Google **Internal Only**

Results of Dr. Doom (DRX) and Q2 (AdMob) Product Prioritization

April 2016

Contributors: Setting product priorities is a monumental effort across GSL, gTech, GPSI, and OPG, in partnership with PM & Eng. Key contributors include:

GSL: Pooja Kapoor, Bryan Rowley, Jenn Schindler, Kristin Wiechmann, Katharina Almonte, Kristen Fletcher, Becky Bowman, Susan Childs, Louis Goldenbroit, Chris LaSala
gTech: Terrence Lui, Gregoire Cachet, Kaya Aykut, Woo Lee, Jonathan Dale
GPSI: Paul Huynh, Ross Brockman, Fabrizio Angelini, Stephen Ansinger, Mark Wolly, Assaf Grabinsky, Roberto Ruju, Banks Baker, Jerome Grateau
OPG: Nelson Hsu

Summary

Purpose & context on how to use this information

Purpose: We recently finished the cycle where we collected feedback from sales and gTech, rank ordered our priorities, and worked with PM & Eng to set product priorities (2x per year). The purpose of this deck is to provide transparency & visibility of results of product prioritization outcomes. <mark>This is a pre-read for discussion at PMG.</mark>

Scope: DRX (incl. video) & AdMob

- DRX on a 6 month planning cycle with named releases (Doom = Q2/Q3 '16; Seuss = Q4 '16/Q1 '17)
- DRX Video remains on a quarterly planning cycle
- AdMob remains on quarterly planning cycle

Not included: Big Bet or Global Vertical strategy updates; progress against targets

Contents of this Pre-Read:

- Relevant context for display strategy (p. 3-4)
- Sell-Side Review
  - DRX (p. 5-16)
  - AdMob (p.17-20)
  - Summary Observations and Potential Discussion Topics (p. 21-22)

- Appendix Slides:
  - Current cycle top 25 status (p.23)
  - Results of previous cycle top 25 (p. 27)

Google

Proprietary + Confidential

Context: Overall Display Strategy Influencers

Users are highly fragmented spending more time on more screens, mostly mobile with increasing video consumption and heavy social usage. They are expressing dissatisfaction with ads experience with rising use of ad blockers

Advertisers are increasing their sophistication to reach large audiences as simply as possible. All buyers want audience-centric buying; large buyers are becoming comfortable managing their own data with in-house ad tech.

Publishers are facing growing pressure on yield as distribution becomes fragmented and inventory access is commoditized. They are are looking to improve quality ads experiences and new user monetization models.

Competitive strategies require us to continually check our approach. For example, FB's is having success with as a closed, identity based, ecosystem for content discovery and consumption.

For a more thorough review of the overall display strategy framework led by GPSI, GSL Sales Ops & GSL teams see this work previously reviewed with PMG.

Google

Proprietary + Confidential

Context: Buy-Side strategy is to drive adoption of our ad stack amongst the world's largest advertisers and grow our share of wallet for programmatic buying

Adopt our Stack: Use of our planning, buying and measurement tools across search and display enable a single decision engine for marketers to more effectively execute

Use our Buying Tools: Be the be buying platform all advertisers rely on to acquire, keep and grow customers across all screens and inventory
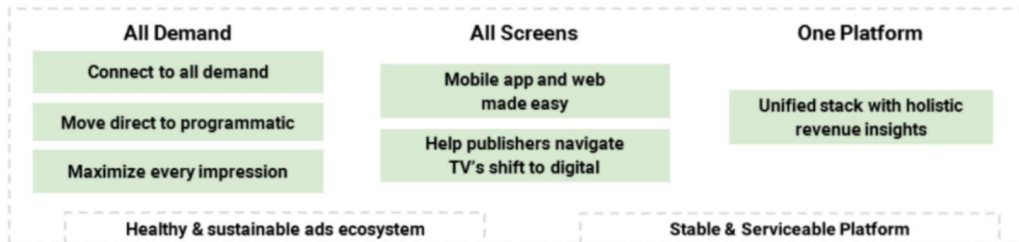
Monetize our Inventory: Drive demand for our partners across the ecosystem & optimize our O&O, network and exchange inventory to perform well across our tools

The DRX mission is to give publishers one platform for all screens that grows the programmatic pie by improving display ads for consumers, advertisers, and publishers

- Deliver compelling advertising experiences wherever users are accessing content
- Connect to advertisers however and wherever they're buying
- Maximize the value of every impression
- Create a healthy and sustainable ads ecosystem

All Demand	**All Screens**	**One Platform**
Connect to all demand	Mobile app and web made easy	Unified stack with holistic revenue insights
Move direct to programmatic	Help publishers navigate TV's shift to digital	
Maximize every impression		

Healthy & sustainable ads ecosystem

Stable & Serviceable Platform

Google

Proprietary + Confidential

Summary: All Demand

Connect to all demand	• Optimize yield by increasing access and maximizing competition on every query
Move direct to programmatic	• Extend the benefits of programmatic to reservations to capture high-value inventory
Maximize every impression	• Use machine learning to maximize publisher revenue

Google

Proprietary + Confidential

Connect to all demand (open inventory and competition)

- Publishers want multiple demand sources in competition to minimize the gap between between auction bids and clearing prices
- With GDN buying cross-exchange, sell-side product policies no longer need to be influenced by AdWords
- Many pubs with quality inventory would prefer the support and guidance of a trusted Google partner than figuring it out on their own

How We'll Get There

Ambition: Optimize yield by increasing access and maximizing competition on every query	'16 Biz Goal	GA Target
Deliver solutions that address publisher desires to include **per query prices for 3rd party networks and exchanges** (DFL and exchange bidding)	DFL: $300M ARR EB: 30-40 beta pubs	DFL: Q2 '16 EB: Q1 '17
Ensure our **policies evolve** to reflect changes on the buy-side (e.g. AWBid) and maintain common principles across all sell-side products (DRX, AdMob, AdSense)	N/A	Q2/Q3 '16
Make it easier for publishers to make **inventory available for backfill**	60% Seen / 25% Won	Doom release
Build **scalable support for channel partners & complex multi-national partners** (NPM)	Incr. $300M ARR (off $800M '15 base)	Doom: NPM GA *
Enable publishers to leverage the benefits of DBM buying on DRX via **self-bought inventory**	$50M oppt'y in 2017+	Not committed for Doom

Open Items & Risks

- Exchange bidding may not help clean up complicated ad serving set-ups; pubs can continue with waterfalls and header bidding
- Open commercialization items for EB (e.g. rev share, double charging with ad serving fee, PMP support, billing ownership)
- Need to ensure pubs don't view a new backfill process as a migration

Google

Proprietary + Confidential

Move direct to programmatic

Market Context

- Pubs looking to programmatic to optimize yield across all impressions on direct & indirect inventory across deal types and creative.
- Competitors are creating point programmatic direct offerings, to which Google is responding with full-stack solutions.
- 80% of DFP media under management is directly sold. There is an opportunity to shift these high CPM campaigns to programmatic across the full DFP+AdX stack, easing the transition of this high-value inventory to be available via indirect pipes.

How We'll Get There

Ambition: Extend the benefits of programmatic to reservations to capture high-value inventory	'16 Biz Goal	GA Target
Facilitate buyer/seller connections and enable reservation buys via programmatic pipes by launching **Programmatic Guaranteed** to GA for all DFP Premium partners	$250M PD/PG revenue	Early Q4 '16
Launch programmatic support for **high-impact publisher formats** (e.g. skins)	All 300 PG pubs	Q3 '16
Build **cross-publisher inventory packaging** to support common deal id use cases	$65-100M oppt'y in 2017+	Not committed for Doom
Simplify our deals offering by building a **programmatic NON-guaranteed** deal type in DFP	Launch 10 deals	Doom release
Invest in **serviceability improvements** for Programmatic Direct	20% ticket reduction	Doom release

Open Items & Risks

- Competitive pricing pressure: AppNexus and Rubicon employing loss leader pricing strategy - risk of margin erosion.
- Lack of cross-publisher inventory packaging continues to be a strategic gap in our programmatic offering
- Prog. Evolution: Need to build a cohesive programmatic non-guaranteed narrative that incorporates the benefits of this approach, and considers the impact on parallel programmatic workstreams (e.g. MarketMaker, partial guarantees, programmatic guaranteed)
- DBM facing headwinds selling PG at 4%, and are also testing a free tag-based reservation solution in DBM.

Google

Proprietary + Confidential

GOOG-DOJ-03725715

Maximize value of every impression (machine learning)

Market Context
- With more demand sources competing on a per query basis, it is necessary to maximize yield from AdX demand sources
- As GDN ramps buying across exchanges, and AdX's position as having exclusive access to GDN demand diminishes, AdX will need to continue to evolve to be the platform that maximizes yield for a publisher.

How We'll Get There

Ambition: Use machine learning to maximize publisher revenue	'16 Biz Goal	GA Target
Algorithmically set reserve prices with integrity that help publisher capture real value of impression (Reserve Price Optimization)	$380M ARR	In GA
Maximize the value of the AdX auction by allowing competition across private and open auction demand (Optimized Private Auctions)	N/A	Q2 '16
Determine how publisher revenue share flexibility would be interpreted by the market and how far we should expand the dynamically changing revenue share to maximize AdX win rate	$150M+ incremental ARR	v1 in GA v2 Q2 '16

Open Items & Risks
- Dynamic Revenue Share v2 poses risks to Google's reputation
- RPO must be carefully introduced to the market since it has been live since 2015 and moves Google away from a 2nd price auction

Google

Proprietary + Confidential

Id	Date	Text
1	05/02/2016 20:39:51	+chrisl@google.com LMK if I am misreading this, but it seems like these are more Product Marketing and positioning priorities over product releases. Can you clarify what additional market feedback is needed (if any) before we release messaging at DLS?
1	05/02/2016 20:39:51	+browley@google.com We are commercializing these things (e.g. giving transparency to the market) - and prod marketing is central to the commercialization process, hence covering it here. Will also require publisher outreach. There is not additional market feedback required in my opinion (bryan to confirm)

10

GOOG-DOJ-03725717

Summary: All Screens

Mobile app and web made easy	• Maximize yield across the full range of app & mWeb user experiences
Help publishers navigate TV's shift to digital	• Power the Future of TV • Transform TV and video advertising for the cross-screen world

Google

Proprietary + Confidential

GOOG-DOJ-03725718

Mobile app & web made easy

Market Context
- Competition continues to be fierce. Facebook has become the market leader for Native, setting standards across buyers & publishers; app-specific 3rd party monetization competitors (e.g MoPub) move quickly - 60% of mediation not on GOOG platform
- FAN expanding into mWeb which could put pressure on native business
- The rise of "app-first" formats (Native, Rewarded) require specific demand integration, yield management & mediation solutions
- Slow adoption of RTB as the preferred method of transacting - unclear when RTB in Apps will overtake network buying

How We'll Get There

Ambition: Maximize yield across the full range of app & mWeb user experiences	'16 Biz Goal	GA Target
Deliver fully-functioning **Native** ads across indirect channels	$700M ARR ($500M from Apps) *(DRX + AdMob)*	GA by EOY
Deliver competitive mApp **mediation (including Native & Rewarded)** to address the reality that most app buyers are not yet buying via RTB	*TBD:* Expanding activation plan to include Native/ Rewarded targets	Native mediation: 1Q'17 SDK-less mediation: TBD
Build **rewards based ads support in Deals** for large game developers	2016 Rewarded Rev: $50M (DRX + AdMob)	Not committed in Doom

Open Items & Risks
- Native revenue growth dependent on demand growth from multiple sources, incl. GDN (display + app install), DBM and AdX buyers
- Possibility of market confusion as AdMob and DRX continue building overlapping functionality for Apps
- Still finalizing plan for on-boarding new demand that balances RTB (onboarding by AdX B/S) and use of SDK-less mediation for new networks

Google

Proprietary + Confidential

Power the Future of TV

Market Context
- TV viewership is larger than ever before, driven by consumption on digital screens.
- Help TV and video publishers navigate the viewership shift to digital

How We'll Get There

Ambition: Power the Future of TV	'16 Biz Goal	Status
Lead the Over-the-Top Transition • Scale to be able to support millions of concurrent viewers of live digital video • Support dynamic ad insertion on video-on-demand content • Integrate with digital rights management solutions (Fairplay, WideVine)	**27 New** Broadcasters on DFP Video. 8 closed YTD: -Cablevision (US) -MCN (AU) -Media General (US) -Dogan Group (Turkey) -Antena TV Group (Romania) -Gruppo24Ore (IT) -Viamedia (US) -BT (UK)	On Track
Build for the TV / Digital Convergence • Support complex inventory sharing agreements for programmers and distributors • VAST-based ad serving on STB VOD (Canoe) • Enable TV sales models in DFP so publishers can forecast, deliver and report across legacy and digital ad models in one system • Make it simple for programmers to distribute ads on any streaming service (Sling, PlayStation Vue) with customizable transcoding • Proper debugging tools for video specific features (ad rules/optimized pods)		On Track

Open Items & Risks
- Feature sets required to support the business strategy are complex, multi-quarter projects
- As we continue to develop and roll out Truman we will increase focus on product serviceability, as service cost for video and DAI are incredibly high due to the complex nature of the industry, the 3rd party ecosystem, and the diversity of our partners' use of the technology

Google

Proprietary + Confidential

GOOG-DOJ-03725720

Transform TV and Video advertising

Market Context
- Help publishers capture TV & Video advertising budgets as they move to programmatic (est. 60% of video spend in 2016)
- TV pubs need new controls to transact safely and profitably; non-video publishers need new formats to capture digital video spend

How We'll Get There

Ambition: Transform TV and video advertising for the cross-screen world	'16 Biz Goal	Status
Making programmatic work for TV publishers • Enable publishers to manage business rules (competitive exclusions) across direct and indirect in order to increase adoption of AdX in long form content • Yield management across direct & indirect in both time-based (optimized) pods vs. predetermined (standard) pods	$25m ARR based on December revenue*	Q3'16 At Risk of Slipping due to Agave
Re-invent the 30s commercial: Scale mobile monetization through native and out-stream ad placements	$20m ARR based on Dec. revenue	Q1'17

Open Items & Risks
- Broadcaster-focused End-to-end streaming stack will be built through partnership with Cloud, and Sales teams in region are working with YouTube to expand YTEP offering outside EMEA.
- Unified blocking is critical to video pubs and dependent on broader DFP/AdX unification effort
- Outstream formats must pass the Acceptable Ads Framework

Google

Proprietary + Confidential

Summary: One Platform / Healthy Ecosystem

Unified stack with holistic revenue insights

- Cement DRX as the best pub platform to capture the cross-screen opportunity

Healthy & sustainable ads ecosystem

- Reduce the prevalence of ad blocking by moving the industry to deliver quality ad experiences that give consumers choice.

Google

Proprietary + Confidential

Unified stack with holistic revenue insights

Market Context
- Publishers need a single product to sell and manage inventory across all reservation types, platforms, and formats.
- Publishers increasingly looking to Google for help to better use data for x-device and IBA targeting across direct & indirect.

How We'll Get There

Ambition: Cement DRX as the best pub platform to capture the cross-screen opportunity	'16 Biz Goal	GA Target
Deliver a **unified front-end across AdX and DFP** and launch **features that make it easier for pubs to use AdX and DFP together** (e.g blocking rules, query tool)	• 100% accounts mapped (excluding resellers) • 60% Seen / 25% Won	Mapping: May '16
Ensure DFP/AdX are able to support **ad targeting based on GAIA data** (Narnia 2.0)	N/A	TBD
Publisher opportunities & experiments GA (blocks, floors & backfill)	ARR TBD	Doom release
Launch externally communicated **XSM features** and deliver on key functionality required by top partners	• CSAT: 44% → 65% • 20% decrease in tickets • 1/3 of PG spend via XSM	Launched
Put additional **troubleshooting tools** in the hands of publishers to enable them to quickly rectify issues and reduce the need to submit tickets	Ticket volume reduction	Seuss release

Open Items & Risks
- Lack of clarity on the extent to which GAIA data will be used across owned, operated and 3rd party media.
- Potential confusion from partners around value prop of unified product
- Frustration from non-responsive pubs that wind up receiving shadow accounts (outreach continues for mapping assignments)

Google

Proprietary + Confidential

GAIA Questions
What exactly is planned for Q4? Is this specific to DBM and GDN using GAIA data on AdX pubs?
Assuming we are talking about indirect only (e.g. not using gaia data for direct sold)
Do we have a business goal - e.g. some estimated uplift in revenue or something else? It is ok if the biz goal is NA or TBD for now.

Create a healthy & sustainable ads ecosystem

Market Context
- Ad blocker usage is still on the rise, and poses a threat to existing publisher revenue models. Google is launching efforts to ensure the free and open web remains relevant in the digital world, as well as working to enhance user experience via the Better Ad Standard.
- Google, publishers, and buyers need to plan for a world with a decreasing number of ads due to ad blocker usage, and develop new business models.

How We'll Get There

Ambition: Reduce the prevalence of Ad Blocking by moving the industry to deliver quality ad experiences that give consumers choice.	'16 Biz Goal	GA Target
Support ads developed to **AMP standards** (with an initial focus on native)	N/A	Q1 '17
Support **publishers and respect user choice** in an era of increasing ad blocker usage by allowing users who use ad blockers to pay for content via a revised **Contributor Direct** offering	Socialize Better Ads Standard; sign up ~20 pubs & buyers to support launch	Q4 '16
Promote a **better user experience on the web** by developing and testing a **Better Ad Standard**, enforcement against this standard, and an ad blocker thwarter.	Partner with publishers for thwarting design alpha.	• BAS: Q2-Q4 '16 • Enforcement, Verification, Thwarter: Q4 '16 / Q1 '17

Open Items & Risks
- Risk of low adoption by publishers as Contributor is about giving users choice vs. growing revenue.
- Without industry adoption, BAS could be viewed as a "Google standard". Industry buy-in is essential.

Google

Proprietary + Confidential

Look at this later
Initial focus is mWeb + Desktop. App and video will fast follow as standards are developed.

The AdMob mission is to deliver a best-in-class monetization platform that empowers app developers to grow and evolve their revenue strategies

Great App Formats	• Formats that match app-specific user experience • Performance better than standard display ads
Strong App Monetization Platform	• Yield management (mediation, RTB) for all app ad formats • Programmatic deals & reservations, specific to apps
Great Developer Experience	• App-specific audience data used to refine monetization, grow app user base and influence app development

Proprietary + Confidential

GOOG-DOJ-03725725

Great App Formats

Market Context
- Competition continues to be fierce. Facebook has become the market leader for Native, setting standards across buyers & publishers; app-specific 3rd party monetization competitors (e.g MoPub) move quickly
- New app-specific formats are replacing banners, and require format-specific mediation (Native, Rewarded)
- Native/Rewarded/Video now in >50% of top 100 apps

How We'll Get There

Ambition: App-specific formats with better performance than display	'16 Biz Goal	GA Target
Native: Deliver **fully-functioning** Native ads across indirect channels	$700M ARR ($500M from Apps) (DRX + AdMob)	GA by EOY
Rewarded: deliver **competitive rewarded monetization**, including 3rd party demand (via mediation) and Google demand (new)	2016 Rewarded Rev: $50M (DRX + AdMob)	Rewarded Mediation: Live Rewarded Demand: EOY

Open Items & Risks
- Native revenue growth dependent on demand growth from multiple sources, incl. GDN (display + app install), DBM and AdX buyers
- Q2 experiment to accelerate pub-rendered Native aims to identify policies that can be relaxed across full Native offering
- Scaling Native in torso/ tail dependent on reducing implementation effort level & time - via scaled external tools, policy relaxation
- Trial of Rewarded Demand (underway) must demonstrate strong results before full plan developed; will assess both ad performance and (separately) user experience

Proprietary + Confidential

Strong App Monetization Platform

- App-specific yield management challenges mean mediation is still essential, though expect RTB will matter more into 2017
- >60% of mediation outside of GOOG platforms (competitors, in-house), including mediation specific to native & rewarded
- Growing number of app pure-play pubs view direct sales and programmatic deals as paths to advanced monetization strategies, more revenue
- Slow adoption of RTB as the preferred method of transacting - unclear when RTB in Apps will overtake network buying

How We'll Get There

Ambition: Best apps-specific yield management (mediation, RTB) for all ad formats, plus programmatic deals & reservations for apps with developing direct sales strategies	'16 Biz Goal	GA Target
Deliver a comprehensive mediation offering by adding **Native mediation** to current offerings (display + rewarded) and bringing more inventory into yield management platform	*TBD*: Expanding activation plan to include Native/ Rewarded targets	3Q16
Enable app pure-play pubs to execute basic ad serving, by building **reservations capabilities** for use with cross-promo house ads or basic direct ad sales	N/A	EOY
Enable app pure-play pubs to do **programmatic direct deals**, including app-specific formats	N/A	2017

Open Items & Risks

- Possibility of market confusion if both AdMob and DRX offer ad serving functionality and programmatic deals on Apps; platform strategy & sales messages must address potential conflict

Proprietary + Confidential

GOOG-DOJ-03725727

Great Developer Experience

Market Context

- Pubs are simultaneously marketing apps (via AdWords, Play), monetizing apps (via AdMob) and building apps' functionality (e.g. authentication, QA testing); Google platforms should support apps developers across all these missions
- Smaller SDKs and simpler app development is critical to developers in order to drive greater app adoption & use

How We'll Get There

Ambition: App-specific audience data used to refine monetization, grow app user base and enhance app development	'16 Biz Goal	GA Target
Firebase Analytics data will be offered to pubs as a free, unlimited app analytic tool tied to all of Google's app-focused offering, which includes using app analytics data to programmatically improve monetization in AdMob	20% of AdMob apps linked to FBA	EOY
SDK simplification to allow publishers to integrate our SDK @ fraction of the size, esp for APAC	N/A	TBD
Enhanced controls to refine monetizations, through A/B testing and more nuanced audience targeting	N/A	EOY

Open Items & Risks

- Firebase Analytics integration into AdMob is dependent upon (1) overall Firebase launch timing, (2) successful activation of Firebase Analytics by AdMob pubs (substitution for Google Analytics) and (3) continued AdMob roadmap development

Proprietary + Confidential

GOOG-DOJ-03725728

Summary Observations (Potential Deep Dive Topics) 1/2

1. **Scalable inventory management for multi-national partners, consortia and internal x-pub inventory packaging:** PM/Eng is now supportive, but there are several gating features tied to DFP/AdX unification that will slow delivery until 2017.

2. **Mobile Strategy:** DRX has increased its focus and velocity as a mobile platform, delivering on App mediation, native (in progress); and AdMob continues to provide new format support (Native & Rewarded tests). Yet there are several areas of risk.

   - **AdMob & DRX segmentation:** Both products continue to develop independent roadmaps, resulting in some customers being unable to meet all of their app needs in just one platform (e.g. AdMob for rewarded but DRX for deals). Is this a sustainable long-term approach?
   - **In-App mediation vs RTB:** It is unclear when RTB in apps will overtake network buying. We (sales) are pushing for continued development in AdX, but there is a material risk that we are unable to flip pubs from competitors like MoPub to our mediation stack (either AdMob or DRX).
   - **Partnering with "app whales":** To win the 'app whales' we often find ourselves needing to develop custom solutions (e.g. support for desktop apps (Pandora/Spotify), King.com rewarded in deals, SDK-less support for EA and others). What is the right level of custom development? Are we doing enough?
   - **Native displacing display:** As Native becomes the 'standard format' for mobile, we will need to focus on acquiring enough of the 'right inventory' to compete.

3. **Evolution of the 2nd Price Auction:** Commercialization of algorithmic optimizations to close bid price & final price will open discussion in the industry about transparency and evolution to a modified 2nd price auction.

Google

Summary Observations (Potential Deep Dive Topics) 2/2

4. Buy-Sell PM Coordination: We have made substantial progress collaborating with the buy-side (e.g. coordination on product plans and go-to-market message as GDN goes x-exchange (AWBid); launch of PGs to beta; sell-side launches of Reserve Price Optimization & Optimized Private Auctions). Open questions regarding the evolution of DBM/GDN buying practices as GDN goes x-exchange. (e.g. should AdX become less (or DBM more) discerning wrt inventory quality)

5. Video strategy: With the delivery of several key features and a strong TV narrative that is resonating well in the market, the outlook for our video strategy with broadcasters is improving. However there are several risks.
- **DAI Serviceability:** Given the success of Project Dolphin, the deal pipeline for DAI is in a good place. Recent FTE estimation modeling from gTech Pubs shows clear need for serviceability improvements to effectively launch and service upcoming deals with DAI.
- **Video Content Streaming:** End-to-end streaming stack is not committed by DRX PM, and is being scoped out of Cloud team. How best to mitigate risk of priorities shifting in Cloud team?

6. Are Magnolia + Contributor + Narnia enough? Although our ambitions to speed the web and make ads better are high, are we doing enough to plan for a material decrease in ad inventory and supporting new paid revenue streams in DRX?

7. Sales manager: What level of investment is required for sales manager in 2017 and beyond?

8. Use of Google data (GAIA & ICM) across buy & sell platforms: There is no formal decision regarding the extent to which GAIA/ICM data will be used across O&O and 3rd party exchanges or for direct publisher sales.

9. Level of investment in *new* areas: Audio, OOH still remain on the back burner...are there others (e.g. emerging market)?

Google

Summary Observations (Potential Deep Dive Topics) 1/2

Observation	Possible next step (*italic=recommendation;* blue = in process)
• Scalable inventory management for multinational partners, consortia and internal x-pub inventory packaging	Escalate to PM leadership (5/26 PSE forum) - request accelerated timeline
• AdMob & DRX app segmentation strategy	PSE review targeting mid-May. PBS request for better integration between 2 platforms and accelerated development for Apps in DRX and AdMob
• In-App mediation vs RTB	*Regional buy/sell efforts to accelerate network demand shift to RTB*
• Partnering with App Whales	*Develop discrete list of whales to win "at all costs"*
• Native displacing display	*Continued PSI support to identify and onboard quality native inventory; understand full impact of B/S demand launches on S/S native yields*
• Evolution of the 2nd Price Auction	Marketing/PR plans to open industry dialogue

Google

Proprietary + Confidential

HIGHLY CONFIDENTIAL

GOOG-DOJ-03725731

DTX-308 Page 24 of 36

Summary Observations (Potential Deep Dive Topics) 2/2

Observation	Possible next step (*italic=recommendation*; blue = in process)
• Buy-Sell PM Coordination	AWBid co-commercialization; DVIP revamp
• DAI	As our outlook with broadcasters improves, we will continue to focus on product serviceability of Truman.
• Video Content Streaming	E2E streaming solution - will be built out of Cloud Team
• Are Magnolia + Contributor + Narnia enough?	*Discrete strategy review looking at world with significantly fewer ads*
• Sales Manager	2017 and beyond strategic planning session w/PM, gTech, PSI, GSL (June)
• Use of Google data (GAIA & ICM) across buy & sell platforms	Open active discussion to use this data for -- pub direct sold inventory (cross device using GAIA & reduce info asymmetry with ICM) -- DBM & GDN cross-device & other GAIA targeting on 3rd party exchanges -- Address as key item to resolve as part of the Display Strategy workstream
• Level of investment in *new* areas	???

Google

Proprietary + Confidential

Appendix

- Current cycle top 25 status
  - DRX (p.24)
  - AdMob (p.25)
  - Video (p. 26)

Dr. Doom Top 25 - DRX

Theme	Feature	GBO Rank	OKR Status
Mobile	mApp Native (Pub & Google Rendered) Direct & Indirect	1	Headline OKR
Indirect	Demand Syndication: Header Bidding response (also looking for accelerated App plan)	2	Headline OKR
Programmatic	Programmatic Guaranteed GA launch	3	Headline OKR
Programmatic	Cross-publisher inventory packaging for deals	4	Potential Seuss candidate
Unified Stack	mWeb/Desktop Native (Google Rendered) for Direct & Indirect	5	Headline OKR
Unified Stack	Unified Tools (Debug diagnostics / Troubleshooting)	6	Headline OKR
Indirect	DFP First Look	7	Launched
Unified Stack	HTML5 creative type in DFP	8	Headline OKR
Indirect	Mediation - TYM (mApp) - including Native formats	8	Headline OKR
Indirect	Simplify DRX Remnant/AdX trafficking to maximize access to inventory	8	OKR
Indirect	Opportunities & Experiments: Automate Insights & Optimization through pub experiments & ad server innovation	11	Headline OKR
Unified Stack	Programmatic support for custom publisher formats with sell-side creatives (Project Localhost)	12	Headline OKR
Unified Stack	Support for programmatic buy-side hosted standardized high-impact formats (wallpapers, skins)	12	Launching in Q2 2016
Indirect	[Policy] Sell-side policy alignment	12	OKR
Programmatic	Serviceability improvements for gTech Ads&Pubs on Programmatic Direct	14	Headline OKR
Mobile	Ads for AMP (ads, especially native, developed to AMP standards)	15	In flux, pending OKR finalization
Indirect	NPM - GA Rollout	16	OKR
Unified Stack	Simplify management of malware creatives in DFP	16	Not in Doom and ok
Unified Stack	Optimize GPT Passback Performance to minimize latency and discrepancy issues	18	OKR
Mobile	Rewards Based / Gaming Ads (Demand and Mediation)	19	In flux, pending OKR finalization
Programmatic	Self-Bought Inventory v2 (automated solution)	20	Not in Doom
Mobile	SDK-less or Server-to-server ad serving (originally merged w/ SDKless Mediation)	20	Strategic discussion required
Mobile	SDK-less Mediation (originally merged with SDL-less or Server-to-server ad serving)	20	Strategic discussion required
Indirect	Allow setting Min CPM per Advertiser Category (Vertical)	20	OKR
Unified Stack	Improve accuracy of DFP forecasting for seasonality and small target segments	23	Headline OKR

Google

Proprietary + Confidential

Id	Date	Text
2	05/02/2016 17:25:53	+chrisl@google.com Suggest "strategic discussion" for Cross-publisher inventory packaging for deals. This keeps getting pushed back but is mission-critical to scaling across news consortiums, various pubs, and NPMs.

28

Q2 2016 Top 25 - AdMob

Theme	Feature	GBO Rank	OKR Status
App formats	mApp Native (Google Rendered) "Native Express"	1	OKR
App formats	Google Rewarded Demand	2	OKR
Developer Enablement & Mobile Core	Native ads mediation support	3	OKR
App formats	Full native feature set (Advanced & Express) working w/ Game Engine	4	Under PM/Eng review
Developer Enablement & Mobile Core	Rewards based ad networks support (mediation)	5	Launched
App formats	Native Performance Logging on AdMob	6	OKR
App formats	Brand Formats: Video improvements	7	OKR
App formats	Brand Interstitials in AdMob (auto opening interstitials)	8	Not on roadmap
Developer Enablement & Mobile Core	SDK Simplification	8	OKR
Developer Enablement & Mobile Core	SDK-less mediation	8	Launched
App formats	Native Interstitials (Customize Borders)	11	Not on roadmap
Smarter Platform & Targeting	Support Custom Events for AdMob Rewarded Mediation	12	Committed future project
App formats	Expandables in Native Ads	13	Under PM/Eng review
Smarter Platform & Targeting	Audience-list based targeting of ads, IAP, no ads	14	OKR
Smarter Platform & Targeting	AdMob Reservations (Direct sales ad server)	15	OKR
Smarter Platform & Targeting	In-app purchase promotion	16	Committed future project
Developer Enablement & Mobile Core	Premium Dev Solution: Server to Server (incl SDK-less ads)	17	Committed future project
Developer Enablement & Mobile Core	[Mobile] Multiple tags per network and long chains in mediation (AdMob)	18	OKR
Developer Enablement & Mobile Core	Channel Partner Support: MCM	19	Under PM/Eng review
Smarter Platform & Targeting	Experiment framework	20	OKR
Developer Enablement & Mobile Core	API for Ad unit management	20	OKR
Developer Enablement & Mobile Core	Notification Inbox for AdMob Front-End	22	Not on roadmap
Developer Enablement & Mobile Core	Native mediation inside MoPub (for AdMob and AdX In-app)	23	OKR
Developer Enablement & Mobile Core	Integration of Firebase Analytics into AdMob	24	OKR
Smarter Platform & Targeting	AdMob Video house ads (reservations)	25	OKR

Google

Proprietary + Confidential

Q2 2016 Top 25 - Video

Theme	Feature	GBO Rank	OKR Status
Power TV Everywhere	Handling Live traffic	1	Headline OKR
Video ads for non-video	Provide In-Read format Video player*	2	Headline OKR
Power TV Everywhere	DRM Support in Truman (Adobe Primetime, Fairplay, Playready, Marlin)	3	OKR
Power TV Everywhere	Unified Partner Management including Advanced Video Macros	3	OKR
Power TV Everywhere	Arbitrary position in pod targeting support for optimized pods	5	OKR
Power TV Everywhere	Unified Blocking for Video (xblox)	5	Headline OKR
Power TV Everywhere	Truman VOD support	5	OKR
Maximize Publisher Revenue	End-to-end streaming solution for publishers	8	Not on roadmap
Maximize Publisher Revenue	Total Video TYM functionality	9	OKR
Maximize Publisher Revenue	Enhanced Content Metadata Mapping	9	OKR
Maximize Publisher Revenue	[Video] Historical Sell-Through Report for Video	11	OKR
Maximize Publisher Revenue	TrueView 'discounted' CPM for high-quality Auto-Play Video	11	OKR
Maximize Publisher Revenue	Debug tool for video ad rules/optimized pods	13	OKR
Power TV Everywhere	Increase ad categorization to cover over 90% of creatives for Competitive Exclusions	14	In flux, pending OKR finalization
Power TV Everywhere	Linear TV Scheduling/targeting	15	Committed future project
Core Platform	Log content ingestion feed processing	16	OKR
Maximize Publisher Revenue	TV STB ad serving enhancements - Content & Ad Ingestion (VAST-based STB VOD ad serving w/ Canoe)	17	OKR
Power TV Everywhere	Optimized Podding for DFP with AdX	18	OKR
Maximize Publisher Revenue	Better TV creative workflow	19	OKR
Power TV Everywhere	VMAP for FreeWheel (anything we can do to support inventory sharing with FW)	19	OKR
Power TV Everywhere	Support for HLS on Desktop Flash	21	OKR
Core platform	Traffic non-clickable ads in DFP Video	22	OKR
Maximize Publisher Revenue	Support In-Page/out-Stream Video as a separate recognized format in AdX	22	OKR
Video ads for non-video	Native video formats in AdX	24	OKR
Power TV Everywhere	TV Forecasting	24	OKR

Google

Proprietary + Confidential

Summary Results - Status of Top 25 by Product Area

	Previous Cycle (October '15 to March, '16)			Current Cycle (April '16 to Sept '16)		Highlights (Launches / Progress)	Open Areas of Misalignment
	Launch-ed	Rolled Over	Mis-aligned	Accept-ed	Mis-aligned		
DRX	11	10	4	19	6	**Launched (in Who)** • First Look Deals • PG beta • mApp Native beta • Reporting latency • AdBlocker (in process) **Declined in Q4 & Accepted in Q2** • Header bidding response • NPM to GA	• Cross-publisher inventory packaging for deals • Rewards based support • SDK-less mediation & ad serving • Self-bought inventory • Ads for AMP
DRX Video	9	11	5	23	2	**Launched (in Who)** • Unified partner mgmt • Dynamic Allocation & PG in pods • Support for live traffic scale **Declined in Q4 & Accepted in Q2** • Historical STR reporting • Native video on web (outstream) • VAST-based Canoe integration	• E2E streaming solution - will be built out of Cloud Team

Blue text = items previously disputed and eventually prioritized as a result of PBS feedback

Google

Summary Results - Status of Top 25 by Product Area

	Previous Cycle[1] (October '15 to March, '16)			Current Cycle (April '16 to June '16)		Highlights (Launches / Progress)	Open Areas of Misalignment
	Launched	Rolled Over	Mis-aligned	Accepted	Mis-aligned		
AdMob	3	10	12	19	6	**Launched (Who)** • Google Rendered Native • Google Rewarded Demand (trial) • Mediation: SDK-less • Mediation: Rewards based **Declined in Q4 & Accepted in Q2** • AdMob Video house ads (reservations) • Experiment framework • API for Ad unit management	• Full native feature set working w/ Game Engine • Brand Interstitials in AdMob (Auto opening interstitials) • Native Interstitials (Customize Borders) • Expandables in Native Ads • Channel Partner Support (MCM) • Notification Inbox for AdMob Front-End

(1) AdMob OKRs are set quarterly; previous cycle reflects aggregated Q4 & Q1 results

Google

Proprietary + Confidential

Current Cycle:
> Accepted = OKR, Launched, Committed future project
> Misaligned = Not OKR, under PM consideration

Dr. Who Summary - DRX

Theme	Feature	GBO Rank	OKR Status
Mobile	mApp Native (Pub & Google Rendered) Direct & Indirect	1	Did not hit GA for v2, in Doom
Indirect	Mediation - TYM (Desktop/mWeb)	2	Doom (as Jedi)
Indirect	Header Bidding response (incl. network/SSP mediation)	2	LAUNCHED Proof-of-Concept
Unified Stack	mWeb/Desktop Native (Google Rendered) for Direct & Indirect	3	Doom
Unified Stack	Ad Blocker (Magnolia)	4	Not tracked within DRX
Mobile	Video Interstitial Backfill for DFP	5	LAUNCHED
Programmatic	Deals Health Dashboard - Self-Service Delivery Monitoring tool for active deals (sell-side)	6	LAUNCHED
Unified Stack	Reporting latency (Shadowfax)	7	LAUNCHED
Indirect	DFP First Look (fka Remarketing First Look Auction)	8	LAUNCHED
Indirect	Mediation - TYM (mApp) - including Native formats	9	Doom
Programmatic	Jordan Alpha exit criteria	10	LAUNCHED
Programmatic	Jordan Beta exit criteria	11	Doom
Indirect	Multi Size Pricing (Floors)	12	LAUNCHED
Indirect	[ULTRA PRIORITY] Ability to block in-banner (muted) video ads	13	LAUNCHED
Indirect	[Policy] Number of Ads Per Page Allowance (moving towards density)	14	On hold
Unified Stack	Vignettes (Improved mobile web interstitials with backfill support)	15	Not Doom OKR (#31)
Indirect	Mediation across ads and non-ads (IAP, Commerce, Native, Content Rec, Micro Payments)	16	Not on PM roadmap
Indirect	[ULTRA PRIORITY] [AdX] Allow setting Min CPM per Advertiser Category (Vertical)	17	Doom
Programmatic	Self-Bought Inventory v2 (billing automation)	18	Doom
Unified Stack	Support for programmatic rich media / high-impact formats	19	Doom (Localhost)
Unified Stack	Surface True/Absolute AdX Match Rate Post-EDA in AdX	20	Doom (internal-only)
Programmatic	PA Discovery & Negotiation	21	LAUNCHED
Mobile	Big City for Mobile (flexible sizes for app)	22	LAUNCHED
Unified Stack	[Active View] vCPM transaction	23	LAUNCHED
Indirect	Automate Insights and Optimization through pub facing experiments and core ad server innovation	24	LAUNCHED (to beta)

Google

Q4/Q1 Summary - AdMob

Theme	Feature	Q4 GBO Rank	OKR Status
App formats	mApp Native (Google Rendered) 'Native Express'	1	Beta; GA in Q2
App formats	Google Rewarded Demand	2	Trial development
Developer Enablement & Mobile Core	Native ads mediation support	3	Got to beta; Q2 OKR
Developer Enablement & Mobile Core	Rewards based ad networks support (mediation)	4	Launched
App formats	Native Interstitials (Customize Borders)	5	Prioritized as #11FR for Q2; not on Q2 Roadmap
App formats	[Mobile] Support of Native ads in Game Engines	6	Prioritized as #4FR for Q2; not on Q2 Roadmap
Developer Enablement & Mobile Core	Channel Partner Support: MCM	7	Prioritized as #4FR for Q2; not on Q2 Roadmap
Smarter Platform & Targeting	AdMob Reservations (Direct sales ad server)	8	Prioritized as #19FR for Q2; on Q2 Roadmap
App formats	[Mobile] Expandables in Native Ads	9	Prioritized as #13FR for Q2; not on Q2 Roadmap
App formats	Brand Formats: Video improvements	10	Prioritized as #7FR for Q2; on Q2 Roadmap
Smarter Platform & Targeting	AdMob Video house ads (reservations)	10	Prioritized as #25FR for Q2; on Q2 Roadmap
Developer Enablement & Mobile Core	Premium Dev Solution: Server to Server (incl SDK-less ads)	12	Prioritized as #17FR for Q2; not on Q2 Roadmap
Smarter Platform & Targeting	Audience-list based targeting of ads, IAP, no ads	13	Prioritized as #14FR for Q2; on Q2 Roadmap
Smarter Platform & Targeting	In-app purchase promotion	14	Prioritized as #16FR for Q2; not on Q2 Roadmap
Developer Enablement & Mobile Core	SDK Simplification	15	Prioritized as #8FR for Q2; on Q2 Roadmap
Smarter Platform & Targeting	Alternative targeting for non-Play markets /[Emerging] Google Play data for AdMob targeting *China & iOS issues need to be separated	16	Prioritized as #26FR for Q2; not on Q2 Roadmap
App formats	Brand Interstitials in AdMob (auto-close opening interstitials)	16	Prioritized as #8FR for Q2; not on Q2 Roadmap
Developer Enablement & Mobile Core	SDK-less mediation	18	Launched
App formats	Banner-sized video click-to-download (app install) ads	19	Not prioritized for Q2
Smarter Platform & Targeting	Create a Rewarded Video House Ad or Rewarded CTD House Ad in AdMob	20	Prioritized as #28FR for Q2; not on Q2 Roadmap
Smarter Platform & Targeting	Experiment framework	21	Prioritized as #20FR for Q2; on Q2 Roadmap
Developer Enablement & Mobile Core	API for Ad unit management	22	Prioritized as #20FR for Q2; on Q2 Roadmap
Developer Enablement & Mobile Core	Surface a Revenue Profile / Bid Landscape-style report in the AdMob Reporting UI	23	Prioritized as #34FR for Q2; not on Q2 Roadmap
App formats	Deeplinking for House & Promote Ads	24	Not prioritized for Q2
App formats	Brand Formats: Lightbox	25	Launched

Google   Proprietary + Confidential

Launched: 3
Q2 OKR: 9
Not Q2 OKR:11
Not Prioritized by GBO for Q2: 2

Declined in Q4, added in Q2:
AdMob Video house ads (reservations)
Experiment framework
API for Ad unit management

Q4/Q1 Summary - Video

Theme	Feature	Q4 GBO Rank	OKR Status
Power TV Everywhere	Unified Partner Management	1	LAUNCHED
Maximize Publisher Revenue	TrueView 'discounted' CPM for high-quality Auto-Play Video	2	Doom
Power TV Everywhere	Unified Blocking for Video (xblox)	3	Doom
Power TV Everywhere	Build support for AdX Video to query for entire video ad pods	4	LAUNCHED
Power TV Everywhere	Handling Live traffic on Truman	5	LAUNCHED
Power TV Everywhere	Truman VOD support	6	Doom
Maximize Publisher Revenue	[Video] Include Potential Fill and Potential Monetization in the Query Tool	7	Future project - no committed date
Maximize Publisher Revenue	[Video] Historical Sell-Through Report for Video	8	Doom
Maximize Publisher Revenue	Allow SDK-less monetization	9	LAUNCHED
Power TV Everywhere	Improve OTT monetization (Allow open auction on mdialog inventory)	10	LAUNCHED
Maximize Publisher Revenue	TV set top box ad serving enhancements - Content and Ad Ingestion	10	Doom
Video ads for non-video	Provide In-Read format Video player	12	Doom
Power TV Everywhere	DRM Support in Truman (Adobe Primetime, Fairplay, Playready, Marlin)	13	Doom
Power TV Everywhere	EXT-X-ENDLIST tag provides support	14	LAUNCHED
Power TV Everywhere	OTT device identifier support on RTB callouts	15	LAUNCHED
Power TV Everywhere	Support for HLS on Desktop Flash	16	Doom
Maximize Publisher Revenue	Better serviceability of PAs/PDs	16	
Measurement	Viewability Reporting, Forecasting etc. for OTT	18	Doom
Maximize Publisher Revenue	Better TV creative workflow	19	Future project - no committed date
Measurement	Automatic campaign optimization with real-time VCE	20	Not yet committed due to low uptick of vCE Pacing
Measurement	vCE for Mobile	21	Doom
Power TV Everywhere	Optimized Podding for DFP with AdX	22	LAUNCHED
Power TV Everywhere	Support VMAP Inline responses	23	No clear business case
Maximize Publisher Revenue	Total Video TYM functionality	24	Doom
Maximize Publisher Revenue	HLS Transcoding	25	LAUNCHED

Google

Proprietary + Confidential

Launched: 3
Q2 OKR: 9
Not Q2 OKR:11
Not Prioritized by GBO for Q2: 2

Declined in Q4, added in Q2:
AdMob Video house ads (reservations)
Experiment framework
API for Ad unit management