

Okelly-Played

DESIGNATION	SOURCE	DURATION	ID
11:03 - 11:06	O kelley, Brian 2023-09-29 11:03 Q. Good morning, Mr. O'Kelley. 11:04 Can you please state your 11:05 full name for the record. 11:06 A. Charles Brian O'Kelley.	00:00:05	Okelly-Played.1
13:18 - 14:15	O kelley, Brian 2023-09-29 13:18 Q. And how long have you 13:19 personally worked in the ad tech 13:20 industry? 13:21 A. Depending on how you define 13:22 it, my first project in the ad tech space 13:23 was, I think, in the year 2000. I worked 13:24 for a consulting firm. And I built my 14:01 first ad server that decided which ads to 14:02 serve someone. More or less, I've been 14:03 in the industry since -- I guess I took 14:04 one sort of pivot away, from 2001 to 14:05 2003, give or take, 2002. I had one job 14:06 very early in my career that wasn't in ad 14:07 tech. 14:08 But besides that -- and then 14:09 I guess I was at Waybridge for another 14:10 two years, between 2018 and -- 2019 and 14:11 2021. 14:12 Q. Okay. So fair to say you've 14:13 been in the ad tech industry for more 14:14 than two decades? 14:15 A. Yes.	00:00:52	Okelly-Played.2
29:03 - 29:05	O kelley, Brian 2023-09-29 29:03 BY MS. WOOD: 29:04 Q. And what does the open web 29:05 mean in the context of display ads?	00:00:04	Okelly-Played.3
29:08 - 30:08	O kelley, Brian 2023-09-29 29:08 THE WITNESS: The idea of 29:09 the open web is that there are 29:10 certain publishers, platforms, 29:11 properties that have -- are 29:12 vertically integrated between the 29:13 ad serving and sort of ad sales,	00:00:59	Okelly-Played.4

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	29:14 you know, the content.		
	29:15 Like, you have to -- you		
	29:16 have to call Facebook, in this		
	29:17 context, or use the Facebook tools		
	29:18 to buy ads on Facebook. So some		
	29:19 people call those walled gardens,		
	29:20 closed platforms. But the idea is		
	29:21 that third-party ad technology		
	29:22 doesn't let you buy those		
	29:23 publishers. And so people say,		
	29:24 well, if it's open to, you know,		
	30:01 broad-based third-party ad		
	30:02 technology, then that's part of		
	30:03 the open internet.		
	30:04 But the key is that it's --		
	30:05 open is in the context of how ad		
	30:06 tech sees it. So ad tech can be		
	30:07 used on these websites or apps or		
	30:08 whatever.		
57:22 - 57:23	O kelley, Brian 2023-09-29	00:00:06	Okelly-Played.5
	57:22 Q. When was AppNexus founded?		
	57:23 A. September 2007.		
64:09 - 64:11	O kelley, Brian 2023-09-29	00:00:10	Okelly-Played.6
	64:09 Q. And at the time that you		
	64:10 founded AppNexus in 2007, what other ad		
	64:11 exchanges existed?		
64:15 - 65:06	O kelley, Brian 2023-09-29	00:00:47	Okelly-Played.7
	64:15 THE WITNESS: In 2007 there		
	64:16 were really three ad exchanges		
	64:17 that I can remember.		
	64:18 Right Media was by far the		
	64:19 biggest. We started first.		
	64:20 DoubleClick had started an		
	64:21 internal project called Project		
	64:22 Wolf that was going to be the		
	64:23 DoubleClick ad exchange. And that		
	64:24 had launched by 2007 but was very		
	65:01 inchoate. It hadn't really gotten		
	65:02 much traction yet.		
	65:03 And there was another one,		

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	65:04 whose name I'm forgetting, that		
	65:05 Microsoft acquired. That was		
	65:06 also very small.		
69:11 - 69:18	O kelley, Brian 2023-09-29	00:00:19	Okelly-Played.8
	69:11 Q. You mentioned a couple of		
	69:12 times that DoubleClick's publisher ad		
	69:13 server was used by many, if not most,		
	69:14 publishers.		
	69:15 Do you have any sense of the		
	69:16 market size of DoubleClick's publisher ad		
	69:17 server prior to DoubleClick being		
	69:18 acquired by Google?		
69:21 - 70:09	O kelley, Brian 2023-09-29	00:00:33	Okelly-Played.9
	69:21 THE WITNESS: I don't have a		
	69:22 precise market share number. I		
	69:23 can say that, at that time, the		
	69:24 portals, meaning Microsoft, Yahoo,		
	70:01 and AOL, did not use DoubleClick.		
	70:02 And The New York Times did		
	70:03 not use DoubleClick. They had a		
	70:04 homegrown ad server. But almost		
	70:05 every other major publisher in the		
	70:06 U.S., every major news publisher,		
	70:07 every major e-commerce publisher,		
	70:08 used DoubleClick. So their share		
	70:09 of the nonportal market was vast.		
72:13 - 72:16	O kelley, Brian 2023-09-29	00:00:06	Okelly-Played.10
	72:13 Q. And how, if at all, did		
	72:14 Google's acquisition of DoubleClick		
	72:15 impact competition in the ad tech		
	72:16 industry?		
72:20 - 74:15	O kelley, Brian 2023-09-29	00:01:34	Okelly-Played.11
	72:20 THE WITNESS: I think that		
	72:21 DoubleClick on its own had a		
	72:22 significant -- huge amount of		
	72:23 market leverage. They were, you		
	72:24 know, not just the publisher, ad		
	73:01 server for most publishers. They		
	73:02 were also the advertisers' ad		

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	73:03 server for most agencies and		
	73:04 advertisers.		
	73:05 What Google did when they		
	73:06 acquired it was they layered in		
	73:07 the AdSense revenue.		
	73:08 So Google AdSense was, if		
	73:09 not the largest, one of the very		
	73:10 largest ad networks in the world.		
	73:11 And if you think about the		
	73:12 way these programatic auctions		
	73:13 work, the more demand, the higher		
	73:14 the price for the publisher. And,		
	73:15 you know, moving the world's		
	73:16 largest, or one of the largest, ad		
	73:17 networks in and out of an auction		
	73:18 would have a massive impact on		
	73:19 revenue.		
	73:20 And so Google deciding to		
	73:21 only let AdSense participate in		
	73:22 the DoubleClick auction meant that		
	73:23 DoubleClick could out-monetize		
	73:24 others.		
	74:01 And, secondly, DoubleClick		
	74:02 controlling the ad server meant		
	74:03 that it could auction guaranteed		
	74:04 campaigns, the campaigns that the		
	74:05 publisher sold itself, against all		
	74:06 of the programatic demand.		
	74:07 So instead of being remnant,		
	74:08 it could do a more dynamic yield		
	74:09 management process. And so they		
	74:10 had two just fundamental		
	74:11 advantages, by controlling the ad		
	74:12 server and by having this massive		
	74:13 source of unique demand, that made		
	74:14 it extremely difficult for anyone		
	74:15 else to compete with.		
74:17 - 74:19	O kelley, Brian 2023-09-29	00:00:08	Okelly-Played.12
	74:17 Q. Did Google's acquisition of		
	74:18 DoubleClick increase the dominance of the		

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DESIGNATION	SOURCE	DURATION	ID
	74:19 DFP ad server?		
74:22 - 75:21	O kelley, Brian 2023-09-29	00:00:49	Okelly-Played.13
	74:22 THE WITNESS: My perspective		
	74:23 was -- is that DFP was already		
	74:24 pretty dominant, and they were		
	75:01 able to, for instance, get The New		
	75:02 York Times to switch to DFP over a		
	75:03 couple years.		
	75:04 They certainly made it		
	75:05 economically almost impossible to		
	75:06 switch. It wasn't just the best		
	75:07 technology -- it wasn't the best		
	75:08 ad server.		
	75:09 But every other ad server		
	75:10 company either went out of		
	75:11 business or was sold for scrap.		
	75:12 They just destroyed all		
	75:13 competition for that ad server.		
	75:14 There's companies like Open		
	75:15 AdStream, or a company called Ad		
	75:16 Tech, great name, that AOL bought		
	75:17 and shut down.		
	75:18 I mean, really, within a		
	75:19 couple years of that acquisition,		
	75:20 there were no viable competitors		
	75:21 in the publisher ad server space.		
75:23 - 76:01	O kelley, Brian 2023-09-29	00:00:06	Okelly-Played.14
	75:23 Q. And to this day, are there		
	75:24 any viable competitors in the publisher		
	76:01 ad server space?		
76:05 - 76:06	O kelley, Brian 2023-09-29	00:00:03	Okelly-Played.15
	76:05 Q. For display advertising.		
	76:06 A. There are --		
76:09 - 77:08	O kelley, Brian 2023-09-29	00:00:55	Okelly-Played.16
	76:09 THE WITNESS: There are two		
	76:10 other companies that you might		
	76:11 consider competitors.		
	76:12 One was AppNexus. I decided		
	76:13 in about 2014 that somebody had to		

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	<p>76:14 go build an alternative to DFP,</p> <p>76:15 and I spent hundreds of millions</p> <p>76:16 of dollars trying. And that was</p> <p>76:17 not particularly successful,</p> <p>76:18 commercially. That product is</p> <p>76:19 still in existence, you know, part</p> <p>76:20 of Microsoft now.</p> <p>76:21 And there are a few handfals</p> <p>76:22 of large publishers, mainly in</p> <p>76:23 Europe and I think in Japan, that</p> <p>76:24 use it, but it never got</p> <p>77:01 meaningful traction in the U.S.</p> <p>77:02 And there is a European</p> <p>77:03 company called Equativ,</p> <p>77:04 E-Q-U-A-T-I-V. I don't know how</p> <p>77:05 to say it. That has a handful of</p> <p>77:06 customers.</p> <p>77:07 But there's very little</p> <p>77:08 competition in that market today.</p>		
77:10 - 77:14	<p>O kelley, Brian 2023-09-29</p> <p>77:10 Q. And how, if at all, does the</p> <p>77:11 fact that there's little competition in</p> <p>77:12 the ad -- publisher ad server market</p> <p>77:13 impact competition in, for example, the</p> <p>77:14 ad exchange market?</p>	00:00:11	Okelly-Played.17
77:17 - 79:14	<p>O kelley, Brian 2023-09-29</p> <p>77:17 THE WITNESS: My perspective</p> <p>77:18 is that, if you think of this from</p> <p>77:19 a yield management perspective,</p> <p>77:20 the basic idea of yield management</p> <p>77:21 is you want to have all of your</p> <p>77:22 revenue options, all of your --</p> <p>77:23 all of your -- all the things</p> <p>77:24 you're trying to yield manage in</p> <p>78:01 one place. So we call that a</p> <p>78:02 unified auction.</p> <p>78:03 The best way to do that is</p> <p>78:04 to have your ad server make that</p> <p>78:05 decision, which gives the ad</p> <p>78:06 server a huge advantage in</p>	00:01:27	Okelly-Played.18

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	78:07 deciding which ad will serve.		
	78:08 So we could hack around		
	78:09 that. We could run, you know, a		
	78:10 header bidding auction -- we could		
	78:11 auction before the ad server, but		
	78:12 we still had to send all the		
	78:13 results to Google. So Google got		
	78:14 to see those bids and then make a		
	78:15 decision.		
	78:16 And I say Google because,		
	78:17 you know, Google wasn't really		
	78:18 operating with -- again, this is		
	78:19 totally my opinion and my		
	78:20 perspective -- was Google wasn't		
	78:21 operating at arm's length between		
	78:22 an ad server product and an ad		
	78:23 exchange product.		
	78:24 From our perspective, we'd		
	79:01 send, you know, our header bidding		
	79:02 response to the Google platform,		
	79:03 and it would make a decision based		
	79:04 on business rules about which ad		
	79:05 to serve.		
	79:06 And so it had last look, as		
	79:07 we would say, on all the demand.		
	79:08 It could see all the demand, and		
	79:09 we couldn't -- had so many		
	79:10 advantages. Plus, it had unique		
	79:11 demand, coming in from the Google		
	79:12 ad network.		
	79:13 It was extremely difficult		
	79:14 to compete.		
79:15 - 79:21	O kelley, Brian 2023-09-29	00:00:18	Okelly-Played.19
	79:15 BY MS. WOOD:		
	79:16 Q. Did there come a time that		
	79:17 Google launched an ad exchange?		
	79:18 A. Google took the DoubleClick		
	79:19 ad exchange after the acquisition and		
	79:20 relaunched it as the Google ad exchange.		
	79:21 I think that was 2009.		

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85:18 - 86:02	O kelley, Brian 2023-09-29 85:18 Q. And what was the approximate 85:19 market size of AdMeld at that time, 2007 85:20 to 2010? 85:21 A. I don't really know. I 85:22 mean, there weren't really industry 85:23 metrics. We didn't have a sense. I'd 85:24 say they were similar in size to PubMatic 86:01 and Rubicon, who were probably the two 86:02 largest.	00:00:25	Okelly-Played.20
86:03 - 86:05	O kelley, Brian 2023-09-29 86:03 Q. And, ultimately, did Google 86:04 acquire AdMeld? 86:05 A. Yes.	00:00:04	Okelly-Played.21
86:06 - 86:08	O kelley, Brian 2023-09-29 86:06 Q. And did AdMeld have 86:07 capabilities that Google's own ad 86:08 exchange lacked?	00:00:05	Okelly-Played.22
86:11 - 86:18	O kelley, Brian 2023-09-29 86:11 THE WITNESS: Yes. AdMeld 86:12 had much more consultative, 86:13 managed service and yield 86:14 optimization capabilities that 86:15 were what publishers actually 86:16 needed from an SSP, and so they 86:17 allowed AdX to compete as an SSP 86:18 in the market.	00:00:22	Okelly-Played.23
86:20 - 86:23	O kelley, Brian 2023-09-29 86:20 Q. And what impact, if any, did 86:21 the acquisition of AdMeld by Google have 86:22 on the competitive market for display 86:23 transactions?	00:00:09	Okelly-Played.24
87:03 - 88:17	O kelley, Brian 2023-09-29 87:03 THE WITNESS: My sense is 87:04 that Google was struggling to win 87:05 business with AdX. It was very 87:06 expensive. It was inflexible. It 87:07 wasn't great at optimizing for 87:08 yield. And that bringing in the	00:01:22	Okelly-Played.25

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	87:09 expertise of the team -- I think		
	87:10 it was more of an expertise		
	87:11 acquisition than a technology		
	87:12 acquisition.		
	87:13 But they got the skill set		
	87:14 and the knowledge they needed to		
	87:15 make the AdX value proposition		
	87:16 more compelling. And they also		
	87:17 took out a competitor that was, I		
	87:18 think, pulling money away from		
	87:19 them.		
	87:20 I think that part of what		
	87:21 AdMeld was doing was actually		
	87:22 optimizing away from the Google		
	87:23 platform.		
	87:24 BY MS. WOOD:		
	88:01 Q. You said that Google's AdX		
	88:02 was expensive. Why do you say that?		
	88:03 A. AdX charged 20 percent as a		
	88:04 rev share, which was dramatically higher		
	88:05 than competitors. I think others -- you		
	88:06 know, I think our SSP at AppNexus was		
	88:07 generally around 10 percent. I think		
	88:08 others, like AdMeld, charged more like		
	88:09 15 percent, because they were more		
	88:10 managed service.		
	88:11 But Google always, at that		
	88:12 time, seemed much more expensive than		
	88:13 anyone else.		
	88:14 Q. Do you know how much Rubicon		
	88:15 charged at that time?		
	88:16 A. I think market was around		
	88:17 15 percent for most participants.		
91:09 - 91:13	O kelley, Brian 2023-09-29	00:00:11	Okelly-Played.26
	91:09 Q. Did there come a time, to		
	91:10 your knowledge, that Google limited its		
	91:11 AdSense or AdWords customers to bidding		
	91:12 exclusively into AdX and no other ad		
	91:13 exchange?		
91:16 - 91:20	O kelley, Brian 2023-09-29	00:00:12	Okelly-Played.27

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DESIGNATION	SOURCE	DURATION	ID
	91:16 THE WITNESS: From the 91:17 beginning of AdX, AdSense only 91:18 worked with AdX. And it was many 91:19 years later until they opened it 91:20 to other partners.		Okelly-Played.27
93:23 - 94:02	O kelley, Brian 2023-09-29 93:23 Q. Okay. What impact, if any, 93:24 did it have on competition, that Google 94:01 limited its advertising customers to bid 94:02 exclusively into AdX?	00:00:11	Okelly-Played.28
94:05 - 95:18	O kelley, Brian 2023-09-29 94:05 THE WITNESS: So going back 94:06 to the basic idea of how auctions 94:07 monetize things, it's a very 94:08 simple supply-and-demand equation. 94:09 So if there's more demand, then, 94:10 obviously, prices will go up, and 94:11 publishers will prefer higher 94:12 price. 94:13 Most of the demand sources 94:14 in the programmatic space were 94:15 shared across all of the SSPs or 94:16 ad exchanges, meaning that an 94:17 independent DSP, like MediaMath or 94:18 the Trade Desk, would bid into 94:19 every SSP. 94:20 So having a unique demand 94:21 source on your exchange had a 94:22 dramatic impact on the market. 94:23 It also made it very 94:24 difficult to switch. So if you 95:01 think about switching from Rubicon 95:02 to PubMatic, they may have 95:03 slightly different technology, 95:04 they might have slightly different 95:05 features, different service, but 95:06 the demand was all the same. And 95:07 so there's very low switching 95:08 cost. 95:09 With Google having a unique	00:01:24	Okelly-Played.29

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	95:10 demand source, switching away from		
	95:11 AdX or switching away from DFP		
	95:12 would mean losing one of the		
	95:13 largest demand sources, if not the		
	95:14 largest demand source, and,		
	95:15 therefore, would have significant		
	95:16 monetization implications, or cost		
	95:17 you a lot of money, or could, if		
	95:18 you left.		
95:20 - 98:06	O kelley, Brian 2023-09-29	00:02:24	Okelly-Played.30
	95:20 Q. You referred to Google's		
	95:21 demand as unique demand. What did you		
	95:22 mean by that?		
	95:23 A. I meant that that demand was		
	95:24 only available through the Google AdSense		
	96:01 platform -- or network, really.		
	96:02 And it was unique because it		
	96:03 was tied to the Google search business,		
	96:04 so most of that demand, if not all of		
	96:05 that demand, was coming from search		
	96:06 advertisers. So they were using their		
	96:07 relationship with Google across different		
	96:08 formats to, you know, I think, check a		
	96:09 little checkbox that said, "and run this		
	96:10 across the internet and display		
	96:11 advertising."		
	96:12 There was no other -- there		
	96:13 were no other way to get those ad		
	96:14 dollars, except from Google.		
	96:15 Q. In addition to that demand		
	96:16 being unique, did it have any other		
	96:17 important characteristics, from a		
	96:18 competitive point of view?		
	96:19 A. One major difference, if you		
	96:20 think about search, is that Google could		
	96:21 do search retargeting, meaning that they		
	96:22 could find people who searched for a term		
	96:23 on Google and then follow those people		
	96:24 across the internet.		
	97:01 So it wasn't just that it		

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	97:02 was a different platform, it was that		
	97:03 they had a unique knowledge of user		
	97:04 behavior.		
	97:05 And of course they also had		
	97:06 YouTube behavior, and they had your		
	97:07 e-mail behavior if you used Gmail. They		
	97:08 had Chrome as a browser. They had		
	97:09 Android as an operating system.		
	97:10 There were so many		
	97:11 different -- they knew what you searched		
	97:12 on on Google Maps or Waze.		
	97:13 I mean, there's so many ways		
	97:14 that Google knows about its customers, so		
	97:15 it was -- it was extremely diverse.		
	97:16 If you go back to my		
	97:17 hypothesis that diversity of demand or		
	97:18 expressiveness of demand is highly		
	97:19 valuable in an auction system. So it was		
	97:20 extremely different than most other		
	97:21 sources of demand that were coming from		
	97:22 an ad agency, let's say, that had no		
	97:23 direct relationship with the consumer,		
	97:24 and, you know, didn't know what the		
	98:01 consumer searched on or, you know, where		
	98:02 they went in their car or any of these		
	98:03 other things.		
	98:04 So I would say it was a		
	98:05 completely separate and unique kind of		
	98:06 demand coming from Google.		
103:08 - 103:09	O kelley, Brian 2023-09-29	00:00:03	Okelly-Played.31
	103:08 Q. In what ways was the		
	103:09 waterfall not a fair auction?		
103:12 - 104:03	O kelley, Brian 2023-09-29	00:00:42	Okelly-Played.32
	103:12 Q. If any.		
	103:13 A. Well, the waterfall wasn't		
	103:14 an auction. I mean, the waterfall -- you		
	103:15 know, some human at the publisher would		
	103:16 decide what priority to put every ad.		
	103:17 So the ad server was not		
	103:18 making decisions. The ad server did not		

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	103:19 have logic. The ad server -- I mean, it		
	103:20 had -- like, if behind increased		
	103:21 priority, as we talked about. But it was		
	103:22 a very basic system designed to help		
	103:23 publishers manage their own inventory.		
	103:24 So it was, in that sense,		
	104:01 totally fair or not -- almost like an		
	104:02 irrelevant point. It was just a tool		
	104:03 that ran a waterfall process.		
107:04 - 107:08	O kelley, Brian 2023-09-29	00:00:14	Okelly-Played.33
	107:04 Q. If, in the waterfall system,		
	107:05 AdX met the floor price set by DFP, did		
	107:06 other exchanges have the opportunity to		
	107:07 compete for that impression?		
	107:08 A. No, they did not.		
107:13 - 107:15	O kelley, Brian 2023-09-29	00:00:07	Okelly-Played.34
	107:13 Q. And was that the case even		
	107:14 when other exchanges might have a higher		
	107:15 price to offer for the impression?		
107:18 - 107:18	O kelley, Brian 2023-09-29	00:00:01	Okelly-Played.35
	107:18 THE WITNESS: Yes.		
107:20 - 108:17	O kelley, Brian 2023-09-29	00:00:57	Okelly-Played.36
	107:20 Q. Are you familiar with the		
	107:21 term "dynamic allocation"?		
	107:22 A. Yes.		
	107:23 Q. What does that mean in the		
	107:24 context of display ads?		
	108:01 A. So it is the idea that,		
	108:02 instead of having your auction happen at		
	108:03 a single place in the waterfall, that you		
	108:04 would run the auction and then insert the		
	108:05 result based on price.		
	108:06 So you are basically		
	108:07 changing from a rule-based,		
	108:08 priority-based waterfall to a		
	108:09 hybrid-priced and rule-based waterfall.		
	108:10 Basically saying, if AdX had		
	108:11 a bid of a certain -- you know, if it bid		
	108:12 \$2, was the outcome, it would actually go		

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	108:13 up a couple of priority tiers. And if it		
	108:14 didn't, it would stay where it was.		
	108:15 So trying to change where		
	108:16 AdX demand was inserted in the waterfall,		
	108:17 dynamically, based on price.		
108:18 - 108:20	O kelley, Brian 2023-09-29	00:00:08	Okelly-Played.37
	108:18 Q. And in that context, AdX was		
	108:19 competing against guaranteed line items,		
	108:20 for example?		
108:23 - 109:02	O kelley, Brian 2023-09-29	00:00:08	Okelly-Played.38
	108:23 THE WITNESS: Correct. AdX		
	108:24 was competing against the		
	109:01 publishers' own direct-sold		
	109:02 campaigns.		
109:04 - 109:14	O kelley, Brian 2023-09-29	00:00:20	Okelly-Played.39
	109:04 Q. And what is a direct-sold		
	109:05 campaign?		
	109:06 A. It's a campaign that the --		
	109:07 a salesperson at the publisher has sold		
	109:08 directly to an agency or an advertiser.		
	109:09 In other words, not using programatic,		
	109:10 not running through the ad exchange.		
	109:11 Q. And did other exchanges have		
	109:12 the opportunity to participate in dynamic		
	109:13 allocation?		
	109:14 A. No.		
110:12 - 110:16	O kelley, Brian 2023-09-29	00:00:13	Okelly-Played.40
	110:12 Q. Now, you indicated earlier		
	110:13 that you helped create a header bidding		
	110:14 system back in what time frame?		
	110:15 A. We rolled out header bidding		
	110:16 in 2008.		
110:17 - 110:20	O kelley, Brian 2023-09-29	00:00:07	Okelly-Played.41
	110:17 Q. Did there come a time later		
	110:18 in the history of the ad tech market		
	110:19 where header bidding really took off,		
	110:20 from a market-wide perspective?		
110:23 - 111:05	O kelley, Brian 2023-09-29	00:00:17	Okelly-Played.42
	110:23 THE WITNESS: Yeah. Header		

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DESIGNATION	SOURCE	DURATION	ID
	110:24 bidding began to get a lot of		
	111:01 traction, I want to say, around		
	111:02 2014. It just became increasingly		
	111:03 clear that header bidding would		
	111:04 drive higher yield for publishers,		
	111:05 so publishers began to adopt it.		
111:07 - 111:09	O kelley, Brian 2023-09-29	00:00:07	Okelly-Played.43
	111:07 Q. What circumstances occurred		
	111:08 between 2008 to 2014 that caused header		
	111:09 bidding to take off?		
111:12 - 112:17	O kelley, Brian 2023-09-29	00:01:07	Okelly-Played.44
	111:12 THE WITNESS: That's a great		
	111:13 question. And I think there were		
	111:14 a lot of market dynamics.		
	111:15 I think the main one was		
	111:16 that as the market became more		
	111:17 competitive, the idea of getting a		
	111:18 first -- getting a fair shot at		
	111:19 every impression became		
	111:20 increasingly important to all the		
	111:21 independent players.		
	111:22 And it was very difficult to		
	111:23 drive any value behind the Google		
	111:24 stack, meaning behind DFP, behind		
	112:01 AdX, just hoping that they		
	112:02 dropped -- you know, they didn't		
	112:03 actually hit their floor price.		
	112:04 With dynamic allocation,		
	112:05 they basically would just change		
	112:06 the dynamic so they'd always be		
	112:07 able to win. And so sitting		
	112:08 behind Google meant you wouldn't		
	112:09 get any inventory.		
	112:10 So we had to -- "we" as the		
	112:11 industry -- had to go in front of		
	112:12 Google to make it possible. And		
	112:13 so I think all major industry		
	112:14 participants really jumped into		
	112:15 header bidding as the only way to		
	112:16 compete with Google in the ad tech		

Okelly-Played

DESIGNATION	SOURCE	DURATION	ID
	112:17 space.		
112:19 - 114:02	O kelley, Brian 2023-09-29 112:19 Q. And why do you say header 112:20 bidding was the only way for the major 112:21 participants to compete against Google in 112:22 the ad tech space? 112:23 A. Well, if DFP is the, you 112:24 know, majority ad server for most of the 113:01 industry, and if the ad server makes the 113:02 final decision about which ad to serve, 113:03 you have to find some way to influence 113:04 that decision. 113:05 And, you know, in the early 113:06 days, before dynamic allocation, it was 113:07 what I would consider a daisy chain at 113:08 the end of the waterfall. So, you know, 113:09 if the publishers' guaranteed direct-sold 113:10 ads didn't serve, then it would go to 113:11 AdX. If AdX didn't meet the floor, it 113:12 would go to network's AppNexus piece. 113:13 And, you know, a large piece 113:14 of inventory would go into that daisy 113:15 chain. 113:16 But as the market matured 113:17 and Google got more aggressive on dynamic 113:18 allocation and other techniques, it 113:19 became harder and harder to get inventory 113:20 out the bottom of that waterfall. 113:21 And so I think everyone 113:22 realized that, to get a fair shot, we had 113:23 to go -- that was the chokepoint for all 113:24 these decisions. We had to influence 114:01 those decisions, and we had to go before 114:02 because after wasn't working.	00:01:24	Okelly-Played.45
114:03 - 114:05	O kelley, Brian 2023-09-29 114:03 Q. And how did the practices of 114:04 DFP impact the market share of AdX over 114:05 that time period?	00:00:09	Okelly-Played.46
114:08 - 114:11	O kelley, Brian 2023-09-29 114:08 THE WITNESS: AdX was -- I	00:00:11	Okelly-Played.47

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DESIGNATION	SOURCE	DURATION	ID
	114:09 mean, market share of AdX		
	114:10 increased dramatically because of		
	114:11 the actions of DFP.		
114:13 - 114:13	O kelley, Brian 2023-09-29	00:00:01	Okelly-Played.48
	114:13 Q. Can you explain.		
114:17 - 116:08	O kelley, Brian 2023-09-29	00:01:29	Okelly-Played.49
	114:17 THE WITNESS: So the ability		
	114:18 to bid at multiple points in the		
	114:19 waterfall, if you will, by DFP		
	114:20 gave AdX the ability to sort of		
	114:21 dynamically price in a waterfall.		
	114:22 Basically meaning they could		
	114:23 always have the right price point		
	114:24 to clear an impression. They		
	115:01 could -- they could preempt		
	115:02 guaranteed campaigns that others		
	115:03 couldn't. That is a great selling		
	115:04 point to buyers, to say, we have		
	115:05 access to inventory nobody else		
	115:06 does, we can win bids that no one		
	115:07 else can win. It's a very		
	115:08 compelling commercial story for		
	115:09 them.		
	115:10 Technically it meant their		
	115:11 win rate in auctions was higher		
	115:12 than anyone else's. So just		
	115:13 multiple reasons that they had an		
	115:14 advantage.		
	115:15 It was also built into the		
	115:16 ad server, meaning that you didn't		
	115:17 have to have the user's browser		
	115:18 bounce between different systems.		
	115:19 So there was no loss between the		
	115:20 ad server and the ad exchange.		
	115:21 So, you know, any -- any		
	115:22 loss, meaning, like, the browser		
	115:23 drops a connection or something		
	115:24 like that, is a loss of revenue		
	116:01 for the publisher, so it was less		
	116:02 risky for the publisher.		

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DESIGNATION	SOURCE	DURATION	ID
	116:03 So lots of -- lots of		
	116:04 different reasons that that tight		
	116:05 integration between DFP and AdX		
	116:06 made it very difficult for others		
	116:07 to actually win or compete in		
	116:08 those decisions.		
118:09 - 118:10	O kelley, Brian 2023-09-29	00:00:03	Okelly-Played.50
	118:09 Q. And what was the time frame		
	118:10 for those general discussions?		
118:13 - 118:20	O kelley, Brian 2023-09-29	00:00:19	Okelly-Played.51
	118:13 THE WITNESS: We launched		
	118:14 our ad server, I want to say, in		
	118:15 2015 or so, 2016.		
	118:16 And so those conversations		
	118:17 were happening actively through,		
	118:18 you know, 2016, 2017, 2018, as		
	118:19 we've tried to build that		
	118:20 business.		
119:10 - 119:11	O kelley, Brian 2023-09-29	00:00:05	Okelly-Played.52
	119:10 Q. And what impact, if any, did		
	119:11 header bidding have on publishers?		
119:14 - 119:18	O kelley, Brian 2023-09-29	00:00:10	Okelly-Played.53
	119:14 THE WITNESS: The market		
	119:15 feedback on header bidding was		
	119:16 that publishers saw revenue		
	119:17 increase when they started to do		
	119:18 header bidding.		
119:20 - 121:01	O kelley, Brian 2023-09-29	00:01:28	Okelly-Played.54
	119:20 Q. And why was that?		
	119:21 A. Our analysis was two things.		
	119:22 One was that header bidding operated on a		
	119:23 first-price basis, meaning that the		
	119:24 highest price would not be reduced to the		
	120:01 second price, like with the AdX auction.		
	120:02 So if the winning bid was		
	120:03 \$2, then the publisher would get \$2. And		
	120:04 that often, in the context of a		
	120:05 second-price auction, the publisher would		
	120:06 make significantly less money, and that		

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DESIGNATION	SOURCE	DURATION	ID
	120:07 \$2 served as a floor price for AdX.		
	120:08 So even if header bidding --		
	120:09 the winner of the header auction didn't		
	120:10 win the final auction, it forced Google		
	120:11 to pay that price. So it basically		
	120:12 served as a floor price into AdX.		
	120:13 And also the SSPs and		
	120:14 exchanges participating in header bidding		
	120:15 tended to charge less than AdX on a rev		
	120:16 share basis. And so, you know, it just		
	120:17 drove prices up, basically creating		
	120:18 competition, probably, unsurprisingly,		
	120:19 forced prices higher for publishers.		
	120:20 Q. Why do you say that's		
	120:21 unsurprising?		
	120:22 A. The whole idea of an auction		
	120:23 is the highest price should win. And the		
	120:24 more competition, the -- you know, the		
	121:01 more demand, the higher the price.		
121:02 - 121:03	O kelley, Brian 2023-09-29	00:00:03	Okelly-Played.55
	121:02 Q. And had competition		
	121:03 previously been limited?		
121:06 - 122:01	O kelley, Brian 2023-09-29	00:00:44	Okelly-Played.56
	121:06 THE WITNESS: I think that		
	121:07 if you look at all of these		
	121:08 independent ad exchanges and SSPs,		
	121:09 they were not allowed to fairly		
	121:10 participate to bid on every		
	121:11 impression, to compete on every		
	121:12 impression. They were being		
	121:13 excluded from that process. And		
	121:14 so, you know, I think in the --		
	121:15 you know, without header bidding,		
	121:16 basically, Google would have the		
	121:17 right to bid. AdX would have the		
	121:18 right to bid on every impression,		
	121:19 competing with the publisher. And		
	121:20 only if Google didn't hit a price		
	121:21 or it didn't win, then everyone		
	121:22 else would get a chance. It was		

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DESIGNATION	SOURCE	DURATION	ID
	121:23 not an open process to decide who		
	121:24 won and who actually delivered the		
	122:01 ad.		
122:03 - 122:07	O kelley, Brian 2023-09-29	00:00:10	Okelly-Played.57
	122:03 Q. You said these independent		
	122:04 SSPs, they weren't allowed to		
	122:05 participate. They were excluded from the		
	122:06 process.		
	122:07 Who excluded them?		
122:10 - 122:18	O kelley, Brian 2023-09-29	00:00:24	Okelly-Played.58
	122:10 THE WITNESS: I mean, the		
	122:11 Google ad stack, like, thinking of		
	122:12 DFP and AdX together, did not have		
	122:13 a capability for other ad		
	122:14 exchanges to participate in		
	122:15 dynamic allocation, to insert		
	122:16 demand into the decisioning		
	122:17 process. It was -- it was not an		
	122:18 open platform for other exchanges.		
122:20 - 122:23	O kelley, Brian 2023-09-29	00:00:07	Okelly-Played.59
	122:20 Q. You say that DFP didn't have		
	122:21 that capability. DFP could have built		
	122:22 that capability to allow that		
	122:23 participation; is that right?		
123:02 - 123:04	O kelley, Brian 2023-09-29	00:00:06	Okelly-Played.60
	123:02 THE WITNESS: Absolutely.		
	123:03 And they did, eventually, build a		
	123:04 version of that later on.		
123:06 - 123:21	O kelley, Brian 2023-09-29	00:00:36	Okelly-Played.61
	123:06 Q. Have you ever heard the term		
	123:07 "last look" in connection with header		
	123:08 bidding?		
	123:09 A. Last look is not just		
	123:10 relevant to header bidding. So the idea		
	123:11 of last look is that -- and this applies		
	123:12 to any auction process. I mean, you can		
	123:13 go to Sotheby's or whatever. Wouldn't it		
	123:14 be great if everybody else had to place a		
	123:15 bid, you see what those bids are, and		

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DESIGNATION	SOURCE	DURATION	ID
	123:16 then you decide if you want to		
	123:17 participate or not.		
	123:18 So you have full information		
	123:19 at the end of the process. And so you		
	123:20 can just bid one penny higher than the		
	123:21 next bidder.		
123:22 - 123:22	O kelley, Brian 2023-09-29	00:00:01	Okelly-Played.62
	123:22 Q. And why would that be great?		
124:01 - 125:11	O kelley, Brian 2023-09-29	00:01:13	Okelly-Played.63
	124:01 THE WITNESS: If everyone		
	124:02 had to submit a sealed bid in an		
	124:03 auction, you don't know what		
	124:04 anyone else is going to bid. And		
	124:05 so you have an incentive to		
	124:06 probably put your best bid forward		
	124:07 to make sure you don't lose.		
	124:08 But if you could see		
	124:09 everyone else's bid before you		
	124:10 placed yours, you could bid just a		
	124:11 tiny bit more than the next		
	124:12 highest bidder or walk away.		
	124:13 So that's an incredibly		
	124:14 powerful bit of information to		
	124:15 have in any auction. We're		
	124:16 talking about it in the		
	124:17 programatic market.		
	124:18 What would happen is that		
	124:19 Google -- I'm talking about Google		
	124:20 as the company that controls DFP		
	124:21 and owned AdX -- set it up so		
	124:22 that, basically, AdX could see		
	124:23 everybody else's bids, all the		
	124:24 demand from the ad server, all the		
	125:01 demand from all of their		
	125:02 participants -- all of the bidders		
	125:03 into the auction and then decide		
	125:04 if AdSense would want to bid a		
	125:05 little bit higher or not.		
	125:06 So they are basically		
	125:07 building this system so that they		

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DESIGNATION	SOURCE	DURATION	ID
	125:08 could have more information than		
	125:09 anybody else and, basically, get		
	125:10 better pricing, get better		
	125:11 outcomes than anyone else.		
125:13 - 126:19	O kelley, Brian 2023-09-29	00:01:08	Okelly-Played.64
	125:13 Q. And how, if at all, did that		
	125:14 impact Google's market share?		
	125:15 A. I don't know exactly how it		
	125:16 impacted market share because I don't		
	125:17 have all the numbers.		
	125:18 But in terms of their		
	125:19 ability to out-price competitors, it had		
	125:20 a huge impact. It meant that they could		
	125:21 play games with price if they wanted to,		
	125:22 You know, or they could have a preferred		
	125:23 price, even though it's supposedly an		
	125:24 auction. They would always win at a		
	126:01 better price than anyone else.		
	126:02 And that translated to both		
	126:03 their market story -- they would tell		
	126:04 that story to agencies and advertisers		
	126:05 and say, well, you know, we can --		
	126:06 because we have last look, we will always		
	126:07 have a better price than anybody else.		
	126:08 It was very powerful for win		
	126:09 rates because they never accidentally		
	126:10 underpriced by a penny or two. They even		
	126:11 built a feature that let them bump prices		
	126:12 by a couple pennies to win auctions, and		
	126:13 then they'd sort of make it up on the		
	126:14 next auction.		
	126:15 They had all these		
	126:16 techniques because they had full		
	126:17 information, to let them effectively		
	126:18 manipulate auctions and manipulate the		
	126:19 decisioning process, in their benefit.		
126:20 - 126:21	O kelley, Brian 2023-09-29	00:00:05	Okelly-Played.65
	126:20 Q. How, if at all, did header		
	126:21 bidding impact advertisers?		
126:24 - 128:08	O kelley, Brian 2023-09-29	00:01:14	Okelly-Played.66

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DESIGNATION	SOURCE	DURATION	ID
	<p>126:24 THE WITNESS: I think the</p> <p>127:01 easiest way to think about this,</p> <p>127:02 for an advertiser, is, if Google</p> <p>127:03 operated the highest-priced ad</p> <p>127:04 exchange, and I'm a buyer, I'm an</p> <p>127:05 advertiser, I would probably</p> <p>127:06 rather use a less expensive</p> <p>127:07 intermediary.</p> <p>127:08 If this were a competitive</p> <p>127:09 market, and there were five major</p> <p>127:10 exchanges, and one charged twice</p> <p>127:11 as much as the others, as a buyer,</p> <p>127:12 I'd rather have the lower-priced</p> <p>127:13 exchanges and have less of my</p> <p>127:14 money going to an intermediary and</p> <p>127:15 more of my money going to buy</p> <p>127:16 inventory.</p> <p>127:17 By biasing this decisioning</p> <p>127:18 process toward AdX, they were</p> <p>127:19 basically costing advertisers more</p> <p>127:20 money for buying the exact same ad</p> <p>127:21 impression that they could have</p> <p>127:22 bought through others.</p> <p>127:23 So header bidding gave</p> <p>127:24 advertisers an option to buy</p> <p>128:01 through the ad exchange or SSP of</p> <p>128:02 their choice, and, you know,</p> <p>128:03 presumably, to save money and to</p> <p>128:04 get better outcomes, to drive more</p> <p>128:05 sales, and, you know, brand lift, and</p> <p>128:06 all the other things marketers care</p> <p>128:07 about, for the same investment of</p> <p>128:08 dollars.</p>		Okelly-Played.66
131:05 - 131:06	<p>O kelley, Brian 2023-09-29</p> <p>131:05 Q. What was Google's reaction</p> <p>131:06 to header bidding, if you know?</p>	00:00:03	Okelly-Played.67
131:09 - 133:13	<p>O kelley, Brian 2023-09-29</p> <p>131:09 THE WITNESS: So from the</p> <p>131:10 beginning, Google was very</p> <p>131:11 threatened by header bidding. And</p>	00:02:05	Okelly-Played.68

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DESIGNATION	SOURCE	DURATION	ID
	131:12	I have a specific example of this,	
	131:13	which is when we went to create	
	131:14	Prebid as an open source platform,	
	131:15	we took it to the IAB, to the	
	131:16	trade association, that had	
	131:17	created a tech lab, the IAB tech	
	131:18	lab, specifically, to build and	
	131:19	host industry technology. There's	
	131:20	a protocol called OpenRTB, which	
	131:21	was the bidding protocol between	
	131:22	SSPs and DSPs, which they had	
	131:23	taken on from industry	
	131:24	participants. So their entire	
	132:01	point of existing was to take in	
	132:02	and develop technology like this.	
	132:03	And we wanted to contribute	
	132:04	Prebid to the IAB tech lab. And	
	132:05	there was a meeting of the board,	
	132:06	and Google objected vehemently to	
	132:07	this and was so negative that we	
	132:08	ended up having to create an	
	132:09	independent association, because	
	132:10	Google, at that time, was the	
	132:11	largest financial contributor to	
	132:12	the IAB and had a huge amount of	
	132:13	leverage over that organization.	
	132:14	So it was a very clear	
	132:15	example of them trying to keep it	
	132:16	from getting traction in industry.	
	132:17	At other times they	
	132:18	threatened AppNexus clients that	
	132:19	they were going to turn off the	
	132:20	DFP features that enabled header	
	132:21	bidding, like to -- you know, as I	
	132:22	said, it was kind of a hack in the	
	132:23	sense that DFP wasn't built to	
	132:24	support header bidding.	
	133:01	And they told eBay, who was	
	133:02	the specific publisher, that they	
	133:03	weren't going to allow them to	
	133:04	integrate header bidding. They	

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DESIGNATION	SOURCE	DURATION	ID
	133:05 were going to turn off that		
	133:06 feature. Which they did not do,		
	133:07 to be clear.		
	133:08 But, like, there are		
	133:09 multiple instances like that where		
	133:10 we felt like Google was taking		
	133:11 action to try to stop Prebid and		
	133:12 stop header bidding from getting		
	133:13 adoption.		
133:15 - 133:16	O kelley, Brian 2023-09-29	00:00:02	Okelly-Played.69
	133:15 Q. And why was Google against		
	133:16 header bidding?		
133:19 - 135:04	O kelley, Brian 2023-09-29	00:01:15	Okelly-Played.70
	133:19 THE WITNESS: My perception,		
	133:20 as a market participant, was that		
	133:21 one of the -- I mean, if you're		
	133:22 running AdX, and you're looking at		
	133:23 how do you win as many auctions as		
	133:24 you can -- how can you sell as		
	134:01 many ads as you can. Your entire		
	134:02 revenue, if you think of it, is		
	134:03 just, you know, price times rev		
	134:04 share times, you know, how many		
	134:05 ads you win. Having an unfair		
	134:06 ability to, you know, change the		
	134:07 decisioning process, to do dynamic		
	134:08 allocation and to, you know, sit		
	134:09 in front of all of the SSPs, you		
	134:10 know, that's a huge advantage.		
	134:11 Having header bidding		
	134:12 basically meant that every single		
	134:13 market participant had the		
	134:14 benefits of dynamic allocation.		
	134:15 That everybody got to, you know,		
	134:16 participate at every level of the		
	134:17 waterfall.		
	134:18 We were taking away one of		
	134:19 the key advantages that AdX had		
	134:20 and basically forcing them to		
	134:21 compete fairly. And we have clear		

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DESIGNATION	SOURCE	DURATION	ID
	134:22 evidence that this was, you know, 134:23 driving prices up, in the sense 134:24 that if you turn on header 135:01 bidding, the publisher benefited. 135:02 If AdX were operating fairly, 135:03 there should have been no impact 135:04 on price.		
151:06 - 151:07	O kelley, Brian 2023-09-29 151:06 Q. What is Google's open 151:07 bidding product?	00:00:04	Okelly-Played.71
151:10 - 152:15	O kelley, Brian 2023-09-29 151:10 THE WITNESS: So Google -- 151:11 after, I don't know, a year or two 151:12 of header bidding getting real 151:13 traction, I think Google felt very 151:14 threatened by fair competition, is 151:15 my perspective. 151:16 And they decided that they 151:17 were going to open up dynamic 151:18 allocation to other ad exchanges 151:19 and build their own competitor to 151:20 header bidding. And they called 151:21 it, at that point, I think it was 151:22 called EBDA -- I forget what it 151:23 stood for. But basically -- 151:24 BY MS. WOOD: 152:01 Q. Exchange bidding? 152:02 A. Exchange bidding. And they 152:03 got a better name, which is Open Bidder. 152:04 And the idea was that any 152:05 SSP could bid into the same auction as 152:06 AdX, and then the benefit of, you know, 152:07 adjusting the price -- adjusting the 152:08 priority in the waterfall, like AdX, 152:09 would apply to these other exchanges. 152:10 And their hypothesis was 152:11 that this would be giving all of these 152:12 exchanges the same basic benefit as 152:13 header bidding and that publishers would 152:14 then turn off header bidding in	00:01:15	Okelly-Played.72

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DESIGNATION	SOURCE	DURATION	ID
	152:15 preference for open bidding.		
152:16 - 152:18	O kelley, Brian 2023-09-29	00:00:05	Okelly-Played.73
	152:16 Q. And why did Google want, to		
	152:17 your understanding, publishers to turn		
	152:18 off header bidding?		
152:22 - 153:06	O kelley, Brian 2023-09-29	00:00:17	Okelly-Played.74
	152:22 THE WITNESS: Well, our		
	152:23 perception was that publishers		
	152:24 using header bidding would		
	153:01 actually route more money away		
	153:02 from Google. And so Google would		
	153:03 make less money when a lower		
	153:04 percentage of the overall		
	153:05 impressions when publishers had		
	153:06 header bidding turned on.		
153:08 - 153:24	O kelley, Brian 2023-09-29	00:00:41	Okelly-Played.75
	153:08 Q. Was AppNexus a customer of		
	153:09 Google's open bidding product?		
	153:10 A. No, AppNexus was not.		
	153:11 Q. Why not?		
	153:12 A. Two reasons. One was that		
	153:13 Google had a rule that said that if you		
	153:14 participate in open bidding, you could		
	153:15 not bring unique demand. You could not		
	153:16 bring -- you could not be a DSP. Only		
	153:17 SSPs could participate.		
	153:18 And because AppNexus was		
	153:19 both, we couldn't -- we weren't really		
	153:20 allowed to participate. We'd have to --		
	153:21 there's all these rules that we weren't		
	153:22 willing to meet. That's the primary		
	153:23 reason, was it just wasn't built in a way		
	153:24 that we felt was fair. That's --		
154:01 - 154:02	O kelley, Brian 2023-09-29	00:00:02	Okelly-Played.76
	154:01 Q. Why did you feel it was		
	154:02 unfair?		
154:05 - 155:01	O kelley, Brian 2023-09-29	00:00:38	Okelly-Played.77
	154:05 THE WITNESS: Because Google		
	154:06 could do whatever they wanted.		

Okelly-Played

DESIGNATION	SOURCE	DURATION	ID
	154:07 Google could bring AdSense demand		
	154:08 to the table, they could bring		
	154:09 their DSP to the table. But we		
	154:10 couldn't.		
	154:11 They also were charging a		
	154:12 5 percent fee, whereas with header		
	154:13 bidding there was no fee.		
	154:14 Also, header bidding was		
	154:15 open source and fully in the		
	154:16 control of the publisher. Our		
	154:17 fear was that as soon as Google		
	154:18 got rid of header bidding, they		
	154:19 would just change the rules on		
	154:20 open bidding to benefit themselves		
	154:21 again, after killing all their		
	154:22 competitors. We were not in any		
	154:23 way interested in making our		
	154:24 business dependent upon Google's		
	155:01 business rules.		
155:03 - 155:06	O kelley, Brian 2023-09-29	00:00:08	Okelly-Played.78
	155:03 Q. The 5 percent fee that		
	155:04 came -- that Google charged for open		
	155:05 bidding, how was that fee paid, if you		
	155:06 know --		
155:09 - 155:12	O kelley, Brian 2023-09-29	00:00:06	Okelly-Played.79
	155:09 THE WITNESS: I believe it		
	155:10 was a rev share. You know, when		
	155:11 you bid, they would just take it		
	155:12 out of the bid.		
155:14 - 155:17	O kelley, Brian 2023-09-29	00:00:11	Okelly-Played.80
	155:14 Q. And to your knowledge, when		
	155:15 AdX competes against other non-Google		
	155:16 exchanges via open bidding, does AdX pay		
	155:17 that 5 percent fee?		
155:20 - 155:21	O kelley, Brian 2023-09-29	00:00:03	Okelly-Played.81
	155:20 THE WITNESS: I don't think		
	155:21 so, but I'm not sure.		
155:23 - 156:04	O kelley, Brian 2023-09-29	00:00:15	Okelly-Played.82
	155:23 Q. How, if at all, would the		

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DESIGNATION	SOURCE	DURATION	ID
	155:24 fact that third-party exchanges pay a		
	156:01 5 percent fee, but AdX does not pay a		
	156:02 5 percent fee, impact those third-party		
	156:03 exchanges' ability to compete in open		
	156:04 bidding?		
156:08 - 157:16	O kelley, Brian 2023-09-29	00:01:04	Okelly-Played.83
	156:08 THE WITNESS: Going back to		
	156:09 basic auction dynamics, if the		
	156:10 demand is the same, just assuming		
	156:11 that everyone had the same demand,		
	156:12 the DSP bids a dollar on each of		
	156:13 these platforms. To win you have		
	156:14 to pay the highest price. So if		
	156:15 you're paying an additional		
	156:16 5 percent fee, you have to take		
	156:17 that out of your take rate.		
	156:18 So anyone else -- because if		
	156:19 you just take it out of the gross,		
	156:20 you're going to lose. So to win		
	156:21 you have to take a 5 percent lower		
	156:22 margin than AdX. So if AdX is		
	156:23 charging 20 percent, you're going		
	156:24 to have to charge 14 percent to		
	157:01 even be at parity with Google. So		
	157:02 it just gives Google a huge profit		
	157:03 advantage.		
	157:04 It also means that as		
	157:05 auctions get more competitive, you		
	157:06 know, Google has 5 percent more to		
	157:07 play with. If they wanted to take		
	157:08 a margin hit, they could		
	157:09 potentially just, you know,		
	157:10 imagine that they took a 4 1/2		
	157:11 percent margin, they'll always		
	157:12 win. No one can compete with		
	157:13 Google. They have, effectively, a		
	157:14 trump card to win any auction they		
	157:15 want to because they have a lower		
	157:16 fee.		
159:03 - 159:06	O kelley, Brian 2023-09-29	00:00:09	Okelly-Played.84

Okelly-Played

DESIGNATION	SOURCE	DURATION	ID
	159:03 Q. And how, if at all, would 159:04 more data about different bid prices 159:05 impact your ability to compete in future 159:06 auctions?		Okelly-Played.84
159:10 - 160:17	O kelley, Brian 2023-09-29 159:10 THE WITNESS: I mean, the 159:11 more data you have -- if you know 159:12 that this particular user on this 159:13 particular site got these 159:14 different bids, you certainly 159:15 could use that to inform how you 159:16 shade or how you actually do yield 159:17 management on behalf of the 159:18 publisher or on behalf of your own 159:19 exchange. 159:20 You might also know, 159:21 assuming that you could find out 159:22 the advertiser or the DSP that's 159:23 bidding, you could figure out why 159:24 is this advertiser working with a 160:01 competitor. Because these are all 160:02 competitors of AdX. They are 160:03 basically getting their 160:04 competitors to share all of their 160:05 information with Google. 160:06 So, you know, a scary part 160:07 of this would be if you see 160:08 Coca-Cola buying exclusively 160:09 through one of the SSPs, you know, 160:10 it would be very tempting to go to 160:11 your sales team and say, can you 160:12 call Coke and find out why they 160:13 are working only with PubMatic. 160:14 You know, let's see if we can give 160:15 them a better rate. Or let's see 160:16 what we can do to get them on our 160:17 platform.	00:01:01	Okelly-Played.85
161:06 - 161:08	O kelley, Brian 2023-09-29 161:06 Q. Are you familiar with the 161:07 term "dynamic revenue share" in the	00:00:07	Okelly-Played.86

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DESIGNATION	SOURCE	DURATION	ID
	161:08 context of display transactions?		
161:11 - 161:11	O kelley, Brian 2023-09-29	00:00:01	Okelly-Played.87
	161:11 THE WITNESS: Yes.		
161:13 - 161:19	O kelley, Brian 2023-09-29	00:00:19	Okelly-Played.88
	161:13 Q. What is dynamic revenue		
	161:14 share?		
	161:15 A. Dynamic revenue share is the		
	161:16 idea of, you know, changing the rev share		
	161:17 that an exchange takes, or an SSP takes,		
	161:18 to increase the likelihood that it wins		
	161:19 an auction.		
163:09 - 163:11	O kelley, Brian 2023-09-29	00:00:08	Okelly-Played.89
	163:09 Q. And how, if at all, did		
	163:10 Google's use of dynamic revenue share		
	163:11 impact your ability to compete?		
163:12 - 163:13	O kelley, Brian 2023-09-29	00:00:01	Okelly-Played.90
	163:12 MR. JUSTUS: Objection --		
	163:13 BY MS. WOOD:		
163:14 - 163:14	O kelley, Brian 2023-09-29	00:01:25	Okelly-Played.91
	163:14 Q. -- with Google?		
163:17 - 165:11	O kelley, Brian 2023-09-29	00:01:26	Okelly-Played.92
	163:17 THE WITNESS: Because they		
	163:18 were changing the price. The net		
	163:19 price of the publisher is the bid		
	163:20 minus the rev share.		
	163:21 The advantage that Google		
	163:22 had against us was that, because		
	163:23 they could see all the bids, they		
	163:24 could adjust the rev share at the		
	164:01 end. So we could have taken a		
	164:02 lower rev share, but we were just		
	164:03 guessing at what the clearing		
	164:04 price would be.		
	164:05 But since they sat at the		
	164:06 end of the auction, they would		
	164:07 know -- let's say their highest		
	164:08 bid was a dollar, that our highest		
	164:09 bid was \$0.90. If they took their		
	164:10 full 20 percent rev share, they		

Okelly-Played - 11-30pm

DESIGNATION	SOURCE	DURATION	ID
	164:11 would lose. But if they took a		
	164:12 9 percent rev share, they would		
	164:13 win.		
	164:14 And so because they were at		
	164:15 the end of the process, because		
	164:16 they owned the ad server, they		
	164:17 could win that impression.		
	164:18 It might make more sense for		
	164:19 them, commercially, to get		
	164:20 9 percent versus nothing. And		
	164:21 from our perspective, you know,		
	164:22 getting nothing versus 10 percent		
	164:23 was a huge impact.		
	164:24 And then there's a second		
	165:01 knock on effect for us was the		
	165:02 perception of publishers that		
	165:03 Google -- that AdX was a large		
	165:04 percentage of their revenue. The		
	165:05 more share that Google had, the		
	165:06 more power they had over the		
	165:07 market. Whether that was		
	165:08 legitimate or whether that was		
	165:09 because of more demand or -- you		
	165:10 know, it seemed like they were		
	165:11 winning a lot.		
165:12 - 166:11	O kelley, Brian 2023-09-29	00:00:59	Okelly-Played.93
	165:12 BY MS. WOOD:		
	165:13 Q. And how did Google's AdX		
	165:14 take rate change, if at all, over the		
	165:15 time period you were in the market, from		
	165:16 2007 to 2019?		
	165:17 MR. JUSTUS: Objection.		
	165:18 Form.		
	165:19 THE WITNESS: I don't know.		
	165:20 BY MS. WOOD:		
	165:21 Q. How did AppNexus's take rate		
	165:22 change over that same time period, 2007		
	165:23 to 2019?		
	165:24 A. I think that we started out		
	166:01 at █ percent in 2007, realized we were		

Okelly-Played - 11-30pm

DESIGNATION	SOURCE	DURATION	ID
	166:02 dramatically under market price, and I		
	166:03 think we increased our take rate, for the		
	166:04 SSP business, to around █ percent, as		
	166:05 sort of a baseline.		
	166:06 And I feel like with header		
	166:07 bidding and, you know, our ad server		
	166:08 business and things, I think we began to		
	166:09 discount toward the end of that time		
	166:10 period. But I think we were always in		
	166:11 that █ █ █ percent range.		
167:07 - 167:09	O kelley, Brian 2023-09-29	00:00:05	Okelly-Played.94
	167:07 Q. And do you think that higher		
	167:08 take rate was based on the fact that		
	167:09 Google had a superior product?		
167:12 - 167:17	O kelley, Brian 2023-09-29	00:00:12	Okelly-Played.95
	167:12 THE WITNESS: Well, of		
	167:13 course I didn't think they had a		
	167:14 superior product. But I don't --		
	167:15 I can't speculate on why		
	167:16 publishers were willing to pay		
	167:17 their price versus ours.		
167:19 - 167:21	O kelley, Brian 2023-09-29	00:00:06	Okelly-Played.96
	167:19 Q. Did you ever have a		
	167:20 discussion with publishers about that		
	167:21 subject?		
167:24 - 168:20	O kelley, Brian 2023-09-29	00:00:35	Okelly-Played.97
	167:24 THE WITNESS: The best way I		
	168:01 could characterize it is that		
	168:02 publishers turned on header		
	168:03 bidding because they wanted		
	168:04 competition, and they wanted to		
	168:05 work with more exchanges than just		
	168:06 Google.		
	168:07 But there was not a true		
	168:08 competitive question. There		
	168:09 wasn't, like, hey, you should turn		
	168:10 off AdX in DFP and turn off		
	168:11 AppNexus. We couldn't turn off		
	168:12 AdX, and so there was not really a		

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DESIGNATION	SOURCE	DURATION	ID
	168:13 competitive conversation. It		
	168:14 wasn't, you know, do you want to		
	168:15 choose us for 10 percent or AdX at		
	168:16 20 percent.		
	168:17 It was, well, granted, leave		
	168:18 AdX on, because it's built on, and		
	168:19 we're going to work with you		
	168:20 through header bidding.		
170:20 - 170:22	O kelley, Brian 2023-09-29	00:00:10	Okelly-Played.98
	170:20 Q. And do exchanges incur		
	170:21 operating costs, even when they fail to		
	170:22 win an impression?		
171:01 - 171:01	O kelley, Brian 2023-09-29	00:00:01	Okelly-Played.99
	171:01 THE WITNESS: Yes.		
172:13 - 173:02	O kelley, Brian 2023-09-29	00:00:44	Okelly-Played.10
	172:13 Q. Do you bid on -- do you win		0
	172:14 10 percent of what you bid on? You know,		
	172:15 if so, what are the costs to expose		
	172:16 yourself to the 90 percent that you lose?		
	172:17 All of that is a very		
	172:18 inartful way of saying -- I'm trying to		
	172:19 understand, from an operating cost		
	172:20 perspective, how a -- an exchange has		
	172:21 to -- strike that.		
	172:22 How does the fact that an		
	172:23 exchange has to incur operating costs,		
	172:24 even when they fail to win, impact		
	173:01 exchanges' ability to fund their		
	173:02 operations?		
173:06 - 173:21	O kelley, Brian 2023-09-29	00:00:32	Okelly-Played.10
	173:06 THE WITNESS: Most of the --		1
	173:07 because -- because the technical		
	173:08 infrastructure is on all the time,		
	173:09 it has to be able to handle spikes		
	173:10 and volume.		
	173:11 We treated our		
	173:12 infrastructure cost as,		
	173:13 effectively, a fixed cost, not a		
	173:14 variable cost. So if you think of		

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DESIGNATION	SOURCE	DURATION	ID
	173:15 it as a tenth of a cent per		
	173:16 thousands of impressions of cost,		
	173:17 that's not a tenth of a cent of		
	173:18 impressions we win. It's a tenth		
	173:19 of a cent for all impressions,		
	173:20 whether we win or not.		
	173:21 An so our profitability,		
174:06 - 174:12	O kelley, Brian 2023-09-29	00:00:11	Okelly-Played.10
	174:06 So -- and if we won only		2
	174:07 1 percent, we would be out of		
	174:08 business because we would be		
	174:09 negative.		
	174:10 So win rate is directly		
	174:11 correlated to revenue but not		
	174:12 correlated to cost.		
175:18 - 175:21	O kelley, Brian 2023-09-29	00:00:09	Okelly-Played.10
	175:18 Q. At AppNexus, did you attempt		3
	175:19 to get access to the Google AdSense		
	175:20 demand?		
	175:21 A. Yes.		
176:01 - 176:01	O kelley, Brian 2023-09-29	00:00:01	Okelly-Played.10
	176:01 Q. Why?		4
176:04 - 176:13	O kelley, Brian 2023-09-29	00:00:17	Okelly-Played.10
	176:04 THE WITNESS: Two reasons.		5
	176:05 One is that it was a very, very		
	176:06 large demand source that would		
	176:07 increase our revenue and win rate		
	176:08 and help our publishers make more		
	176:09 money.		
	176:10 And, two, because we were at		
	176:11 a very significant market		
	176:12 disadvantage to AdX, who had that		
	176:13 demand, and we didn't.		
176:15 - 176:20	O kelley, Brian 2023-09-29	00:00:12	Okelly-Played.10
	176:15 Q. And if you had been		6
	176:16 successful in getting access to the		
	176:17 AdSense demand, was it your belief, at		
	176:18 the time, that would have further allowed		
	176:19 you to develop your publisher ad server		

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DESIGNATION	SOURCE	DURATION	ID
	176:20 services?		
176:23 - 177:09	O kelley, Brian 2023-09-29	00:00:23	Okelly-Played.10
	176:23 THE WITNESS: Yes. I		7
	176:24 believe that, you know, being able		
	177:01 to demonstrate to publishers that		
	177:02 we had parity in demand to Google		
	177:03 would have made it much more		
	177:04 compelling for them to switch.		
	177:05 And the idea that switching would		
	177:06 cause them to lose a significant		
	177:07 source of demand made it very		
	177:08 difficult for us to convince		
	177:09 publishers to make the switch.		
177:11 - 177:14	O kelley, Brian 2023-09-29	00:00:10	Okelly-Played.10
	177:11 Q. And would increasing your		8
	177:12 access to demand sources, such as		
	177:13 Google's AdSense, increase your ability		
	177:14 to compete in the ad exchange market?		
177:17 - 179:07	O kelley, Brian 2023-09-29	00:01:14	Okelly-Played.10
	177:17 THE WITNESS: The ad		9
	177:18 exchange market was inherently		
	177:19 competitive in the sense that it		
	177:20 was all based on, towards the		
	177:21 later years, just price. You		
	177:22 know, publishers would work with		
	177:23 all the exchanges, and whoever won		
	177:24 the header auction would win.		
	178:01 So if other header bidding		
	178:02 participants had more or better		
	178:03 demand, then they would have won		
	178:04 more auctions.		
	178:05 So relative to them, if we		
	178:06 had demand they didn't, that would		
	178:07 be great for our business. But		
	178:08 relative to Google, who didn't		
	178:09 participate in that market -- so		
	178:10 you're saying the ad exchange		
	178:11 market is like -- it's almost like		
	178:12 there's the market for all these		
	178:13 open independent ad exchanges, and		

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DESIGNATION	SOURCE	DURATION	ID
	178:14 then there isn't a market for ad		
	178:15 exchanges inside of DFP because		
	178:16 that was tied to DFP.		
	178:17 So I'm --		
	178:18 BY MS. WOOD:		
	178:19 Q. What do you mean by that?		
	178:20 A. Well, DFP only served --		
	178:21 MR. JUSTUS: Objection.		
	178:22 Form.		
	178:23 THE WITNESS: -- DFP had AdX		
	178:24 built in. So you couldn't say,		
	179:01 hey, I want you to run AppNexus		
	179:02 exchange on DFP. That wasn't		
	179:03 possible.		
	179:04 So I guess I'm saying is		
	179:05 there was not -- there was no real		
	179:06 market for ad exchanges because it		
	179:07 was so tied into DFP.		
180:21 - 180:24	O kelley, Brian 2023-09-29	00:00:10	Okelly-Played.11
	180:21 Q. And how, if at all, did a		0
	180:22 10 percent, approximately, win rate		
	180:23 at the time you left AppNexus impact		
	180:24 AppNexus's ability to compete?		
181:03 - 181:21	O kelley, Brian 2023-09-29	00:00:46	Okelly-Played.11
	181:03 THE WITNESS: I would say		1
	181:04 that we were large enough -- going		
	181:05 back to the math around, you know,		
	181:06 sort of revenue versus cost.		
	181:07 Like, we were able to have a		
	181:08 global, you know, scaled		
	181:09 infrastructure with, you know,		
	181:10 85-ish percent gross margins at		
	181:11 that rate, and we were able to		
	181:12 invest a lot of our revenue into		
	181:13 R&D.		
	181:14 But we were not big enough		
	181:15 to really move the market		
	181:16 independently, if that makes		
	181:17 sense.		
	181:18 So we were -- we were in a		

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DESIGNATION	SOURCE	DURATION	ID
	181:19 good place, but we certainly		
	181:20 didn't feel like we had the		
	181:21 ability to drive the market.		
181:23 - 182:01	O kelley, Brian 2023-09-29	00:00:06	Okelly-Played.11
	181:23 Q. What do you mean you weren't		2
	181:24 able -- you didn't feel AppNexus was big		
	182:01 enough to move the market independently?		
182:04 - 182:16	O kelley, Brian 2023-09-29	00:00:31	Okelly-Played.11
	182:04 THE WITNESS: I just felt		3
	182:05 like -- I could imagine being in a		
	182:06 position where we controlled so		
	182:07 much demand that we could get a		
	182:08 publisher to change ad servers or		
	182:09 we could convince people to do		
	182:10 things that were more in our		
	182:11 benefit than theirs.		
	182:12 Like we -- that would be a		
	182:13 powerful market or category		
	182:14 leadership position. We		
	182:15 definitely did not feel like we		
	182:16 were in that position.		
182:18 - 182:19	O kelley, Brian 2023-09-29	00:00:04	Okelly-Played.11
	182:18 Q. And who, if anyone, in the		4
	182:19 market did you feel was in that position?		
182:22 - 183:02	O kelley, Brian 2023-09-29	00:00:09	Okelly-Played.11
	182:22 THE WITNESS: Well,		5
	182:23 certainly, we felt like Google was		
	182:24 using their leadership position in		
	183:01 ways that made it very difficult		
	183:02 for others to compete.		
183:04 - 183:05	O kelley, Brian 2023-09-29	00:00:05	Okelly-Played.11
	183:04 Q. And what did Google do that		6
	183:05 made it difficult for others to compete?		
183:08 - 183:21	O kelley, Brian 2023-09-29	00:00:40	Okelly-Played.11
	183:08 THE WITNESS: From my		7
	183:09 perspective, and we can talk about		
	183:10 that all day long, I think the		
	183:11 specific areas where we felt like		
	183:12 we were in a disadvantaged		

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DESIGNATION	SOURCE	DURATION	ID
	183:13 position were the lack of access		
	183:14 to AdSense demand, the lack of		
	183:15 access for our DSP to YouTube		
	183:16 inventory, the tying of DFP to AdX		
	183:17 without fair access to the ad		
	183:18 server.		
	183:19 Those are three just very		
	183:20 clear areas where we felt like we		
	183:21 were disadvantaged competitively.		
189:07 - 190:10	O kelley, Brian 2023-09-29	00:01:13	Okelly-Played.11
	189:07 Q. And, ultimately, did people		8
	189:08 choose the AppNexus ad server over		
	189:09 Google's ad server?		
	189:10 A. Yes, we did, especially in		
	189:11 Europe, have a good amount of success		
	189:12 selling the ad server. So we did win		
	189:13 business. We did deliver, you know, some		
	189:14 very strong case studies that we could		
	189:15 drive better yield with our ad server		
	189:16 product.		
	189:17 Q. What type of market share		
	189:18 did your ad server product have?		
	189:19 A. I don't -- I don't know of		
	189:20 any, like, way to measure that outside		
	189:21 of, you know, like, number of, like,		
	189:22 deals we'd win or lose, except we didn't		
	189:23 know the total market share.		
	189:24 Q. How many publishers did you		
	190:01 have for your publisher ad server?		
	190:02 A. When I left, I bet we had 190:03		
	30.		
	190:04 Q. And how many publishers did		
	190:05 you have in the United States?		
	190:06 A. Not very many. When I left,		
	190:07 we might have had one or two.		
	190:08 Q. Who were they?		
	190:09 A. I can't remember, but they		
	190:10 were smaller publishers.		
194:05 - 194:14	O kelley, Brian 2023-09-29	00:00:27	Okelly-Played.11
	194:05 So what was AppNexus?		9

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DESIGNATION	SOURCE	DURATION	ID
	194:06 A. AppNexus was a technology 194:07 company that built solutions in the 194:08 advertising space. 194:09 Q. Did AppNexus offer tools to 194:10 help publishers sell ad space? 194:11 A. Yes. 194:12 Q. And did it offer tools to 194:13 help advertisers buy ad space? 194:14 A. Yes.		
194:15 - 194:18	O kelley, Brian 2023-09-29 194:15 Q. And so AppNexus competed 194:16 with Google in providing advertising 194:17 technology to buyers and sellers of 194:18 digital ads; is that correct?	00:00:09	Okelly-Played.12 0
194:23 - 194:23	O kelley, Brian 2023-09-29 194:23 A. Yes.	00:00:01	Okelly-Played.12 1
195:14 - 195:23	O kelley, Brian 2023-09-29 195:14 Q. Was Microsoft an early 195:15 investor in AppNexus? 195:16 A. Microsoft invested in 2010. 195:17 Q. And what kind of investment 195:18 did Microsoft make in AppNexus in 2010? 195:19 A. That was our Series C round. 195:20 Microsoft invested \$42 million of the 195:21 \$50 million of investment in that round. 195:22 Q. Was Microsof a major client 195:23 of AppNexus?	00:00:30	Okelly-Played.12 2
196:02 - 196:05	O kelley, Brian 2023-09-29 196:02 THE WITNESS: Yes. 196:03 BY MR. JUSTUS: 196:04 Q. Was it AppNexus's biggest 196:05 client?	00:00:07	Okelly-Played.12 3
196:08 - 196:10	O kelley, Brian 2023-09-29 196:08 THE WITNESS: They were our 196:09 largest client by revenue when we 196:10 sold.	00:00:03	Okelly-Played.12 4
205:05 - 205:08	O kelley, Brian 2023-09-29 205:05 Would you say that Microsoft 205:06 paid AppNexus more than \$50 million over	00:00:08	Okelly-Played.12 5

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DESIGNATION	SOURCE	DURATION	ID
	205:07 the years Microsoft was AppNexus's		
	205:08 client?		
205:11 - 205:11	O kelley, Brian 2023-09-29	00:00:02	Okelly-Played.12
	205:11 THE WITNESS: Probably.		6
205:13 - 205:15	O kelley, Brian 2023-09-29	00:00:04	Okelly-Played.12
	205:13 Q. Did you have an ownership		7
	205:14 stake in AppNexus, Mr. O'Kelley?		
	205:15 A. I did.		
206:15 - 206:17	O kelley, Brian 2023-09-29	00:00:08	Okelly-Played.12
	206:15 So Microsoft paid AppNexus		8
	206:16 at least \$50 million. Was that good for		
	206:17 the value of your shares in AppNexus?		
206:21 - 206:23	O kelley, Brian 2023-09-29	00:00:07	Okelly-Played.12
	206:21 THE WITNESS: Yeah, I mean,		9
	206:22 having Microsoft as a client was		
	206:23 good for AppNexus as a company.		
207:01 - 207:02	O kelley, Brian 2023-09-29	00:00:02	Okelly-Played.13
	207:01 Q. And good for you as an		0
	207:02 owner?		
207:05 - 207:05	O kelley, Brian 2023-09-29	00:00:02	Okelly-Played.13
	207:05 THE WITNESS: Yeah.		1
210:21 - 210:24	O kelley, Brian 2023-09-29	00:00:07	Okelly-Played.13
	210:21 Q. To the best of your		2
	210:22 knowledge, did Microsoft acquire		
	210:23 AppNexus's end-to-end ad tech stack		
	210:24 technology?		
211:04 - 211:09	O kelley, Brian 2023-09-29	00:00:13	Okelly-Played.13
	211:04 THE WITNESS: To the best of		3
	211:05 my knowledge, I believe they did.		
	211:06 BY MR. JUSTUS:		
	211:07 Q. And when AppNexus operated		
	211:08 that end-to-end ad tech stack technology,		
	211:09 AppNexus competed with Google, correct?		
211:13 - 211:13	O kelley, Brian 2023-09-29	00:00:01	Okelly-Played.13
	211:13 THE WITNESS: Yes.		4
236:08 - 236:10	O kelley, Brian 2023-09-29	00:00:06	Okelly-Played.13
	236:08 Q. Do you recall, Mr. O'Kelley,		5

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DESIGNATION	SOURCE	DURATION	ID
	236:09 meeting with the DOJ in March of 2023?		
	236:10 A. Yes.		
236:23 - 236:24	O kelley, Brian 2023-09-29	00:00:04	Okelly-Played.13
	236:23 Q. Was Ms. Wood there?		6
	236:24 A. Yep. It was just us.		
249:05 - 249:07	O kelley, Brian 2023-09-29	00:00:06	Okelly-Played.13
	249:05 So did AppNexus operate a		7
	249:06 publisher ad server?		
	249:07 A. Yes.		
251:21 - 251:23	O kelley, Brian 2023-09-29	00:00:04	Okelly-Played.13
	251:21 Q. Did AppNexus operate the		8
	251:22 AppNexus SSP?		
	251:23 A. Yes.		
252:14 - 252:17	O kelley, Brian 2023-09-29	00:00:06	Okelly-Played.13
	252:14 Q. Did it have a functionality		9
	252:15 to do a realtime bid for a single		
	252:16 impression among various bidders?		
	252:17 A. Yes.		
252:21 - 253:07	O kelley, Brian 2023-09-29	00:00:20	Okelly-Played.14
	252:21 Q. So did AppNexus operate an		0
	252:22 ad exchange?		
	252:23 A. By that definition, yes.		
	252:24 Q. And it was called the		
	253:01 AppNexus SSP?		
	253:02 A. Yes.		
	253:03 Q. Did AppNexus operate a DSP?		
	253:04 A. Yes.		
	253:05 Q. What was it called?		
	253:06 A. We probably called it the		
	253:07 AppNexus DSP.		
254:15 - 254:22	O kelley, Brian 2023-09-29	00:00:21	Okelly-Played.14
	254:15 Q. So I'm showing you,		1
	254:16 Mr. O'Kelley, what we're marking as		
	254:17 O'Kelley Exhibit 5. Do you recognize		
	254:18 this document?		
	254:19 A. I do. This is the -- some		
	254:20 draft or some part of the process of		
	254:21 getting to an S-1 filing for AppNexus, I		
	254:22 think.		

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DESIGNATION	SOURCE	DURATION	ID
255:19 - 255:21	O kelley, Brian 2023-09-29 255:19 Q. Do you have any reason to 255:20 doubt that this is a true and accurate 255:21 copy of this Project Catapult draft?	00:00:08	Okelly-Played.14 2
255:24 - 256:01	O kelley, Brian 2023-09-29 255:24 THE WITNESS: I don't have 256:01 any reason to disbelieve it.	00:00:02	Okelly-Played.14 3
256:07 - 258:01	O kelley, Brian 2023-09-29 256:07 Q. Can you read the header that 256:08 begins, "We operate," and stop at 256:09 "Facebook"? 256:10 A. Sure. 256:11 "We operate in an intensely 256:12 competitive market that includes 256:13 companies that have greater financial, 256:14 technical, and marketing resources than 256:15 we do. We face intense competition in 256:16 the marketplace. We are confronted by 256:17 rapidly changing technology, evolving 256:18 user needs, and the frequent introduction 256:19 by our competitors of new and enhanced 256:20 services. We compete for digital 256:21 advertising spending against a variety of 256:22 competitors, including Google and 256:23 Facebook." 256:24 Q. Oh, keep going until the 257:01 second Facebook. I'm sorry. 257:02 A. Okay. 257:03 "Who, in some cases, are 257:04 also buyers on our enterprise technology 257:05 platform. We also compete for supply of 257:06 digital advertising inventory against a 257:07 variety of competitors, including Google 257:08 and Facebook." 257:09 Q. So, Mr. O'Kelley, who were 257:10 the competitors that AppNexus was 257:11 referring to in this document? 257:12 A. Google and Facebook, for 257:13 sure. 257:14 Q. Who else?	00:01:34	Okelly-Played.14 4

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DESIGNATION	SOURCE	DURATION	ID
	257:15 A. I don't -- I mean, I see		
	257:16 what it says. I don't remember what we		
	257:17 were meaning beyond that, if that's what		
	257:18 you were asking.		
	257:19 Q. Did AppNexus have other		
	257:20 competitors, beyond Google and Facebook,		
	257:21 by the time this document was prepared?		
	257:22 A. Yes. There were a number of		
	257:23 other companies in the ad tech space,		
	257:24 some of who we mentioned, SSPs, DSPs.		
	258:01 Primarily those two categories.		
260:17 - 261:04	O kelley, Brian 2023-09-29	00:00:34	Okelly-Played.14
	260:17 AppNexus bought a publisher		5
	260:18 ad server, correct?		
	260:19 A. Yes.		
	260:20 Q. And it bought YieldX for the		
	260:21 purpose of helping publishers manage		
	260:22 yield?		
	260:23 A. Yes.		
	260:24 Q. So what's the AppNexus		
	261:01 Publisher Suite?		
	261:02 A. I think back in the day we		
	261:03 used that to refer to -- I think it was		
	261:04 our ad server and YieldX and our SSP.		
261:12 - 262:01	O kelley, Brian 2023-09-29	00:00:32	Okelly-Played.14
	261:12 Q. So, Mr. O'Kelley, I'm		6
	261:13 showing you what we're marking as		
	261:14 O'Kelley Exhibit 6.		
	261:15 This document has two		
	261:16 pieces. The cover sheet is the metadata		
	261:17 for the document, and then the second		
	261:18 thing is the actual presentation I'm		
	261:19 going to ask you about.		
	261:20 A. Cool.		
	261:21 Q. Do you recognize this		
	261:22 document?		
	261:23 A. I don't recognize this		
	261:24 particular document. But it's an		
	262:01 AppNexus, you know, format deck.		
268:07 - 268:09	O kelley, Brian 2023-09-29	00:00:05	Okelly-Played.14

Okelly-Played

DESIGNATION	SOURCE	DURATION	ID
	268:07 Q. So AppNexus did integrate 268:08 its ad server and the AppNexus SSP, 268:09 correct?		7
268:12 - 268:18	O kelley, Brian 2023-09-29 268:12 THE WITNESS: My 268:13 recollection was that we 268:14 integrated our ad server with an 268:15 open header bidding platform, 268:16 which gave us the ability to plug 268:17 in various SSPs, including our 268:18 own.	00:00:10	Okelly-Played.14 8
269:17 - 269:22	O kelley, Brian 2023-09-29 269:17 Did that integration allow 269:18 publishers to compare what they would get 269:19 for a specific impression from a 269:20 direct-sold campaign with what it would 269:21 get from a specific impression from 269:22 realtime bidding?	00:00:12	Okelly-Played.14 9
270:01 - 270:01	O kelley, Brian 2023-09-29 270:01 THE WITNESS: Yes.	00:00:01	Okelly-Played.15 0
270:03 - 270:05	O kelley, Brian 2023-09-29 270:03 Q. And then choose, between 270:04 those two sources of demand, which one 270:05 would give them the best revenue?	00:00:06	Okelly-Played.15 1
270:08 - 270:08	O kelley, Brian 2023-09-29 270:08 THE WITNESS: Yes.	00:00:01	Okelly-Played.15 2
270:16 - 271:14	O kelley, Brian 2023-09-29 270:16 Q. All right. Then we'll go to 270:17 the page labeled 881 at the end. 270:18 A. Got it. 270:19 Q. And this slide is titled, 270:20 "The AppNexus Approach to Video Ad 270:21 Server." 270:22 Do you see that? 270:23 A. I do. 270:24 Q. And there are four columns 271:01 of information on this slide, right? 271:02 A. Yes. 271:03 Q. And the second column is	00:00:45	Okelly-Played.15 3

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DESIGNATION	SOURCE	DURATION	ID
	271:04 titled "One Platform."		
	271:05 Do you see that?		
	271:06 A. I do.		
	271:07 Q. And the first sentence under		
	271:08 One Platform reads, "We are the only		
	271:09 independent ad server with our own unique		
	271:10 advertiser demand."		
	271:11 Did I read that right?		
	271:12 A. You did.		
	271:13 Q. So you agree AppNexus had		
	271:14 unique advertiser demand?		
271:17 - 271:18	O kelley, Brian 2023-09-29	00:00:02	Okelly-Played.15
	271:17 THE WITNESS: We claimed it		4
	271:18 here, yes.		
274:11 - 274:15	O kelley, Brian 2023-09-29	00:00:10	Okelly-Played.15
	274:11 Q. Did AppNexus do something		5
	274:12 called supply path optimization?		
	274:13 A. Yes.		
	274:14 Q. Was that abbreviated as SPO?		
	274:15 A. It was.		
275:13 - 275:15	O kelley, Brian 2023-09-29	00:00:11	Okelly-Played.15
	275:13 Q. So as part of the SPO, did		6
	275:14 AppNexus limit the number of SSPs into		
	275:15 which its DSP submitted bids?		
275:18 - 275:18	O kelley, Brian 2023-09-29	00:00:01	Okelly-Played.15
	275:18 THE WITNESS: Yes.		7
275:20 - 275:24	O kelley, Brian 2023-09-29	00:00:15	Okelly-Played.15
	275:20 Q. Did that optimization result		8
	275:21 in the AppNexus DSP making more purchases		
	275:22 from the AppNexus SSP than it otherwise		
	275:23 would have?		
	275:24 A. In some cases.		
276:01 - 276:03	O kelley, Brian 2023-09-29	00:00:10	Okelly-Played.15
	276:01 Q. What were the benefits of		9
	276:02 the AppNexus DSP making more purchases		
	276:03 from the AppNexus SSP than other SSPs?		
276:06 - 276:18	O kelley, Brian 2023-09-29	00:00:26	Okelly-Played.16
	276:06 THE WITNESS: I mean, if you		0

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DESIGNATION	SOURCE	DURATION	ID
	<p>276:07 go back to the point of SPO, the</p> <p>276:08 point was to eliminate redundant</p> <p>276:09 and low-value supply paths. So if</p> <p>276:10 we're doing a good job, regardless</p> <p>276:11 of who we purchased from in the</p> <p>276:12 auction, it would be good for our</p> <p>276:13 clients and, hopefully, good for</p> <p>276:14 us.</p> <p>276:15 When we purchase from our</p> <p>276:16 self, we would get to take two</p> <p>276:17 fees. We'd get a fee from our DSP</p> <p>276:18 and from our SSP.</p>		
278:22 - 280:08	<p>O kelley, Brian 2023-09-29</p> <p>278:22 Q. At any point, Mr. O'Kelley,</p> <p>278:23 did AppNexus provide data to bidders</p> <p>278:24 concerning past winning AppNexus auction</p> <p>279:01 bids to help those bidders bid</p> <p>279:02 intelligently into auctions?</p> <p>279:03 A. Their own bids or somebody</p> <p>279:04 else's bids?</p> <p>279:05 Q. The winning bids for prior</p> <p>279:06 auctions.</p> <p>279:07 A. We had a feature where we</p> <p>279:08 would average past win prizes. We</p> <p>279:09 wouldn't give them any bid data back, but</p> <p>279:10 we would give them an indication of</p> <p>279:11 pricing dynamics to help them bid more</p> <p>279:12 intelligently.</p> <p>279:13 I think we called it the</p> <p>279:14 average win price or something like that,</p> <p>279:15 that would say, like, just -- you know,</p> <p>279:16 just as a signal to help them know where</p> <p>279:17 that inventory was clearing.</p> <p>279:18 Q. Who is "them" in that</p> <p>279:19 answer?</p> <p>279:20 A. Any bidder on our platform.</p> <p>279:21 So from our -- effectively,</p> <p>279:22 our SSP, we would say, you know, like</p> <p>279:23 when we sent a bid request to a buyer, we</p> <p>279:24 would say, hey, historically, the average</p>	00:01:29	<p>Okelly-Played.16</p> <p>1</p>

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DESIGNATION	SOURCE	DURATION	ID
	<p>280:01 price has been whatever, \$2.22. So it</p> <p>280:02 would be based on past clearing prices,</p> <p>280:03 but there would not be any specific</p> <p>280:04 bidding data.</p> <p>280:05 Q. So they would have an idea</p> <p>280:06 of the minimum bid needed to win.</p> <p>280:07 You have to answer audibly.</p> <p>280:08 A. Yes.</p>		
281:17 - 282:04	<p>O kelley, Brian 2023-09-29</p> <p>281:17 Q. So, Mr. O'Kelley, I'm</p> <p>281:18 showing you what we're marking as</p> <p>281:19 O'Kelley Exhibit 8.</p> <p>281:20 Do you recognize this</p> <p>281:21 document?</p> <p>281:22 A. I do. It's a blog post I</p> <p>281:23 wrote in 2017.</p> <p>281:24 Q. What's the topic of this</p> <p>282:01 blog post?</p> <p>282:02 A. It's called, "Passthrough</p> <p>282:03 Auctions: Rethinking Supply Path</p> <p>282:04 Optimization."</p>	00:00:19	Okelly-Played.16 2
282:15 - 282:16	<p>O kelley, Brian 2023-09-29</p> <p>282:15 Q. Mr. O'Kelley, can you read</p> <p>282:16 Rule Number 3.</p>	00:00:02	Okelly-Played.16 3
283:10 - 283:13	<p>O kelley, Brian 2023-09-29</p> <p>283:10 A. "Rule 3: Publishers should</p> <p>283:11 set uniform hard floors to create</p> <p>283:12 scarcity and maximize yield."</p> <p>283:13 Q. Why is that?</p>	00:00:07	Okelly-Played.16 4
283:19 - 284:09	<p>O kelley, Brian 2023-09-29</p> <p>283:19 Well, I mean, I think the</p> <p>283:20 conversation here is around what happens</p> <p>283:21 in second-price auctions in header</p> <p>283:22 bidding. And we're talking about whether</p> <p>283:23 we should use soft floors or hard floors.</p> <p>283:24 And I think we're talking</p> <p>284:01 about a first-price auction where -- so</p> <p>284:02 soft floors only make sense in a</p> <p>284:03 second-price auction because they serve</p>	00:00:30	Okelly-Played.16 5

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DESIGNATION	SOURCE	DURATION	ID
	284:04 as a shadow second price. But in a		
	284:05 first-price auction, soft floors are		
	284:06 meaningless because there's no second		
	284:07 price to price against, so publishers		
	284:08 need to use hard floors to create		
	284:09 scarcity.		
285:11 - 285:24	O kelley, Brian 2023-09-29	00:00:27	Okelly-Played.16
	285:11 Q. And will you read the last		6
	285:12 sentence of the Rule Number 3 section.		
	285:13 A. Yeah.		
	285:14 This says, "These floors		
	285:15 should be consistent across		
	285:16 intermediaries for a given impression but		
	285:17 could be dynamic by buyer."		
	285:18 Q. What does it mean to be --		
	285:19 for these floors to be consistent across		
	285:20 intermediaries?		
	285:21 A. It means that it shouldn't		
	285:22 matter which SSP you buy through. The		
	285:23 floor should be consistent for a given		
	285:24 advertiser.		
286:20 - 287:14	O kelley, Brian 2023-09-29	00:00:51	Okelly-Played.16
	286:20 Q. Mr. O'Kelley, I'm showing		7
	286:21 you O'Kelley Exhibit 9. It was, based on		
	286:22 the metadata, created in July of 2015,		
	286:23 though, I guess, saved again in 2017.		
	286:24 Do you recognize this		
	287:01 document?		
	287:02 A. Looks like the slides from a		
	287:03 AppNexus event called the AppNexus		
	287:04 Summit.		
	287:05 Q. Is this an event you have		
	287:06 participated in?		
	287:07 A. Probably. I mean, yeah,		
	287:08 I -- yes.		
	287:09 Q. Is there any reason to doubt		
	287:10 this is an accurate copy of the		
	287:11 presentation for that summit?		
	287:12 A. I don't know if what was on		
	287:13 the Wiki is always the final-final that		

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DESIGNATION	SOURCE	DURATION	ID
	287:14 we presented, but I suspect it's close.		
289:07 - 289:10	O kelley, Brian 2023-09-29	00:00:15	Okelly-Played.16
	289:07 Q. So it says -- can you read		8
	289:08 the first and the last sentence of that		
	289:09 Slide 143 speaker notes for this AppNexus		
	289:10 presentation?		
290:07 - 290:22	O kelley, Brian 2023-09-29	00:00:27	Okelly-Played.16
	290:07 A. I was confused.		9
	290:08 "With the advent of header		
	290:09 bidding technology, AppNexus has seen a		
	290:10 rise in redundant supply in our platform,		
	290:11 the same impression being auctioned off		
	290:12 through multiple times through different		
	290:13 supply sources. Therefore, in addition		
	290:14 to our campaign optimization, we feel the		
	290:15 need to have systems working in parallel		
	290:16 behind the scenes to ensure fair auction		
	290:17 dynamics for our buyers. We are doing		
	290:18 this in two ways. One, by finding the		
	290:19 most direct route to supply; and two,		
	290:20 shading bids when we are participating in		
	290:21 auctions that are not truly second		
	290:22 price."		
292:03 - 292:06	O kelley, Brian 2023-09-29	00:00:07	Okelly-Played.17
	292:03 Q. And so do you agree that		0
	292:04 when it's not a true second-price		
	292:05 auction, the best bidding strategy is to		
	292:06 bid shade?		
292:09 - 292:22	O kelley, Brian 2023-09-29	00:00:25	Okelly-Played.17
	292:09 THE WITNESS: I don't know		1
	292:10 if it's the best or not. Our		
	292:11 hypothesis was that naively		
	292:12 treating -- naively trusting an		
	292:13 auction and bidding your full		
	292:14 value, but having it not actually		
	292:15 be second price, was a bad		
	292:16 strategy.		
	292:17 So we thought bid shading		
	292:18 was the best strategy at the time.		

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DESIGNATION	SOURCE	DURATION	ID
	292:19 Is that what you're asking?		
	292:20 BY MR. JUSTUS:		
	292:21 Q. The best strategy at the		
	292:22 time to benefit your advertisers?		
293:01 - 293:06	O kelley, Brian 2023-09-29	00:00:11	Okelly-Played.17
	293:01 THE WITNESS: We believed		2
	293:02 it, yes, to lower the price and		
	293:03 maximize, like, the balance of		
	293:04 pricing and rate for our		
	293:05 advertisers, given our position in		
	293:06 the system, we should bid shade.		
305:05 - 305:07	O kelley, Brian 2023-09-29	00:00:06	Okelly-Played.17
	305:05 Q. Is it fair to say that		3
	305:06 Amazon is an alternative to buying and		
	305:07 selling digital ads through Google?		
305:10 - 306:02	O kelley, Brian 2023-09-29	00:00:38	Okelly-Played.17
	305:10 THE WITNESS: I would say		4
	305:11 that Amazon has competitive		
	305:12 products to Google but not all		
	305:13 parts of Google. So they are		
	305:14 competitive in some areas.		
	305:15 BY MR. JUSTUS:		
	305:16 Q. What areas?		
	305:17 A. Amazon has a DSP, as does		
	305:18 Google. Amazon has an SSP that is		
	305:19 somewhat competitive to AdX. And they		
	305:20 have -- you know, they are a publisher in		
	305:21 the sense of, like, all their e-commerce		
	305:22 inventory, they sell ads on their own		
	305:23 e-commerce stack. I don't think that's		
	305:24 directly comparable to Google, but they		
	306:01 don't have a publisher ad server like		
	306:02 DFP.		
307:12 - 307:16	O kelley, Brian 2023-09-29	00:00:08	Okelly-Played.17
	307:12 During your time at		5
	307:13 AppNexus, Mr. O'Kelley, was protecting		
	307:14 against fraud, ad fraud, a major		
	307:15 competitive concern?		
	307:16 A. Yes.		

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DESIGNATION	SOURCE	DURATION	ID
321:08 - 323:03	O kelley, Brian 2023-09-29	00:01:31	Okelly-Played.17
321:08	Q. So, Mr. O'Kelley, I'm		6
321:09	showing you what we're marking as		
321:10	O'Kelley Exhibit 13. Do you recognize		
321:11	this?		
321:12	A. It's another article by Zach		
321:13	Rodgers in, I'm assuming, AdExchanger,		
321:14	again. Yeah.		
321:15	Q. Were you interviewed for		
321:16	this article, Mr. O'Kelley?		
321:17	And I will apologize for the		
321:18	massive blow-up of the picture of you on		
321:19	the second page.		
321:20	A. I wish I were that young		
321:21	still.		
321:22	Yes, I was interviewed for		
321:23	this article.		
321:24	Q. Do you see at the top of		
322:01	Page 3 where it says, "AppNexus has long		
322:02	been the grand poobah of indie		
322:03	programmatic media platforms but lately		
322:04	has begun to look like a company under		
322:05	siege.		
322:06	"There's the fraud issue,		
322:07	which became an albatross after		
322:08	competitors Rubicon Project and OpenX		
322:09	cleaned up two years ago, while AppNexus		
322:10	continued to allow blind impression		
322:11	resale. It has since fixed that		
322:12	problem."		
322:13	Did I read that right?		
322:14	A. You did.		
322:15	Q. And then a few paragraphs		
322:16	down, you were asked a question that		
322:17	says, "In June, you said upward of		
322:18	40 percent of your supply had been deemed		
322:19	fraudulent and removed from the AppNexus		
322:20	marketplace. More recently in July, you		
322:21	put the number as high as 65 percent.		
322:22	How did you get such a large number?"		
322:23	Did I read that right?		

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DESIGNATION	SOURCE	DURATION	ID
	322:24 A. Yep.		
	323:01 Q. So in 2015, was as much as		
	323:02 65 percent of ad inventory on AppNexus		
	323:03 fraudulent?		
323:06 - 324:05	O kelley, Brian 2023-09-29	00:00:45	Okelly-Played.17
	323:06 THE WITNESS: As I state		7
	323:07 here, I think that, you know,		
	323:08 something like 3 percent of spend		
	323:09 on the platform was going to		
	323:10 invalid inventory.		
	323:11 So what was happening was		
	323:12 that there was a small number of		
	323:13 bad actors that were re-auctioning		
	323:14 the same bad impressions again and		
	323:15 again and again and again.		
	323:16 So in terms of our request		
	323:17 volume, it was a very, very large		
	323:18 number of requests that we saw,		
	323:19 but it was a very small percentage		
	323:20 of monetized traffic.		
	323:21 And if you were a buyer,		
	323:22 very little of your spend was		
	323:23 actually going to invalid		
	323:24 inventory.		
	324:01 So it was more of an us		
	324:02 problem, than a market problem,		
	324:03 and as you can tell, I did a		
	324:04 really, really bad job of		
	324:05 explaining that to the market.		