

Message

**From:** Nirmal Jayaram [nirmaljayaram@google.com]  
**Sent:** 11/7/2016 6:37:49 PM  
**To:** David Maymudes [davidmay@google.com]  
**CC:** Roshan Khan [roshank@google.com]; Vivek Rao [vivekrao@google.com]; Sivaprakasam Sunder [sunder@google.com]; Tobias Maurer [tmaurer@google.com]; Payam Shodjai [pshodjai@google.com]; Woojin Kim [woojink@google.com]; Jason Hsueh [jasonh@google.com]; Aleksandr Zaks [azaks@google.com]  
**Subject:** Re: 0.1% experiment on DBM/Skyray

oh ya, I thought Roshan was worried about the experiment. Yes, if we launch something like this, it's a huge impact on both revenue and impressions.

On Mon, Nov 7, 2016 at 10:34 AM, David Maymudes <davidmay@google.com> wrote:  
but that's not scaled up by 1000x for the 0.1% experiment, right, so "under 3K" means "would be under \$3 million/day", or am I misunderstanding?

On Mon, Nov 7, 2016 at 10:14 AM, Nirmal Jayaram <nirmaljayaram@google.com> wrote:  
FYI, the non-budget constrained portion of that revenue loss is under 3k.

On Mon, Nov 7, 2016 at 8:20 AM, Nirmal Jayaram <nirmaljayaram@google.com> wrote:  
Higher traffic fraction on just the HB domains for better accuracy

On Mon, Nov 7, 2016 at 7:30 AM, Roshan Khan <roshank@google.com> wrote:  
Wow that's some pretty large revenue loss. How is next step diff from the HB domains in this data?

On Nov 7, 2016 7:25 AM, "Nirmal Jayaram" <nirmaljayaram@google.com> wrote:  
Hi David,

We ran it for 2 days and shut it down last Friday. We are starting an experiment today on just the domains that we suspect use header bidding, and we will run this for a couple of days (this should be much smaller in impact). Here are some quick findings:

ZESTA for the experiment: surprising drop in impressions and revenue by stopping cross-exchange buying.

Here are the results.

	Imps control	Imps expt	Imps change	Revenue control	Revenue expt	Revenue change
<b>All domains</b>	4058429	2626666	-35.28%	\$12,623.00	\$6,572.00	-47.94%
<b>All domains in sheet</b>	1406618	831414	-40.89%	\$5,109.00	\$2,749.00	-46.19%
<b>HB domains</b>	649030	453482	-30.13%	\$2,497.00	\$1,636.00	-34.48%
<b>HB Domains in Americas</b>	539399	372076	-31.02%	\$2,122.00	\$1,373.00	-35.30%

On the domains marked as hb\_network, we seem to be losing about 30% impressions and 34% revenue by turning off cross-exchange buying.

Procedure:

1. Convert the domain in your sheet to TLD
2. Estimate impressions and revenue for control and experiment using TLD

**PTX1545**

**1:23-cv-00108**



On Sun, Nov 6, 2016 at 10:48 PM, David Maymudes <[davidmay@google.com](mailto:davidmay@google.com)> wrote:  
so how did the experiment go? any results yet? can we shut it off now? :- )

On Fri, Oct 28, 2016 at 1:32 PM, Tobias Maurer <[tmaurer@google.com](mailto:tmaurer@google.com)> wrote:  
We'll go ahead w/ this, pending any CL reviews and such.

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Current Skyray timeout rate is 10-15%. How does that ensure we deliver 99%? Or is that also excluded? Would be good to have clarity on this in anticipation of next steps and future experiments. Happy to chat directly or feel free to refer me to someone else.

On Fri, Oct 28, 2016 at 1:18 PM, Roshan Khan <[roshank@google.com](mailto:roshank@google.com)> wrote:  
Not suggesting blocking this experiment - after the info in this thread I think we're fine to move forward with 0.1% for a few days across all spend, and we can manage/mitigate any impact on spend & customers. If the % or the length change, then we can re-assess.

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The 99% # is the specification on how many times DBM will respond to the call out, as opposed to the other forms of downstream loss. This ones pretty easy to measure in terms of "Bid Responses Sent / Bid Requests Recieved". It isn't a gaurentee on the rest of the network stack around ad delivery, which as you mentioned has its own points of failure. The simplest way to think about it is "DBM will be 99% as good as DCM"

On Fri, Oct 28, 2016 at 1:13 PM, Tobias Maurer <[tmaurer@google.com](mailto:tmaurer@google.com)> wrote:  
Are you saying we guarantee 99% delivery, Network loss averages 3-4% on Exchanges As I know, We can talk to legal of you're worried about guarantees.

Alternatively, we can invest eng time in excluding special cases but that won't allow us to answer the VPs questions in timely manner.

Leaving that aside, my question to you is what is the impact of some very small reduction in our delivery against SLA?

On Friday, October 28, 2016, David Maymudes <[davidmay@google.com](mailto:davidmay@google.com)> wrote:  
+ a couple more people in case they need context for understanding the experiment CL.

(and I guess if it isn't checked in in the next hour or so it waits until Monday)

On Fri, Oct 28, 2016 at 12:05 PM, Roshan Khan <[roshank@google.com](mailto:roshank@google.com)> wrote:  
We have a 99% sla. latency and network loss already eat away at that - so yes, 0.1% is small, but every little bit pushes us closer to that limit.

On Fri, Oct 28, 2016 at 11:49 AM, Tobias Maurer <[tmaurer@google.com](mailto:tmaurer@google.com)> wrote:  
How big is the impact/risk if we assume we can only deliver 99.9% of guarantees? Is that really a concern? I'd expect small latency issues or network loss to have a way higher impact.

On Fri, Oct 28, 2016 at 11:33 AM, Roshan Khan <[roshank@google.com](mailto:roshank@google.com)> wrote:



Gaurentee's stipulate full delivery, and any time we don't deliver (especially on Tags) means we literally wasted an advertisers \$.

David - if you're comfortable with the 0.1% hit on TG I will defer to you, since Ian will probably get more mad at you then me :)

On Fri, Oct 28, 2016 at 11:29 AM, Tobias Maurer <tmaurer@google.com> wrote:  
What are you concerned about, Roshan? The impact overall is pretty low - the impact on any subset you're worried about will be even lower. Am I missing anything?

On Fri, Oct 28, 2016 at 11:24 AM, Nirmal Jayaram <nirmaljayaram@google.com> wrote:

On Fri, Oct 28, 2016 at 11:20 AM, David Maymudes <davidmay@google.com> wrote:  
OK, from the CL it's being done as a cookie experiment at the supermixer level, so it has a smaller set of filters available.

Nirmal, what happens for traffic without userids, would it just be left out of the experiment?

Sunder, can you comment on this?

I'm slightly hesitant to run this in the last three days of the month, over a weekend, right before the election, but I also realize people would like answers from us sooner rather than later.

What's the main concern? If it's loss, then we can disable the experiment through EHD pretty easily over the weekend. My main concern regarding this experiment is that if it doesn't do what it is supposed to, then we should start working on code change sooner than later, so that we can get back to Eisar in 2 weeks.

Also, I'm a poor reviewer for contentads experiments, but other folks I presume will be able to say whether the GCL you've written will do what it says it wants to do.

Sounds good.

On Fri, Oct 28, 2016 at 11:15 AM, Nirmal Jayaram <nirmaljayaram@google.com> wrote:  
It's a uniform 0.1% cookie experiment.

David, I've added you as reviewer to the CL.

Appreciate if you could take a quick look so that we can submit it before 2 PM PST.

Thanks

On Fri, Oct 28, 2016 at 11:12 AM, David Maymudes <davidmay@google.com> wrote:  
I presume it's an 0.1% cookie experiment. If we're triggering it with an XBFE experiment, we could limit it by any of those slices if desired, but obviously it would increase the chances we wanted to come back and do more experiments later with larger scope.

On Fri, Oct 28, 2016 at 11:08 AM, Roshan Khan <roshank@google.com> wrote:  
Will the experiment be uniform across all of DBM, or 0.1% of *entire* line items, or something else? Apply to Display and Video? Mobile and Desktop?



Can this only apply to *open auction* and not deals?

On Fri, Oct 28, 2016 at 11:02 AM, David Maymudes <davidmay@google.com> wrote:  
also typically you'd expect it to really be <half that amount, since due to frequency capping and budgets most of the spend will shift to other users and to AdX, so probably \$5K or so actual effect.

On Fri, Oct 28, 2016 at 11:00 AM, Payam Shodjai <pshodjai@google.com> wrote:  
That sounds totally fine if it's around \$20k over 3-day period.

On Fri, Oct 28, 2016 at 1:58 PM, Nirmal Jayaram <nirmaljayaram@google.com> wrote:  
To clarify:

we only want to run a 0.1 percent experiment on all cross-exchange. Even if we lose all this money, we are looking at \$7000 a day. We can shut this one down on Monday, that way we will have 3 days of data for about \$20000 revenue hit.

The 1 percent is only on the domains adx team identifies as HB domains. That will start once we actually get that list. We should run this longer, but the expected impact is also a lot smaller (depending on the size of the domain list)

On Fri, Oct 28, 2016 at 10:56 AM, Payam Shodjai <pshodjai@google.com> wrote:  
Sorry, I meant hundred thousand (not millions) -- off by a few zeros :)

Also, how many days would the experiment run?

On Fri, Oct 28, 2016 at 1:55 PM, Payam Shodjai <pshodjai@google.com> wrote:  
I'd like to better understand the revenue impact of all of this before we move forward. A 1% experiment to stop buying on 3P exchanges could actually result in millions of dollars of lost revenue per day, depending on how much shifts to AdX. So it's not a trivial decision.

On Fri, Oct 28, 2016 at 1:50 PM, Nirmal Jayaram <nirmaljayaram@google.com> wrote:  
+ sunder who is working on setting the experiment up.

At this point, we don't have a doc. Mostly we are still trying to figure out if we can do this without any code changes, since that will save us a week easily.

The experiment(s) we are planning are:

(a) 0.1 percent experiment to stop buying on 3rd party exchanges for DBM and Adwords  
Objective is (1) understand if we can do this fast (2) understand incrementality across all domains

(b) Once we have the list of HB domains from Adx folks, 1 percent experiment to stop buying on 3rd party exchanges on these domains for DBM and Adwords  
Objective is to directly answer Eisar's question regarding impact of doing this.

Thanks

On Fri, Oct 28, 2016 at 10:45 AM, Payam Shodjai <pshodjai@google.com> wrote:  
+ Roshan, for his input

Generally, yes, but could you share what kind of experiments you are planning to do? Is there a doc?

On Fri, Oct 28, 2016 at 1:42 PM, Tobias Maurer <tmaurer@google.com> wrote:  
Payam,

we are expected to get back to the VPs with a whole bunch of insights in a two week time frame. We already started taking steps to be ready to run experiments required to provide these insights.

Are you okay with us starting a 0.1% experiment on DBM where we turn off cross-exchange buying?

Thanks,

Tobias

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Tobias Maurer | Product Manager | [tmaurer@google.com](mailto:tmaurer@google.com) |

If you received this communication by mistake, please don't forward it to anyone else (it may contain confidential or privileged information), please erase all copies of it, including all attachments, and please let the sender know it went to the wrong person. Thanks.

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