Yield management overview, Jan 2016

Deliverable

- Tbd till we know more about our findings
- Potential forums: PMG weekly

Scope All yield management (incl. header bidding) in all environments (Desktop, mWeb, mApp, video).

Problem statement The recent boom of header bidding is impacting the role that Google wants to play of ad decision engine and source of the highest yield for publishers.

Key questions we want to answer

- What is yield management and how is it done today?
- How will yield management evolve in the next few years? What are the levers?
- How did Google react to yield management so far?
- How should yield management impact our product strategy? Our sales strategy?

Content

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The yield management market today

1. **Yield management exists bc of inefficiency and fragmentation of the ad market**
    a. Digital advertising is plagued by inefficiency and fragmentation. Programmatic selling means automation in theory, but still requires behind-the-scenes manual work.
    b. Therefore, publishers are trying to maximize the value for their inventory while minimizing the time they spend managing it.

2. **Publishers can choose among several yield management tools**
    a. 30% of publishers do NOT optimize their sources and have fixed placements
    b. 45% perform an internal manual optimization (e.g. waterfall approach)
    c. 25% use an automated optimization solution (e.g. mediation)
    d. 10% use header bidding

3. **Overview of each tool**
    a. **Traditional mediation = Waterfall = Daisy chaining**. The waterfall system prioritizes and orders integrated **ad networks** according to their total potential revenue based on **average CPM** (average historical performance). An ad request is sent to the first ad network in a never-changing list, and if it doesn't get filled there, the request goes to the second ad network, and so on "down the waterfall.". Several downsides: 1/ It still requires a lot of **manual** work, 2/Potential is defined by **average** performance, not actual performance, and 3/ It requests an **entire** ad network's demand, both high and low performing, *before* moving to the next ad network. In other words, the model ignores pockets of high-value inventory.

    b. **Weighted Waterfall.** Weighted waterfall addresses the third downside. Instead of fixing an ad network's waterfall location based on overall eCPM, each network is assigned and prioritized by their 'weight' determined by the performance of one network relative to another. This results in only the top pool of ads from each bucket being requested, ensuring developers fill high-performing ads in parallel first before moving onto lower paying content.

c. **Programmatic ad mediation**: Programmatic ad mediation addresses the first two downsides as well. It utilizes real-time bidding (**RTB**) to find the best possible price for the publisher's ad inventory, so it's auctioning off ad slots to the **highest bidder (vs. cascading down through the waterfall)**. As a result, the publisher has to do less hands-on work to fill its inventory, and it boosts the bottom-line returns.
    i. Different types of mediation: SDK, SDKLess, plain mediation, native, rewarded

d. **Header bidding. Also called advance bidding, pre-bidding, header tagging, holistic yield management, tagless integration (even though it requires tags...). Header bidding allows publishers to bring in programmatic bids before pinging their ad server, usually DFP, to get better yield than they can using the ad server's priority and decisioning rules.** This method allows exchanges to **bring in demand before the ad server call**. To enable it, publishers put a piece of code in the header of their pages (hence the name), allowing demand sources to submit real-time bids before the ad server callout. Header bidding allows the ad server to **bypass the waterfall** as publishers offer inventory to multiple ad exchanges simultaneously before making calls to their ad servers. Beyond being a **complicated** setup to implement, the biggest issue for publishers is the increase in page **load times**, and the **complexity to monitor and report**. On the advertiser side, a problem arises if the publisher uses more than one partner, as it makes it possible for an advertiser to bid twice on the same impression, and potentially overbid themselves.

e. **Post-bid** (what is it ??): The competition among the mediated demand sources happens AFTER the ad server has chosen the winning line item (vs. in header bidding, demand sources compete BEFORE the ad server has seen the impression). In post-bid, the mediated demand sources no longer runs the daisy chain; they all compete in one single line item based on price. Pros: no engineering resources, no latency. Cons: No dynamic allocation across all demand sources. (static price based on historical prices), more difficult reporting.

f. **Ad server allocation priority levels**

	First priority	Second priority	Impact on CPM

SSP, no enhancement tool	Direct reservation	Only one exchange Real-time CPM.	=
Waterfall	Direct reservation	Several exchanges, static ranking based on avg CPM	+
Mediation	Exchanges providing real time bids and competing with reservations		++
Header bidding	Exchanges providing real time bids	Considered only if CPM above a certain threshold	++ (higher than mediation??)
Post-bid??			

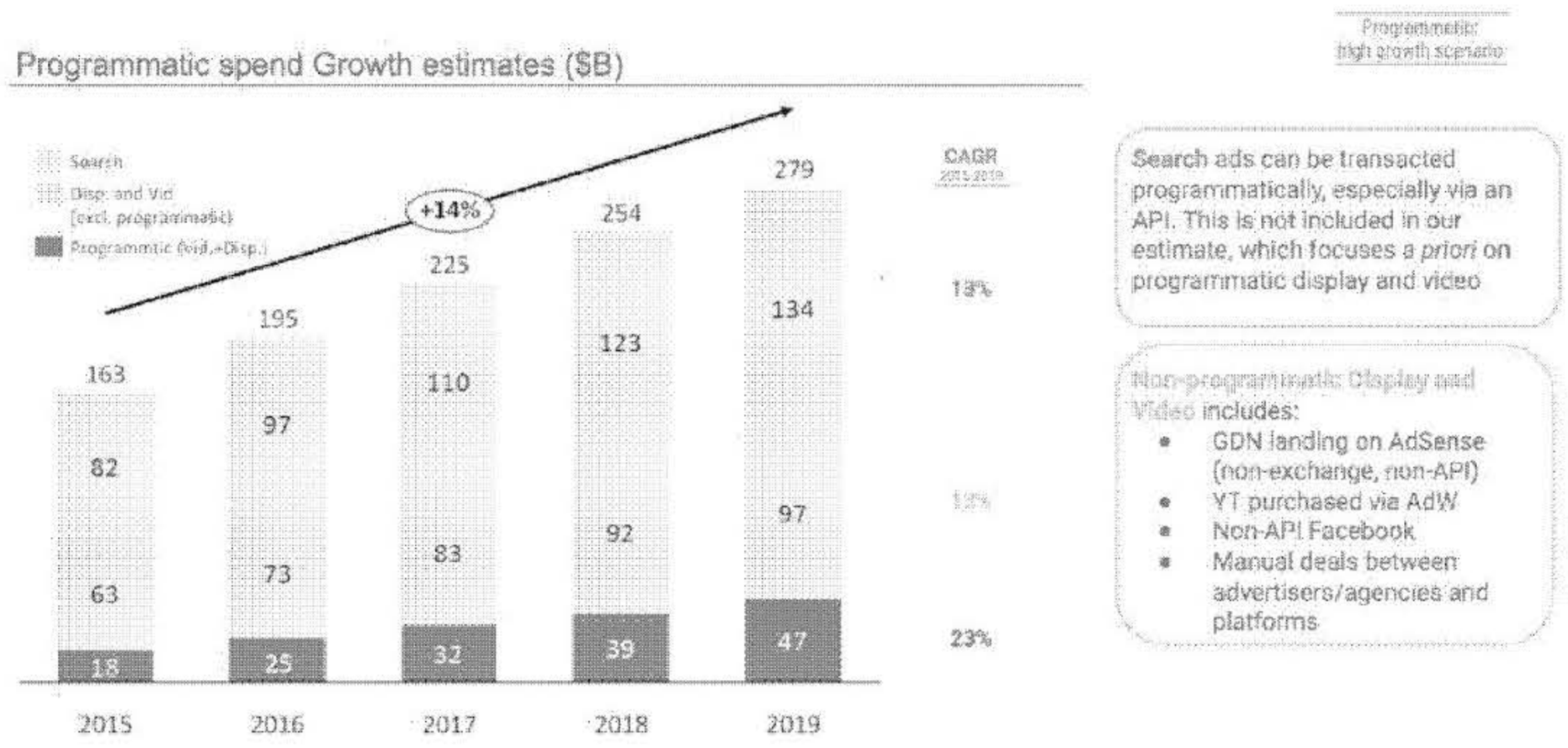
4. **Benefits are mainly for publishers, and create a virtuous loop for buyers & readers as well**
    a. The introduction of yield management technology leveled the playing field by encouraging real-time competition among networks.
    b. Benefits for publishers: fill rate, eCPM and CTR, revenues, clarity and oversight, access to more buyers
    c. Benefits for advertisers: more data on the readers, ability to participate in allocation of "the best" inventory, better targeting and richer ad experiences.
    d. Benefits for the readers: Ads filled by the most relevant provider lead to higher engagement. This leads to a virtuous circle: The better engagement, the more advertisers are willing to pay for that slot.

5. **Competitive benchmark and market size**
    - Lot of development of yield management among our competitors in 2015 + what they plan for the next few years. What type? Is header bidding on the rise for example?
    - App Nexus, Criteo, Rubicon
    - Market sizing

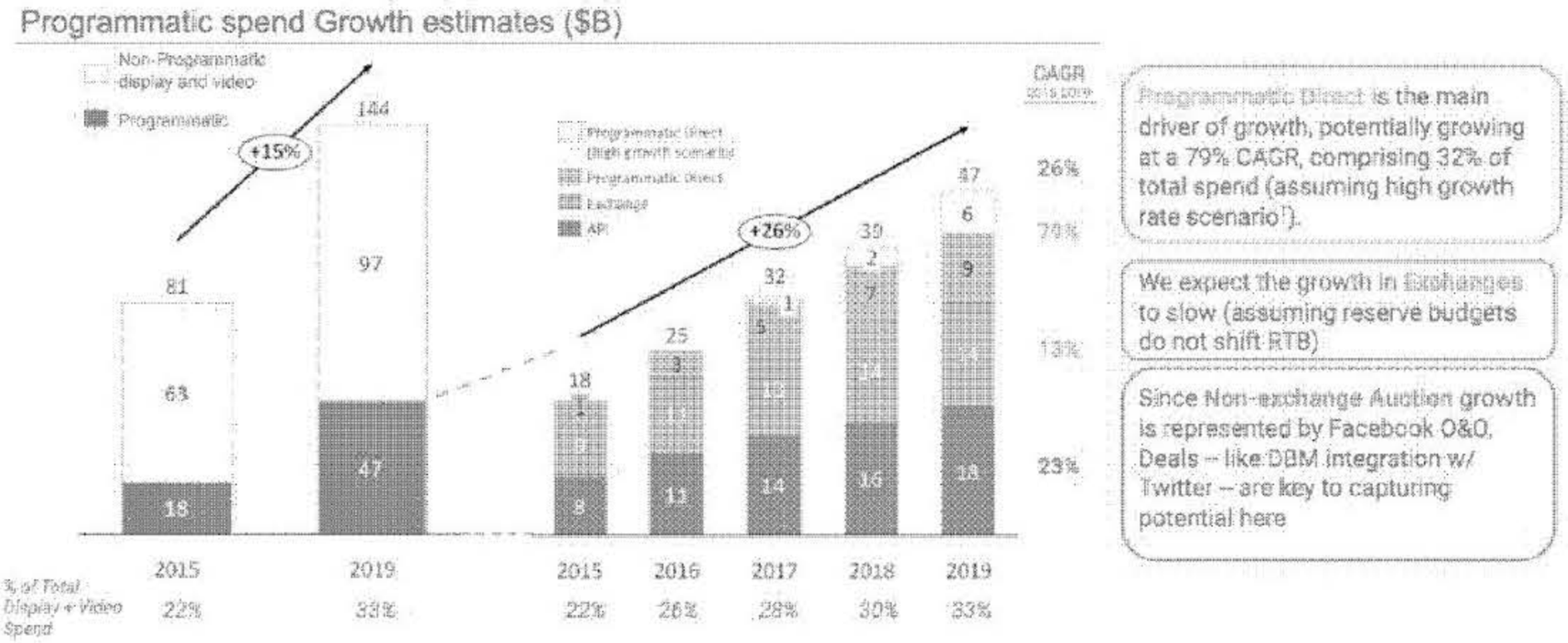
6. The future of yield management - what will be different?

a. Demand for yield management comes from network, mainly desktop and mWeb as opposed to mApps and Video. Is it true? Changing? Does yield mgmt for RTB makes sense - YES it does

b. Network vs. RTB forecasts (source): Programmatic buying is growing fast! Programmatic should be the fastest display and video source of growth and should represent ⅓ of total display and video spend by 2019.



Programmatic spend is expected to reach $47Bn in 2019, growing at a 26% CAGR, comprising 33% of total display and video spend



c. SSPs/Ad exchanges links: how privileged is the Google SSP/AdX relationship? Do similar relationships exist for competitors?
d. Overtime, the CPM difference between sponsorships = direct reservations and exchange CPM is reducing, so pubs won't systematically favor reservations vs. exchange.

Mediation at Google today

7. The threat to our business is huge

a. Some players in the industry say that header bidding allows them to bypass the favorable relationship Google has set up between its ad server DFP and its exchange AdX.
b. With mediation and header bidding, even publishers using DFP may end up using other exchanges. AdX would then lose the inventory, and become less attractive to its buyers. Google would then lose revenues at the DFP and the AdX levels.
c. Overall impact for Google: lower margins, higher CPM, lower volume? => lower revenues.

8. What Google is doing to counter this threat

a. **DFP First look**. Details?
b. **Demand syndication = Project Jedi**. It allows other exchanges to submit real-time bids to DFP, and not just average prices anymore. Still, direct reservations have priority above remnant (AdX, Rubicon bidding)? The key advantage vs. header bidding is that reporting can be done within DFP, while reporting is a key challenge when using header bidding.
c. **Programmatic Direct initiatives.** - PG-like sponsorships through AdX will bring new publishers and new budgets
d. Other products: name, status, roadmap and ARR: DFP mediation for apps deep dive, Admob Mediation deep dive incl rewards, native, sdkless, Video Mediation, Web mediation, Header bidding
e. As a result, how we expect our financials, m/s,... to look like

What's next?

9. Challenges and Open questions

a. Impact on DSP/AdX relationship?

b. Impact on our margins?
c. How can we increase the quality of our inventory to attract brand advertisers?

10. Recommended next steps

Timeline:

- Susan and Geraldine to lead
- End of Dec: framing + detailed timeline + definitions
- Early Jan and every other week: check-in with Chris

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Dustbin:

Header bidding is considered "prebid", as the calls to the exchanges occur *before* the call to ad server. "Server side exchange competition" refers to "postbid", whereby the calls to the exchanges occur after the call to the ad server, and in conjunction with the ad server decisioning. Imagine the benefits of Prebid.js (pinging multiple exchanges for a bid), except no header bidding code on your page is required, it all happens within the ad server.

Google already does this today through "Enhanced Dynamic Allocation" (simplified explanation: DFP selects a line item, evaluates its CPM, then runs the Google Ad Exchange to see if it can source a bid higher than that CPM).

The problem for publishers with this approach of course is that Google only allows it's owned and operated ad exchange to win those impression opportunities. Imagine an ad server that selects a line item, evaluates its CPM, then makes calls to multiple ad exchanges to source a bid to attempt to trump the CPM of the selected line item... Google*could* build this, but it chooses not too because of the revenue it gains by being the only "postbid" ad exchange.