (and HB) they should generally get similar outcome. Let's even pretend that all SSPs are equal in terms of auction rules and none offer unique demand.

We can actually abstract DBM (or GDN) out of the equation and treat it as like a 3 party system (sellers, middleman/exchange/ssp, buyers). We bundled the first 2 with DRX, but the fact still remain if the platform (DFP) is an agent of the seller AND it decides to "discriminate" against a particular SSP due to laziness (picking them to be at the top of the mediation/floor chain), that SSP should rebel. It's not that different than the outcry other SSPs had due to AdX having last look which we removed in EB.

As such I'm converging (thinking out loud) on this idea that AdX should push back on DFP and ask to fix this injustice by doing a rotation of floors or at least incorporating this concept.

Maybe someone has a different solution that attacks the problem from a different angle but I think I was trying to address it linearly hitting the root cause.

In a sense Ali/Paul's idea of moving to 1st price auction comes from the same place, i.e. the SSP reacting to the Platform floors by removing the incentive to set them as the SSP revolts and realize that 2nd price creates this mechanism that cause loss of market share.

On Thu, Jul 20, 2017 at 5:01 PM, Max Lin < whlin@google.com > wrote:

Vivek, yes we also looked into DBM' bids through Adx and EB channels, and bids are roughly compatible.

DFP and Adx publishers are highly overlapped. For those publishers that use both, DFP third-party floor is used to protect reservations and trade off serving either DFP ad or Adx ad. Adx rules are separate pricing controls applied only to adx ads. The issue here is DBM subject to only DFP third party for EB bids, and subject to additional Adx rule floor and Reserve Price Optimization prices for Adx bids. It's not publishers set third party price and Adx rule prices differently on purpose (they serve different goals), it's our product design that chooses to subject EB with fewer floors to increase EB adoption initially.

On Thu, Jul 20, 2017, 7:46 PM Vivek Rao <vivekrao@google.com> wrote:

The Jedi analysis is interesting. This is what I suspected, since the DBM behavior is really the same independent of channel.

I was under the impression that DFP pubs have dfp controls (i.e. 3P reserve floors) and they dont enforce additional adx floors. Why do these Adx floors exist? Are they trying to use Adx as a low fill high CPM source? (Seems counter intuitive as I would have expected the reverse)

On Wed, Jul 19, 2017 at 4:47 PM, Meg Davy <<u>davym@google.com</u>> wrote:

Hi everyone,

Sharing the agenda for Thursday's Display RevForce:

- \* Android Lockbox Time Spent Analysis
- \* Jedi Analysis
- \* AMP Pageview RPM Analysis
- \* Q3 Staples

Note that we will be in MTV-CL5-3-Reno Aces this week. You can also join on go/meet/disp-revforce. Finally, a link to the WIP is below.

## See you then!

https://docs.google.com/presentation/d/1gwPoa6NaAe5di37biqR7eeqVcAi7Jt6REB4RfaEzjg/edit#slide=id.g1874a73ec7\_0\_64

Display RevForce Bi-weekly Display RevForce meeting.	
Decks wil	I be circulated in advance to <u>display-revenue-fans@google.com</u> , or can be found in mdisplaydirectory.  Thu Jul 20, 2017 12pm – 12:50pm Pacific Time
Where	MTV-CL2-4-Warwick Long Bay (4) GVC, MTV-CL5-3-Reno Aces (18) GVC, NYC-9TH-4D-Tavern on the Green (8) GVC (Phone), NYC-9TH-7D208-Open Run (14) GVC (map)
Video call	https://plus.google.com/hangouts/_/google.com/disp-revforce
Who	. Meg Davy - organizer
	. Lauren Taralli - creator
	. Ramil Sobti
	. Benjamin Malthus
	. Roshan Khan
	。 Becky Saag
	Leah Caldarone
	。 Payam Shodjai
	. Brad Bender
	Jon Greenberg
	。 Sissie Hsiao
	Jake Nagel
	. Chris Harris
	。 Gabe Kronstadt

Bill Halpin Jayavel Shanmugasundaram Andrey Aredakov Jonathan Bellack Alvin Dias ychou@google.com Eddie Higgins Bahman Rabii Deepika Phakke Matt Guio Ross Monro **Tobias Maurer** Tarun Singh Sandra Robles Aparna Pappu Sagnik Nandy Chetna Bindra Eisar Lipkovitz Vivek Rao Jessica Mok Jason Bigler Jim Giles Guillaume-Henri Huon Justine Rivera Ben Taggart Max Loubser Eric Schoenfeld Rany Ng

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- . Daniel Prodan optional
- Paul Muret optional
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- Ben Fink optional
- Chris Williams optional
- Becky Afergan optional
- Diya Jolly optional
- Madhu Vudali optional
- Joan Hunter optional

Max Lin

Eisar

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