Google

Android Commercial Agreements

Exec Discussion
(partial updates Oct. 2020)

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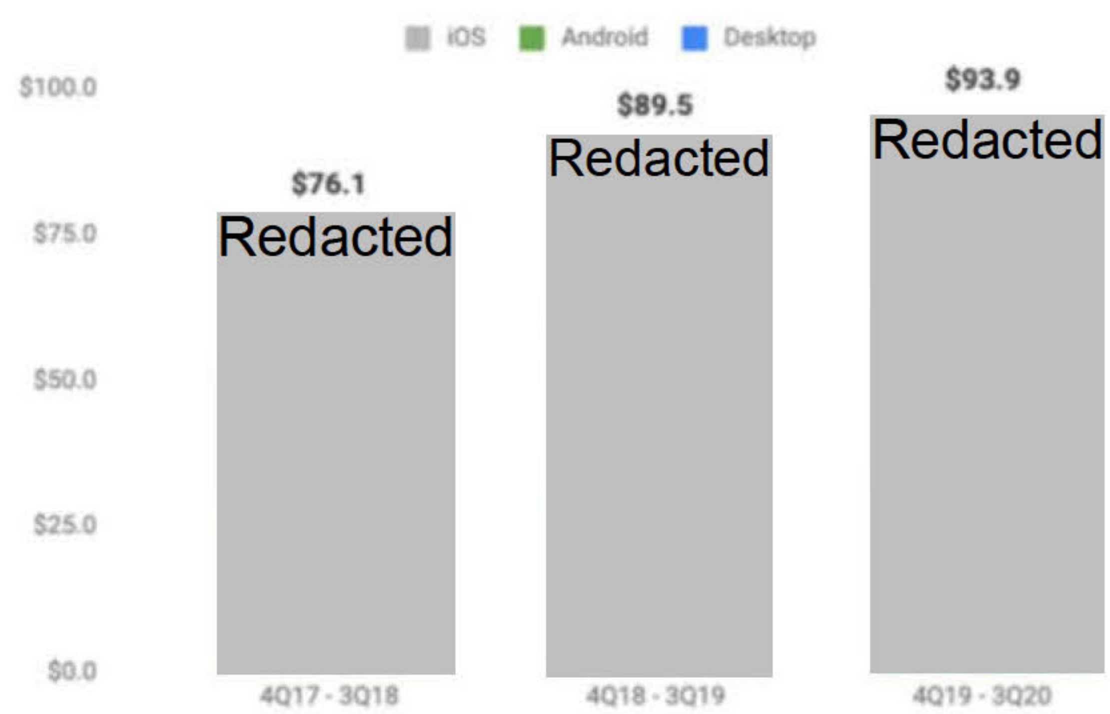
TT to Intro

Android channeled Redacted % of Search Revenue to Google (TTM through Sep. 20)



	% of total		
	Desktop	Android	iOS
4Q17 - 3Q18	Redacted		
4Q18 - 3Q19			
4Q19 - 3Q20			

	% of yoy growth		
	Desktop	Android	iOS
4Q17 - 3Q18			
4Q18 - 3Q19	Redacted		
4Q19 - 3Q20			

Source: QueryNav data; Data unavailable for 10/1/17 - 10/17/17, due to data table limitations

OEM Revenue share and access points (TTM through Sept. '20)

Redacted

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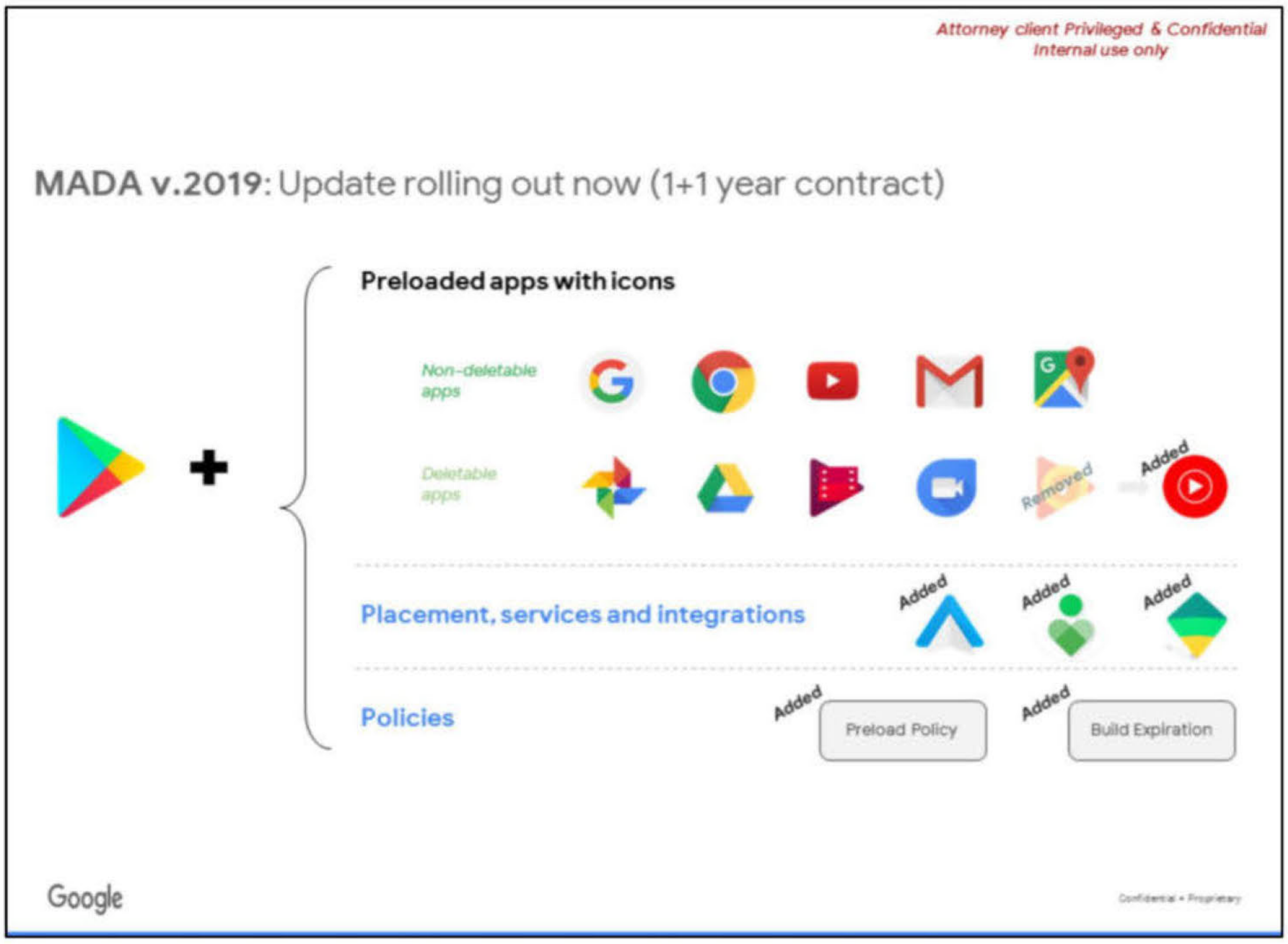
Carrier Revenue share and access points (TTM through Sept. '20)

TOP CARRIERS	28DA Sept 2020	Search Revenue YTD 2020	Rev Share YTD 2020 Rev Share %	Rev Share YTD 2020 AC paid ($M	Access Point (% of Rev) Chrome	Access Point (% of Rev) GSA	Access Point (% of Rev) Other
Verizon							
T-Mobile (US)							
AT&T							
Sprint							
America Movil							
KDDI							
Orange							
Vodafone							
T-Mobile (ROW)							
US Cellular							
BT Group							
H3G							
Rogers / Fido							
Telstra							
Bell							
Optus							
Total							

Redacted

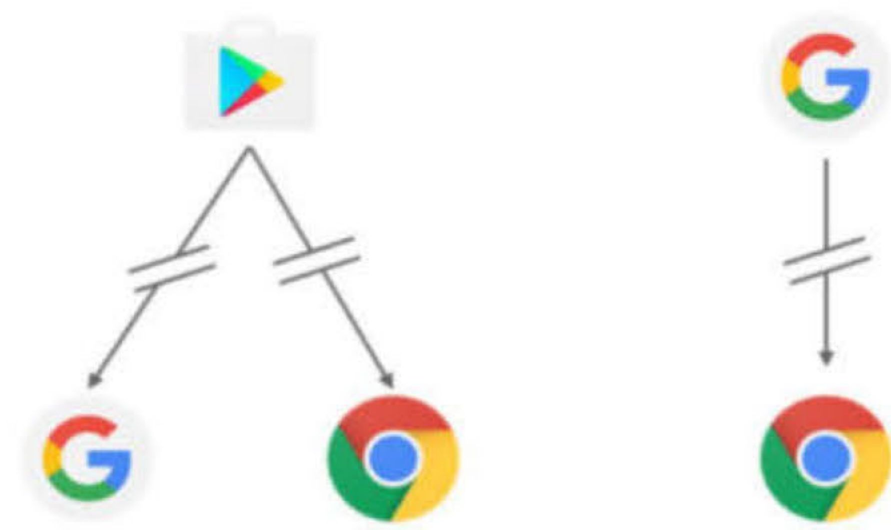

Attorney client Privileged & Confidential
Internal use only
MADA v.2019: Update rolling out now (1+1 year contract)
Preloaded apps with icons
Non-deletable apps
Deletable apps
Removed
Added
Placement, services and integrations
Added
Added
Added
Policies
Added
Preload Policy
Added
Build Expiration
Google

Regulatory Pressure: EC raised objections with compatibility requirements (ACC) and bundling of apps in MADA

Enable OEMs to build non-compatible devices alongside compatible devices

Stop tying Search and Chrome to Play

Stop tying Chrome to Search



Remedy: 1 agreement into 4 + new business model

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Overview of TAC Trends on Android

Redacted

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Sizing RSA-Mandated Search Access Points

2016 Android Revenue by Access Point

2016 Google.com Revenue

Redacted

	GSA-Widget	GSA-Icon	Chrome	Android Browser	S Browser	Other	
Revenue ($B)	Redacted						
% of Total Rev.							
Dist. - Paid	81%	81%	51%	47%	43%	13%	63%
Dist. - Unpaid	19%	19%	19%	15%	3%	14%	17%
Organic/Browse to	0%	0%	30%	38%	54%	73%	20%

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Considering Value of MADA + RSA

	Search	Assistant	Preloads and Placement of Other Apps (incl. Chrome)	Intangibles
Consideration	Lower TAC vs. 3P OS Access Point protections (RSA) Uplift in search behavior vs. 3P OS	DHS, hotword, and OOB enablement exclusivity provisions for 3P Assistants	Chrome in hotseat and default OEMs: Gmail, Photos, Keyboard, Calendar as default, Messenger in hotseat and default, Duo on DHS for higher Rev Share rate	Ensure quarterly security updates for healthy ecosystem (*RSA provides penalty for non-compliance*)
Value Attribution	+XXp.p TAC Savings[1] +8% Search Share[2] +10% Search Uplift[3]	Higher expected discoverability and usage	Distribution cost savings and increased usage of Google apps	Difficult-to-quantify benefit to ecosystem and increased user trust

1) Based on effective TAC rate delta between Android and 3P OS; Includes organic revenue, 2) Based on GDN data vs. 3P OS, 3) Based on analysis of iPhone vs. Android RPMs and Queries / user

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MADA + RSA Economics: Revenue at risk

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As Reviewed in BC Oct'16

What is the scope of the RSA 2.0 deal coverage?

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Revenue share as investment vehicle for Google's mobile strategy

Google's evolving strategy for Mobile incrementally layered into RSA requirements

Timeline 2005 2006 2008 2009 [2012] 2017

Milestones

- 2005: Google acquired Android OS
- 2006: Samsung Deal for mobile search
- 2008: HTC Dream launch w/ T-Mobile
- 2009: Rev Share Deals for Mobile Search + Android begin w/ US Carriers
- [2012]: Rev Share rate re-negotiations begin to lower 16% effective TAC
- 2017: New RSA template rollout w/ Assistant and Android update requirements

Strategic Initiative Covered by RSA

1 **Mobile Search Distribution** - *Search placement and defaults on Mobile Devices*
- ***Secure placement for Mobile Search and Defaults***
- *Originally began as OS-agnostic distribution agreements with OEMs and Carriers to accelerate Google mobile adoption*
- ***Today, RSA secures all pre-loaded browser search defaults***

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2 **Promotion of Mobile**- *Smartphones as Next-gen Platform*
- *Investment into partner-led **promotion of Google's Mobile Search experience***
- ***Incentivize Google-defined Out of Box Experience (OOBE)** despite OS customizations*

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3 **Assistant & Coverage**
- *Investment into **Assistant distribution and placement***
- ***Expand coverage** to other strategically important Partners / Regions*

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History of Search Revenue Share on Android

Google's "Gets" have evolved over the years to reflect changing priorities

Priority	Mobile Search Dist'n	Android Growth + Search Dist'n	Assistant + Android Health
	2005 2006	2008 2009 [2012]	2017
Key Milestones	Google acquired Android OS (2005); Samsung Deal for mobile search (2006)	HTC Dream launch w/ T-Mobile (2008); Rev Share Deals for Mobile Search pitched to Top 7 Global Carriers (2009); Rev Share rate re-negotiations begin to lower 16% effective TAC ([2012])	New RSA template rollout w/ Assistant and Android update req's (2017)
Details	- Mobile **search distribution deals began with Samsung in 2006** (platform agnostic) with a bookmark to Google's mobile search services on phones with a browser to **drive growth of Google usage on mobile** (Redacted - Platform-agnostic deals as smartphone market	- Following Sept. 2008 launch of HTC Dream (first commercial Android device launch), **search revenue share deals were pitched to Global Top 7 Carriers at 2009 MWC** to **1) promote Google mobile search on smartphones**, with the promise that revenue would be shared at Redacted on 3P OS (Android Redacted Redacted - **Revenue share deals for mobile search included Android** distbn terms in order to offer financial incentive **to grow Android base** as well as mobile search distbn - **Starting in 2012, BD Teams began renegotiating revenue share rate down to current** Redacted while removing 3P OS terms as Android gains traction; Point of contention with Carrier partners due to 2009 promise of sharing Redacted of the upside	- **New template for revenue share developed to reflect current priorities: 1) Assistant distribution** w/ DHS exclusivity, and **2) Security updates** to improve Android ecosystem health - Current **RSA terms approved by BC for expanded 51 OEM and Carrier Partners** globally (up from 16, approved Oct'16) - *Status: 13 partners currently in Deal Folder or Approved. Pushback from partners due to 1) Cost of security updates, and 2) Global deal coverage not reflective of Assistant localization*

Revenue share is an effective vehicle for aligning priorities with Partners; New generation of deals ("RSA") to tackle modern challenges: 1) Assistant Distribution, and 2) Security and Health of Android ecosystem

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Recent changes to MADA and RSA

MADA *License to OEMs to distribute Google Apps*	RSA Redacted
<u>Search:</u> - ~~Search intent set to Google~~ ***[removed to reduce pressure]*** - QSB on DHS ***[Challenged in EU. In RU Chrome Widget presents user with a choice of default search]*** <u>Assistant provisions:</u> ***[New]*** - Assist intent defaults to Google - Long press & touch on home button triggers assist intent - Google hotword enabled & Google has access to DSP - Home button animation for Assistant - 2 OOBE screens for Assistant <u>Apps:</u> - 11 apps preloaded in folder on DHS ***[now 5 of those will be deletable by user; Chrome preload challenged in EU]*** - Play on DHS ***[Play preload req challenged in EU]*** <u>Health:</u> ***[new]*** - Quarterly security updates	<u>Search:</u> - Search intents & defaults - Device Exclusivity ***[went to DHS exclusivity in EU, TR, KR, placement only in RU, to reduce pressure]*** - Chrome in hotseat & default ***[new]*** - No 3P search & assistant on -1 ***[new]*** <u>Assistant provisions:</u> ***[new]*** - OOBE screens for Assistant - Restrictions for DHS placement and OOB enablement of 3P & carrier assistants <u>Apps:</u> ***[New, Optional]*** - Defaults for Calendar, Gmail, Photos, RCS; Duo on DHS <u>Health:</u> ***[New]*** - Quarterly security updates Redacted

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Overview of Android ecosystem incentives

Differing incentives of ecosystem constituents reduce adoption of Google's initiatives

Consideration	Google	OEM	Carrier	Consumer
OS Distribution	**Strong** *Enables timely iteration on mobile innovations*	**Medium / Strong** *Incentive to sell new and differentiated devices*	**Low** *Less profitable as support and testing costs increase*	**Neutral** *Majority of users are agnostic to version of OS*
Security Updates	**Strong** *Secure phone to develop user trust*	**Neutral** *Costs increase but positive for brand experience*	**Medium** *Testing costs increase but important for B2B sales*	**Medium** *Users concerned, but may incur data costs in low wifi regions*
Google Search Functionality	**Strong** *Main source of revenue; Expand access point coverage*	**Neutral** *Agnostic to provider; Accept highest bid*	**Neutral** *Agnostic to provider; Accept highest bid*	**Neutral** *Browser and apps allow access to search*
OPA Distribution and Promotion	**Strong** *Continued interaction with OPA increases usage / stickiness*	**Low** *Agnostic to provider; Accept highest bid or promote own*	**Low** *Agnostic to provider; Accept highest bid or promote own*	**Low** *Nascent technology as of yet, with many options*
Google App Placements	**Strong** *Reduced distbn. costs and incr'l revenue opportunity*	**Low** *Agnostic to provider; Accept highest bid or promote own*	**Low** *Agnostic to provider; Accept highest bid or promote own*	**Neutral** *3P apps could provide similar functionality / service*

Downstream

Financial incentives reduce friction

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Why are we expanding RSA coverage and what are we changing?

Cover strategically important regions and Partners + Assistant distribution

- **Expand deals to cover high-growth and strategically important regions such as Japan**
  - High growth regions (eg. BRIIM) essential to sustain future Google search growth
  - RSA affords search pre-load exclusivity and incentive for Partners to promote Google services
  - Offer incentive to Partners in iOS-strong regions such as Japan to promote Google and Android; Share loss directly increases Search and Google services distribution costs
- **Partner expansion to reflect changing ecosystem dynamics**
  - Top Chinese OEMs catching up, contributing Redacted of Android shipments and Redacted
  - Competitors aggressively targeting rising OEMs due to lack of exclusivity provisions afforded via RSA
- **Secure Assistant experience on Android; RSA affords Google-forward Assistant experience**
  - Assistive services is nascent industry with increasing competition
    - Low margin handset business incentivizes OEMs to strike distribution deals (eg. HTC's deal with Alexa, Nokia in discussions with Alexa)
    - RSA secures DHS exclusivity of OPA
  - Incentivize Security Updates and ecosystem defragmentation to provide positive user experience for Assistant
  - Increasing data needs for Assistive services requires user trust
  - Assistant experience improved via Other Google app deep-links afforded via defaults and preloads

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RSA Lite approach could save Redacted in 2017-2020 if rolled out widely

Redacted

NOTES

1. Under RSA Lite, existing devices would receive revenue share on grandfathered terms for installed base

Redacted

2. Jan and Feb of 2014 excluded from access point calculation due to unavailability of information

3. Carrier rankings dependent on Client ID; Non Rev Share partners would not have an associated Client ID and therefore excluded from rank

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August looks mostly flat ..

The flat progress is due to some devices on quarterly cadence and Samsung dropping some models. Overall without any additional support through APE/BD program mgmt, we believe we can make some progress with exec escalations but will need support of initiatives like rev share & magic wand to make the next level of progress

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Rev Share Lite Considerations

Require and only pay on 3P browser defaults

Advantages	**Risks / Concerns**
Redacted of Search revenue on Android devices flows through AGSA & Chrome (MADA access points) even on Samsung devices. Potential TAC savings over 3 years (2017-2020) from top partners are estimated at Redacted	We estimated that we have to pay Redacted gross rev share for the 3P browsers to be competitive, which might create misaligned expectations that we will also pay Redacted on Google access points if MADA is dismantled
Due to regulatory pressure in EU, KR and potentially JP, we may have to take AGSA and Chrome out of MADA in the medium to long term. Might be good to start setting partner's expectations, that we, in the current RSA deal, will not be paying for MADA covered access points	OR if it's introduced carriers might expect Redacted across the board
Assistant requirements were weakened due to regulatory constraints (and might have to dilute them further, if carriers start challenging our treatment of Amazon and Cortana apps). Can use TAC savings to structure a separate program specifically for assistant	Assistant does not generate sufficient revenues yet, we might have to include minimum guarantees, bounties, or transaction revenues to be competitive
We have security updates provisions in MADA, so taking them out of RSA would not leave us without coverage. We could have a more targeted Security updates incentives programs to accelerate the change in partner behavior	Redacted
Negotiations are progressing slowly, it might be a good point to pivot	Carriers only started active negotiations 5 weeks ago

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RSA Economics: Revenue at Risk - Samsung example

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