Message

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Subject:	AdX Dynamic Revenue Share - requesting VP Launch Approval by email

Neal, Scott, Eisar,

TLDR: This is to ask for your email approval to launch AdX Dynamic Revenue Share (ariane/121341) without scheduling an additional review meeting. Our goal is to start the ramp-up before the holiday code freeze and complete it by the end of January, this launch has a potential revenue increase of ~$240m (ARR).

As you may recall, back in June we reviewed with you and got approval for a set of AdX experiments. One of the experiments referenced in that meeting was Dynamic Rev Share (DRS) for AdX. With this feature, we reduce the AdX sell side revenue share in order to get more auctions with winners and so increase revenue and RPM. In the experiment we are seeing a 12% increase in AdX revenue (~$350m ARR) with +11.88% in matched queries.

Through discussions with the GDN team, we identified the effects of interaction with Bernanke. We jointly looked at how Bernanke would adapt to the launch, resulting in revenue lift going down to about **~+8% and +$240m ARR** (full numbers below). In the medium term, we expect the margin for AdX buyers to settle at 19% and at around 31.15% for AdWords buyers, with profit also going up by about 6% in total from better match rate.

The experiment is now ready for full launch. We've got approval for our launch plan from Aparna, Jonathan, Spencer, Woojin/Johan and Bahman in GDN Quality review (ariane/121341).

More detail below on 1) Implementation, 2) Risks, 3) Launch plan and 4) Expected impact (including the numbers above).

Please let us know if we are ok to proceed or if you need any additional information or would like us to bring this to a review.

Thanks!
- AdX DRS team

Detail

1) Implementation

DRS works by charging less when a bid would otherwise be cut to below the auction reserve at the normal rev share (we don't make up the discount in this version). Before DRS the lowest possible winning pre-rev share bid would be (reserve price) / 0.8 (using 20% AdX rev share). With DRS any pre-rev share bid above the reserve price could potentially win.

We are following a similar path to GDN in our revenue share optimization - in this phase we *only reduce* the margin when necessary to win the query. Daily average margins by buyer and by seller cannot go below 19% due to throttling. The number of winning auctions increase, and so do revenue and profit. More details here: DRX commercialization, CAQ review. Plans for a more advanced version where margin is kept constant are in progress.

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2) Risks

The main risk with this launch is long term buyer or seller gaming of the rev share by bidding lower or increasing floors. Our holdback strategy will allow us to assess to what extent this is happening after launch.

If a seller were to respond perfectly it would mean a publisher with a current AdX revenue share of 80% would settle on a long term average AdX revenue share of 81%. To disincentivise gaming we have **per-buyer and per-seller throttling mechanisms**. Buyers or sellers that deviate from a pre-defined margin will be probabilistically throttled (design) so that their lowered bids or raised reserves stop transacting.

We set the target threshold at 19% based on the experiment. In experiment our margin settled at 18.15% across all AdX buyers (and 26.86% for AdWords buyers, without Bernanke responding), with no throttling. Compare to 19.03% (and 31.79%) for control traffic (the experiment and control rev shares are not 19% and 20% the due to different deal types and some negotiated revenue shares).

In order to assess long term buyer and seller response we'll apply DRS on 3 sets of 135 publishers amounting to 5% revenue each, sampled from large, medium, and small revenue buckets, with target AdX margins of 20% (i.e., no DRS), 18%, and 15% (i.e., 5% at 20% margin, 5% at 18% margin, 5% at 15% margin). Maintaining the average margin on a per publisher basis at different levels will allow us to observe the response effect on different target margins (default target margin is 19%). The buyer response holdback is similar, with different target margins on AdX buyers amounting to 15% revenue in total.

Our response measurement / holdback has been approved by GDN Quality.

3) Launch plan

We plan to roll DRS out in five traffic changes (10%, 20%, 30%, 50%, and 90%), moving to the next increment after confirming positive revenue changes. We'd like to start as soon as possible after approval and move as far as we can before the holiday code freeze.

We'll have a 10% holdback for the foreseeable future where traffic is not subject to DRS at all, in addition to the response measurement holdback described above.

4) Expected impact

In the experiment we've seen a ~12% increase (rasta) in AdX revenue on DFP+AdX pubs and AdX only pubs (excludes AdSense) - about $350m annually. Based on the bids where we have an opportunity to apply DRS, the margin in the experiment settled at 18.15% (there weren't enough bids where we could apply DRS for the overall margin to go lower). Regardless, we've also implemented throttling that will ensure that our rev share cannot go below 19% for pubs with a 20% rev share after launch.

We also compared DRS to simply fixing the AdX rev share at 19%. We ran simulations over 700K AdX auctions, with one treatment in DRS and one with fixed 19% AdX rev share rather than the standard 20% AdX rev share. Fixed rev share resulted in 1.7% revenue lift, vs the 12% for DRS. The difference is due to the fixed experiment only being able to clear queries between 19 and 20% margin, while DRS can clear queries in the larger 0-20% range.

Full revenue results in the table below. Green is the experiment, grey/blue is the estimated longer term impact after Bernanke responds:

Rasta: **link**

Experiment data
dates: 11/1-11/4

	Control / prod		DRS Without Bernanke (experiment results)		
	Gross revenue	Margin	Gross revenue lift %	Incremental gross revenue	Margin
AdX buyers	$972,731,300	19.03%	9.48%	**$92,205,125**	18.15%
AdWords buyers	$1,936,011,958	31.79%	13.39%	**$259,187,453**	26.86%

Total	$2,908,743,258	27.51%	12.08%	$351,392,577	24.01%

assumption	DRS with anticipated Bernanke reaction (based on assumptions)		
	Gross revenue lift %	Incremental gross revenue	Margin
	9.00%	$87,545,817	19.00%
	8.00%	$154,880,957	31.15%
	8.33%	$242,426,774	27.06%

Assumptions:

1) AdX buyer gross revenue lift: This would be about the same as in the experiment.

2) AdWords buyer gross revenue lift: This is based on "value clamped" staying roughly the same post-Bernanke adjustment (see Rasta).

3) AdX buyer margin: Based on throttling implementation - we'll keep this at >=19% for each buyer.

4) AdWords buyer margin: 1-(.85*.81) = 31.15% to Google. GDN stays at about 15% due to Bernanke, AdX goes to >=19% due to DRS throttling.