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DESIGNATION	SOURCE	DURATION	ID
11:03 - 11:06	<p>O kelley, Brian 2023-09-29</p> <p>11:03 Q. Good morning, Mr. O'Kelley.</p> <p>11:04 Can you please state your</p> <p>11:05 full name for the record.</p> <p>11:06 A. Charles Brian O'Kelley.</p>	00:00:05	Okelly-Played.1
13:18 - 14:15	<p>O kelley, Brian 2023-09-29</p> <p>13:18 Q. And how long have you</p> <p>13:19 personally worked in the ad tech</p> <p>13:20 industry?</p> <p>13:21 A. Depending on how you define</p> <p>13:22 it, my first project in the ad tech space</p> <p>13:23 was, I think, in the year 2000. I worked</p> <p>13:24 for a consulting firm. And I built my</p> <p>14:01 first ad server that decided which ads to</p> <p>14:02 serve someone. More or less, I've been</p> <p>14:03 in the industry since -- I guess I took</p> <p>14:04 one sort of pivot away, from 2001 to</p> <p>14:05 2003, give or take, 2002. I had one job</p> <p>14:06 very early in my career that wasn't in ad</p> <p>14:07 tech.</p> <p>14:08 But besides that -- and then</p> <p>14:09 I guess I was at Waybridge for another</p> <p>14:10 two years, between 2018 and -- 2019 and</p> <p>14:11 2021.</p> <p>14:12 Q. Okay. So fair to say you've</p> <p>14:13 been in the ad tech industry for more</p> <p>14:14 than two decades?</p> <p>14:15 A. Yes.</p>	00:00:52	Okelly-Played.2
29:03 - 29:05	<p>O kelley, Brian 2023-09-29</p> <p>29:03 BY MS. WOOD:</p> <p>29:04 Q. And what does the open web</p> <p>29:05 mean in the context of display ads?</p>	00:00:04	Okelly-Played.3
29:08 - 30:08	<p>O kelley, Brian 2023-09-29</p> <p>29:08 THE WITNESS: The idea of</p> <p>29:09 the open web is that there are</p> <p>29:10 certain publishers, platforms,</p> <p>29:11 properties that have -- are</p> <p>29:12 vertically integrated between the</p> <p>29:13 ad serving and sort of ad sales,</p>	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 also		
	65:06 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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	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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	76:14 go build an alternative to DFP, 76:15 and I spent hundreds of millions 76:16 of dollars trying. And that was 76:17 not particularly successful, 76:18 commercially. That product is 76:19 still in existence, you know, part 76:20 of Microsoft now. 76:21 And there are a few handfuls 76:22 of large publishers, mainly in 76:23 Europe and I think in Japan, that 76:24 use it, but it never got 77:01 meaningful traction in the U.S. 77:02 And there is a European 77:03 company called Equativ, 77:04 E-Q-U-A-T-I-V. I don't know how 77:05 to say it. That has a handful of 77:06 customers. 77:07 But there's very little 77:08 competition in that market today.		
77:10 - 77:14	O kelley, Brian 2023-09-29	00:00:11	Okelly-Played.17
	77:10 Q. And how, if at all, does the 77:11 fact that there's little competition in 77:12 the ad -- publisher ad server market 77:13 impact competition in, for example, the 77:14 ad exchange market?		
77:17 - 79:14	O kelley, Brian 2023-09-29	00:01:27	Okelly-Played.18
	77:17 THE WITNESS: My perspective 77:18 is that, if you think of this from 77:19 a yield management perspective, 77:20 the basic idea of yield management 77:21 is you want to have all of your 77:22 revenue options, all of your -- 77:23 all of your -- all the things 77:24 you're trying to yield manage in 78:01 one place. So we call that a 78:02 unified auction. 78:03 The best way to do that is 78:04 to have your ad server make that 78:05 decision, which gives the ad 78:06 server a huge advantage in		

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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	<p>O kelley, Brian 2023-09-29</p> <p>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.</p>	00:00:25	Okelly-Played.20
86:03 - 86:05	<p>O kelley, Brian 2023-09-29</p> <p>86:03 Q. And, ultimately, did Google 86:04 acquire AdMeld? 86:05 A. Yes.</p>	00:00:04	Okelly-Played.21
86:06 - 86:08	<p>O kelley, Brian 2023-09-29</p> <p>86:06 Q. And did AdMeld have 86:07 capabilities that Google's own ad 86:08 exchange lacked?</p>	00:00:05	Okelly-Played.22
86:11 - 86:18	<p>O kelley, Brian 2023-09-29</p> <p>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.</p>	00:00:22	Okelly-Played.23
86:20 - 86:23	<p>O kelley, Brian 2023-09-29</p> <p>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?</p>	00:00:09	Okelly-Played.24
87:03 - 88:17	<p>O kelley, Brian 2023-09-29</p> <p>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</p>	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 beginning of AdX, AdSense only worked with AdX. And it was many years later until they opened it to other partners.		Okelly-Played.27
93:23 - 94:02	O kelley, Brian 2023-09-29 93:23 Q. Okay. What impact, if any, did it have on competition, that Google limited its advertising customers to bid 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 to the basic idea of how auctions monetize things, it's a very simple supply-and-demand equation. So if there's more demand, then, obviously, prices will go up, and publishers will prefer higher price. Most of the demand sources in the programmatic space were shared across all of the SSPs or ad exchanges, meaning that an independent DSP, like MediaMath or the Trade Desk, would bid into every SSP. So having a unique demand source on your exchange had a dramatic impact on the market. It also made it very difficult to switch. So if you think about switching from Rubicon to PubMatic, they may have slightly different technology, they might have slightly different features, different service, but the demand was all the same. And so there's very low switching cost. 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		

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DESIGNATION	SOURCE	DURATION	ID
	112:17 space.		
112:19 - 114:02	O kelley, Brian 2023-09-29	00:01:24	Okelly-Played.45
	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.		
114:03 - 114:05	O kelley, Brian 2023-09-29	00:00:09	Okelly-Played.46
	114:03 Q. And how did the practices of		
	114:04 DFP impact the market share of AdX over		
	114:05 that time period?		
114:08 - 114:11	O kelley, Brian 2023-09-29	00:00:11	Okelly-Played.47
	114:08 THE WITNESS: AdX was -- I		

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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 2023-09-29 122:03 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?	00:00:10	Okelly-Played.57
122:10 - 122:18	O kelley, Brian 2023-09-29 122:10 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.	00:00:24	Okelly-Played.58
122:20 - 122:23	O kelley, Brian 2023-09-29 122:20 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?	00:00:07	Okelly-Played.59
123:02 - 123:04	O kelley, Brian 2023-09-29 123:02 THE WITNESS: Absolutely. 123:03 And they did, eventually, build a 123:04 version of that later on.	00:00:06	Okelly-Played.60
123:06 - 123:21	O kelley, Brian 2023-09-29 123:06 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	00:00:36	Okelly-Played.61

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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,</p> <p>128:06 and all the other things marketers</p> <p>128:07 care about, for the same</p> <p>128:08 investment of 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	00:00:04	Okelly-Played.71
	151:06 Q. What is Google's open 151:07 bidding product?		
151:10 - 152:15	O kelley, Brian 2023-09-29	00:01:15	Okelly-Played.72
	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		

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DESIGNATION	SOURCE	DURATION	ID
152:16 - 152:18	152:15 preference for open bidding. 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.		

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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

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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	00:01:01	Okelly-Played.85
	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.		
161:06 - 161:08	O kelley, Brian 2023-09-29	00:00:07	Okelly-Played.86
	161:06 Q. Are you familiar with the 161:07 term "dynamic revenue share" in the		

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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		

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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		

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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 [REDACTED] 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 [REDACTED] [REDACTED] percent range.		
167:07 - 167:09	O kelley, Brian 2023-09-29 167:07 Q. And do you think that higher 167:08 take rate was based on the fact that 167:09 Google had a superior product?	00:00:05	Okelly-Played.94
167:12 - 167:17	O kelley, Brian 2023-09-29 167:12 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.	00:00:12	Okelly-Played.95
167:19 - 167:21	O kelley, Brian 2023-09-29 167:19 Q. Did you ever have a 167:20 discussion with publishers about that 167:21 subject?	00:00:06	Okelly-Played.96
167:24 - 168:20	O kelley, Brian 2023-09-29 167:24 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	00:00:35	Okelly-Played.97

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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 at		
	180:23 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	00:00:09	Okelly-Played.12
	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?		0
194:23 - 194:23	O kelley, Brian 2023-09-29	00:00:01	Okelly-Played.12
	194:23 A. Yes.		1
195:14 - 195:23	O kelley, Brian 2023-09-29	00:00:30	Okelly-Played.12
	195:14 Q. Was Microsoft an early 195:15 investor in AppNexus?		2
	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 Microsoft a major client 195:23 of AppNexus?		
196:02 - 196:05	O kelley, Brian 2023-09-29	00:00:07	Okelly-Played.12
	196:02 THE WITNESS: Yes. 196:03 BY MR. JUSTUS:		3
	196:04 Q. Was it AppNexus's biggest 196:05 client?		
196:08 - 196:10	O kelley, Brian 2023-09-29	00:00:03	Okelly-Played.12
	196:08 THE WITNESS: They were our 196:09 largest client by revenue when we 196:10 sold.		4
205:05 - 205:08	O kelley, Brian 2023-09-29	00:00:08	Okelly-Played.12
	205:05 Would you say that Microsoft 205:06 paid AppNexus more than \$50 million over		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 2023-09-29 205:11 THE WITNESS: Probably.	00:00:02	Okelly-Played.12 6
205:13 - 205:15	O kelley, Brian 2023-09-29 205:13 Q. Did you have an ownership 205:14 stake in AppNexus, Mr. O'Kelley? 205:15 A. I did.	00:00:04	Okelly-Played.12 7
206:15 - 206:17	O kelley, Brian 2023-09-29 206:15 So Microsoft paid AppNexus 206:16 at least \$50 million. Was that good for 206:17 the value of your shares in AppNexus?	00:00:08	Okelly-Played.12 8
206:21 - 206:23	O kelley, Brian 2023-09-29 206:21 THE WITNESS: Yeah, I mean, 206:22 having Microsoft as a client was 206:23 good for AppNexus as a company.	00:00:07	Okelly-Played.12 9
207:01 - 207:02	O kelley, Brian 2023-09-29 207:01 Q. And good for you as an 207:02 owner?	00:00:02	Okelly-Played.13 0
207:05 - 207:05	O kelley, Brian 2023-09-29 207:05 THE WITNESS: Yeah.	00:00:02	Okelly-Played.13 1
210:21 - 210:24	O kelley, Brian 2023-09-29 210:21 Q. To the best of your 210:22 knowledge, did Microsoft acquire 210:23 AppNexus's end-to-end ad tech stack 210:24 technology?	00:00:07	Okelly-Played.13 2
211:04 - 211:09	O kelley, Brian 2023-09-29 211:04 THE WITNESS: To the best of 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?	00:00:13	Okelly-Played.13 3
211:13 - 211:13	O kelley, Brian 2023-09-29 211:13 THE WITNESS: Yes.	00:00:01	Okelly-Played.13 4
236:08 - 236:10	O kelley, Brian 2023-09-29 236:08 Q. Do you recall, Mr. O'Kelley,	00:00:06	Okelly-Played.13 5

Okelly-Played

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 2023-09-29 236:23 Q. Was Ms. Wood there? 236:24 A. Yep. It was just us.	00:00:04	Okelly-Played.13 6
249:05 - 249:07	O kelley, Brian 2023-09-29 249:05 So did AppNexus operate a 249:06 publisher ad server? 249:07 A. Yes.	00:00:06	Okelly-Played.13 7
251:21 - 251:23	O kelley, Brian 2023-09-29 251:21 Q. Did AppNexus operate the 251:22 AppNexus SSP? 251:23 A. Yes.	00:00:04	Okelly-Played.13 8
252:14 - 252:17	O kelley, Brian 2023-09-29 252:14 Q. Did it have a functionality 252:15 to do a realtime bid for a single 252:16 impression among various bidders? 252:17 A. Yes.	00:00:06	Okelly-Played.13 9
252:21 - 253:07	O kelley, Brian 2023-09-29 252:21 Q. So did AppNexus operate an 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.	00:00:20	Okelly-Played.14 0
254:15 - 254:22	O kelley, Brian 2023-09-29 254:15 Q. So I'm showing you, 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.	00:00:21	Okelly-Played.14 1

Okelly-Played

DESIGNATION	SOURCE	DURATION	ID
255:19 - 255:21	<p>O kelley, Brian 2023-09-29</p> <p>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?</p>	00:00:08	Okelly-Played.14 2
255:24 - 256:01	<p>O kelley, Brian 2023-09-29</p> <p>255:24 THE WITNESS: I don't have 256:01 any reason to disbelieve it.</p>	00:00:02	Okelly-Played.14 3
256:07 - 258:01	<p>O kelley, Brian 2023-09-29</p> <p>256:07 Q. Can you read the header that 256:08 begins, "We operate," and stop at 256:09 "Facebook"?</p> <p>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."</p> <p>256:24 Q. Oh, keep going until the 257:01 second Facebook. I'm sorry.</p> <p>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."</p> <p>257:09 Q. So, Mr. O'Kelley, who were 257:10 the competitors that AppNexus was 257:11 referring to in this document?</p> <p>257:12 A. Google and Facebook, for 257:13 sure.</p> <p>257:14 Q. Who else?</p>	00:01:34	Okelly-Played.14 4

Okelly-Played

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 2023-09-29 260:17 AppNexus bought a publisher 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.	00:00:34	Okelly-Played.14 5
261:12 - 262:01	O kelley, Brian 2023-09-29 261:12 Q. So, Mr. O'Kelley, I'm 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.	00:00:32	Okelly-Played.14 6
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	Okelly-Played.16 1

Okelly-Played

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

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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.		