

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

UNITED STATES OF AMERICA, ET AL.,)	
)	
Plaintiffs,)	
)	
vs.)	CV No. 20-3010
)	Washington, D.C.
)	October 5, 2023
GOOGLE LLC,)	9:30 a.m.
)	
Defendant.)	Day 17
)	Morning Session

TRANSCRIPT OF BENCH TRIAL PROCEEDINGS
BEFORE THE HONORABLE AMIT P. MEHTA
UNITED STATES DISTRICT JUDGE

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WITNESS INDEX

- - -

WITNESSES	DIRECT	CROSS	REDIRECT	RECROSS
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PLAINTIFF'S:

RYAN KRUEGER	4404	4434	4477	
PATRICK CHANG	4483			

- - -

INDEX OF EXHIBITS

- - -

PLAINTIFF'S

ADMITTED

586A	4416
1194	4481
PSX952	4510
UPX686	4515
663	4519

- - -

INDEX OF EXHIBITS

- - -

DEFENDANT'S

ADMITTED

DX165A	4461
--------	------

1 P R O C E E D I N G S

2 COURTROOM DEPUTY: All rise. The Honorable Amit
3 P. Mehta presiding.

4 THE COURT: Good morning, everyone. Please be
5 seated.

6 COURTROOM DEPUTY: Good morning, Your Honor.
7 This is Civil Action 20-3010, United States of America,
8 et al., versus Google LLC.

9 Kenneth Dintzer for the DOJ.

10 William Cavanaugh on behalf of Plaintiff States.

11 John Schmidlein on behalf of Google.

12 MR. MAURER: Good morning, Your Honor.

13 THE COURT: Good morning.

14 MR. MAURER: Aaron Maurer on behalf of Google.

15 Yesterday, I made an objection on grounds of
16 confidentiality during the examination of the witness on
17 Exhibit 586. That was an error. As you know, we've been
18 working on de-designating things. That was one of the
19 things we had de-designated, and I missed it. I apologize.

20 THE COURT: Not a problem. Thanks for letting me
21 know that, Mr. Maurer. I appreciate it.

22 MR. CAVANAUGH: It was probably 50/50, it was my
23 mistake or theirs.

24 THE COURT: As long as it wasn't mine.

25 MR. CAVANAUGH: Your Honor, the only other

1 housekeeping matter.

2 Yesterday I mentioned a number of exhibits.
3 I didn't tell you they were already in evidence. It was
4 645, 462, 571, 457, 441.

5 THE COURT: Okay. Thanks, Mr. Cavanaugh.

6 - - -

7 RYAN KRUEGER, WITNESS FOR THE PLAINTIFFS, HAVING BEEN
8 PREVIOUSLY SWORN, RESUMED THE STAND AND TESTIFIED FURTHER AS
9 FOLLOWS:

10 DIRECT EXAMINATION (CONTINUED)

11 - - -

12 - - -

13 BY MR. CAVANAUGH:

14 Q Good morning, Mr. Krueger.

15 Yesterday you mentioned to the judge that SA360
16 has some stacking over Google ads.

17 I thought just to clarify, so we're all on the
18 same page as to how this works, I'm going to try to draw it.
19 You can tell me what I'm getting right and what I'm getting
20 wrong, okay.

21 So let's start with an advertiser who's going to
22 utilize SA360, okay?

23 Now, within SA360, there are bidding strategies,
24 correct?

25 A That's right.

1 Q And they're unique to SA360?

2 A We -- yeah, we build -- that's -- we have our
3 unique bid strategies that have both what we call interlay
4 bidding, which is our in-house bidder, that sets, from the
5 engine's perspective, manual bids but we set the bids.

6 And then -- but they're contained within bid
7 strategies or portfolios which are groups of campaigns that
8 the customer's defined.

9 Q Okay.

10 So we have bid strategies there.

11 And those bid strategies that are in SA360, those
12 can be used across different search engines, right?

13 A That's correct.

14 Q Okay.

15 That's one of the benefits of SA360 as -- or of
16 any SEM tool, right?

17 A I'm not sure about other tools. Presumably, they
18 have similar technology, yes.

19 Q So it can be used across multiple search engines?

20 A That's right.

21 Q All right.

22 Now, for our advertisers that's using SA360, as
23 you testified yesterday, they can also utilize Google ads,
24 right?

25 A Is that denoting Google ads auction-time bidding?

1 I presume that's what you're talking about.

2 Q Yes.

3 A Yes.

4 Q Okay.

5 And Google ads has bidding strategies within it as
6 well?

7 A That's right.

8 Q It also has auction-time bidding, right?

9 A That's right.

10 Q Different case, sorry.

11 So an advertiser utilizing SA360 can utilize an
12 SA360 bidding strategy and also use Google ads auction-time
13 bidding feature?

14 A That's right.

15 Q Okay.

16 Now, if that advertiser also wanted to place ads
17 on Bing through Microsoft ads, okay? All right.

18 Now, there, Microsoft ads has its own bidding
19 strategies?

20 A That's right.

21 Q Okay.

22 And it also has its version of auction-time
23 bidding?

24 A That's right.

25 Q Okay.

1 And it also has intraday bidding?

2 A I'm not as familiar with those ones, but I'm --
3 I'll take your word for it.

4 Q And intraday bidding is, you get information every
5 six or eight hours?

6 A Our intraday bidding we get data in real time, but
7 we adjust typically anywhere from four to six times a day,
8 the bids.

9 Q So now, am I correct that an advertiser utilizing
10 SA360 and one of its bidding strategies, if they want to run
11 an ad on Bing, they can't -- currently, they can't use
12 Microsoft ads auction-time bidding feature?

13 A My understanding is as of today, there is a
14 limited alpha for that feature. I think there's a --
15 I don't know how many customers are the full scope of it.
16 That's not my remit.

17 But as of today, there is a limited alpha for
18 customers, but it's not fully launched.

19 Q All right.

20 So you're talking about the testing -- the alpha
21 testing that Google is currently undertaking?

22 A Yes. I don't have all the details of it. Another
23 product manager owns it right now.

24 Q But for everyone else who isn't involved in that
25 limited alpha testing, they can only utilize the intraday

1 bidding feature, correct?

2 A Yeah, maybe I could break this into two parts.

3 So they can -- any customer at any point, if
4 they're our customer or not, they can go to Microsoft, use
5 Microsoft auction-time bidding with Microsoft's conversion
6 measurement source or whatever Microsoft supports. So even
7 if they're our customer, they can go directly to Microsoft
8 to do that.

9 The same with Google, they don't have to use your
10 platform. They can use our platform or not. And in our
11 platform for Google ads, they can use, via our bid
12 strategies, activate auction-time bidding.

13 I don't know about Microsoft's intraday bidding,
14 but our customers, if they're using bidding in our platform,
15 they could only use our intraday bidder. But they can go to
16 Microsoft to use their features with whatever tools
17 Microsoft offers.

18 Q But we are clear that other than whoever is
19 involved in this alpha testing, anyone else can't use the
20 Microsoft's ad feature if they're going through SA360?

21 A Well, I think that's the distinction I'm trying to
22 make, is they --

23 Q Right.

24 A If they're trying to activate it in our platform,
25 that is not possible. But they can go to Microsoft directly

1 to use the feature is what I was trying to explain.

2 Q Sure.

3 THE COURT: Maybe this is just a small point.

4 But when you say "go directly to Microsoft," you
5 mean through the SA360 portal or do you mean outside the
6 portal to go to Microsoft ads as an independent, standalone
7 piece of software?

8 THE WITNESS: The second part.

9 So they would go to -- I don't know the URL, but
10 let's say it's microsoftadvertising.com, whatever the URL,
11 bingads.com, whatever it is, they could log into their
12 account that they own with Microsoft, go to their campaigns,
13 turn on auction-time bidding, set it up however Microsoft's
14 best practices are, and they can use the feature. That
15 would not be managed through our bidding, it would be
16 directly with them.

17 So it's -- and this is the same for any engine we
18 support. So even though you're our customer, syncing the
19 campaigns to our platform -- just because you're our
20 customer and sync into our platform does not mean you can't
21 go to the engine to use their features, and that's a very
22 common workflow even for Google.

23 I think for one of the bigger -- recent Google
24 launches, we didn't have support for a feature for, I think,
25 almost a year. Our customers went to Google. They used the

1 feature in their platform and then when we supported it,
2 there's a process that we could help them use our features
3 natively in a platform.

4 And it's the same way for this particular feature.
5 So if someone was not happy with our intraday bidder,
6 I think even the case where we left off before, they went
7 directly to Microsoft to run with their version of the test,
8 and they were able to use Microsoft auction-time bidding.

9 So I think that's the one distinction.
10 I'm not sure if that's what you were trying to say but I
11 wanted to make sure it was clear.

12 BY MR. CAVANAUGH:

13 Q And one of the value propositions of SA360 is
14 telling the advertiser, "you're not going to have to go
15 around and go directly here to Microsoft," correct?

16 A For features that we support, that's right.

17 Q Right.

18 And for features you don't support, they have to
19 do this? They have to go around, they can't go through
20 SA360 for that feature?

21 A That's right, yeah. They would have to open
22 another tab in their browser, log into the publisher of the
23 engine, and they could use the feature there, that's right.

24 Q Right.

25 And Google's charged a fee to the advertiser for

1 utilizing SA360?

2 A For the platform as a whole, that's right.

3 Q Right.

4 And so the advertiser now has to use two -- go
5 through two separate engines, right? Or tools?

6 A Well, yes.

7 So if they wanted to use Microsoft auction-time
8 bidding besides the alpha customers, they would have to log
9 into Microsoft directly. That's right.

10 THE COURT: Could I -- let me ask some more
11 clarifying questions.

12 As I understand what you've just said is that
13 SA360, that top line, contains what you've called "bidding
14 strategies." If I am an advertiser, I select an SA360
15 bidding strategy. The benefit of doing that is that same
16 bidding strategy can apply to all of the other platforms on
17 SA360, correct?

18 THE WITNESS: Yes. So the customer defines what
19 campaigns go in each portfolio bid strategy and then, for
20 the features we support, whether -- for the intraday, we
21 would set bids. For Google ads auction-time bidding we
22 would set the targets for that engine.

23 THE COURT: But it also sounds like a -- through
24 SA360, an advertiser could say, "I don't want to use SA360's
25 bidding strategies, I want to use Google ads' bidding

1 strategies," it goes directly to Google ads through SA360?

2 THE WITNESS: So it in the current platform,
3 there's limited features of -- for both engines that we
4 support. We don't support everything for both. But if
5 there's something we don't have, they can not use our tool,
6 there's nothing that prevents them from doing that. They
7 could just open --

8 THE COURT: I'm just trying to understand the
9 basics.

10 THE WITNESS: Yeah. Yeah.

11 THE COURT: But, again, I can access SA360 as a
12 standalone -- excuse me. I can access Google ad as a
13 standalone ads platform through SA360 and take advantage of
14 the bidding strategies offered by Google ads under the SA360
15 rubric, correct?

16 THE WITNESS: Sorry, could you repeat the
17 question. I want to make sure I understand.

18 THE COURT: That's fine. Maybe I'm --

19 Mr. Cavanaugh.

20 BY MR. CAVANAUGH:

21 Q Yeah.

22 So let's assume an advertiser decides to go
23 directly to Google ads?

24 A Yeah.

25 Q Google ads has bidding strategies in it, correct?

1 A That's right.

2 Q All right.

3 The downside is, they can't use that bidding
4 strategy across other search engines?

5 A That's correct.

6 THE COURT: Okay.

7 So maybe this is just in my own head. But, in
8 other words, to go to Google ads, as you've said before, you
9 have to open another browser and open up another portal to
10 get to -- it's not as if you can get to Google ads through
11 SA360?

12 THE WITNESS: Not the full Google ads experience.
13 It would be only the features that we support of Google ads,
14 and the same for Microsoft, whatever features we support.

15 But, you know, the key point was, I wanted to make
16 sure it was clear from -- it's not that people can't use
17 Microsoft auction-time bidding because they're our customer.

18 THE COURT: Right, I understand that.

19 THE WITNESS: But, yes, they would have to go to
20 another browser tab to log into Microsoft or Google to use a
21 feature we don't support, and I was just making the point
22 that's a fairly common, at least from our customers where we
23 don't have something, because we haven't built it yet or,
24 you know, whatever the reasons, yeah.

25 THE COURT: So is it accurate to say that a

1 customer, a SA360 customer could choose an SA360 bidding
2 strategy, have that applied to Bing, but then supplement
3 that strategy with, for example, auction-time bidding, but
4 that would just simply require them to take the additional
5 step -- or that would require them to take the additional
6 step of going to the Microsoft ads platform separately?

7 THE WITNESS: In that workflow, our bidding would
8 actually not be operating. It would be -- we would --
9 I don't know -- there's some nuance there, but basically,
10 auction-time bidding would be in control. Our bidding,
11 whatever bids were set were just ignored.

12 But the workflow you described would be accurate
13 other than that, yeah.

14 BY MR. CAVANAUGH:

15 Q So essentially if I choose the auction-time
16 bidding featured in Microsoft ads, that doesn't sync up with
17 the SA360 bidding strategy, correct?

18 A It does not.

19 But anything that was -- anything that we would --
20 we would still be passing information, but Microsoft would
21 be effectively not using it because it uses its own bidder.

22 So the two are not -- they would be separate. We
23 wouldn't be impacting anything at that point. So it's as if
24 they didn't use our bidding at all, function.

25 Q But on the Google ads side, you can use an SA360

1 bidding strategy and also use Google ads auction-time
2 bidding feature?

3 A Yeah, the main difference is, we would be
4 informing Google ads what CPA or ROAS, which is like the
5 underlying goal for the customer, that would be what we
6 would functionally be doing for that strategy.

7 Q So the answer to my question is yes, you can avail
8 yourself of the SA360 bidding strategy and also utilize
9 Google ads auction-time bidding feature?

10 A Yeah, that's right.

11 THE COURT: Thank you. That's helpful.

12 BY MR. CAVANAUGH:

13 Q Could you turn to 586 in your binder.

14 A Yep.

15 Q I believe you testified yesterday you weren't
16 familiar with this document.

17 MR. CAVANAUGH: Your Honor, may I approach?

18 THE COURT: You may.

19 BY MR. CAVANAUGH:

20 Q We've marked this as PSX586A.

21 Mr. Krueger, I'll represent to you this is the
22 metadata for this document.

23 And do you see under file path, your name?

24 A I do.

25 Q This indicates it came from -- this document came

1 from your files, correct?

2 A I'm not sure what it means, but -- are you saying
3 this is in my documents?

4 Q Yes.

5 A Okay.

6 I'll take your word for it.

7 Q Okay.

8 A I don't recall this but...

9 Q All right.

10 Does that refresh your recollection anyway that
11 this is -- that you had in fact reviewed this document?

12 A No, I don't remember it. It was -- it looks like
13 it's from 2020. I don't remember this one in particular.

14 MR. CAVANAUGH: Your Honor, we'd move 586A into
15 evidence.

16 THE COURT: All right. It will be admitted.

17 (Plaintiffs Exhibit 586A
18 received into evidence.)

19 MR. CAVANAUGH: Let's turn to where we left off
20 yesterday.

21 Exhibit 441.

22 BY MR. CAVANAUGH:

23 Q This is a series of emails regarding some tests
24 that were done by two entities, G company and U company,
25 correct?

1 A That's right.

2 Q All right.

3 Let me ask you to start with -- turn to Bates
4 page 907, which I believe is the last page in the document,
5 second-to-last page.

6 And this is an email from Matthew Hallal to you
7 and Shirin, correct?

8 A That's right.

9 Q And he says, "Curious if you've heard news from
10 regions/customers on recent performance strength for Bing
11 auction-time bidding. Kunal reported to me that U company
12 and G company are both seeing strong results using Bing
13 auction-time bid opt, so figured I'd ask."

14 Do you recall these emails?

15 A I do recall them.

16 Q Okay.

17 If you could turn to page 906 is, this is an email
18 from Allison Schaffer. Was she the account representative
19 for G company?

20 A I believe so.

21 Q Okay.

22 She states, "Thanks for getting this thread
23 started, Matt. G company has been leveraging Microsoft ad's
24 CPA strategy for an apples-to-apples comparison and is
25 seeing better performance."

1 Correct.

2 A I could see that, yep.

3 Q All right.

4 And below it, there's a chart which has been
5 redacted. But that's a comparison of SA360 and Bing UI
6 bidding, correct?

7 A I'm just going to read a couple of the other notes
8 just to get the full context.

9 Q Sure. Okay.

10 A So what I'm recollecting reading here is this is
11 what we call a pre/post test so this means they -- at one
12 point were using our bidding, switched over to Microsoft
13 bidding, presumably for the same set of campaigns, and
14 observed the difference over time. So it's not -- typically
15 when they say apples to apples, they mean both are running
16 concurrently but this is what we call a pre/post based test
17 so over different time periods.

18 Q And what they're comparing is running the campaign
19 on Bing and running it on SA360, correct?

20 A Yes, I believe so.

21 Q Okay.

22 It goes on to say, "Allison can provide more
23 context but this is a high priority for us as G company is
24 citing this, plus recent bugs has justification that SA360
25 value proposition for their business is not strong."

1 So there was some concern over the results of this
2 testing, correct?

3 A Yes, they were basically citing that the customer
4 was after the -- or I don't know if it's their
5 interpretation of it or the customer mentioned it, but it
6 sounds like they were happy with the Microsoft performance
7 in this case.

8 Q And if we turn to 906?

9 THE COURT: I'm sorry, can I just, if I could
10 interrupt.

11 Am I reading this right, that what this is showing
12 is that in this testing that they did, that their campaign
13 on Bing had a lower cost per click but generated more
14 revenue because there were more orders, total orders?

15 THE WITNESS: So the main column you would want to
16 look at, because it's a CPA-based bid strategy cost per
17 acquisition would be the CPA column so that I believe that
18 would be NC CPA, and it's showing for presume -- I don't
19 know the exact time periods but it's presumably over the
20 same time period, Search Ads 360 had a 29.9 percent higher
21 cost per acquisition. Cost is a little bit lower on the --
22 so actually in this case, the spend was lower with the Bing
23 strategy but it was more efficient on the cost per
24 acquisition.

25 The part that is not clear in the email is what

1 was the goal. So the customer would have to specifically
2 say I want a 75 or 100 CPA. Unclear what the CPA goal was.

3 So, for example, if the goal was 110, this, in my
4 view, would mean SA360 was doing a better job because we're
5 hitting that goal. If the goal was closer to 75, then I
6 would say the Bing side. So I think the hard part is we
7 don't know what the objective was of this, so it's hard to
8 say what, from where I'm sitting, what was doing the better
9 job.

10 But from the -- it sounds like from the customer's
11 point of view, they were happy with the results, so that's
12 all I guess I can share from the data.

13 But I'd say the CPA column would be the one that
14 would be the -- what the bidding system was optimizing to.
15 But we don't know what the goal was or at least I didn't see
16 it yet in the document.

17 THE COURT: But help me out here.

18 If the goal was a higher goal more in line with
19 the SA360, why would that be a better performance than the
20 lower CPA? I mean, isn't a lower CPA, in other words, a
21 lower cost per acquisition sort of always better?

22 THE WITNESS: It depends on the customer's goal.
23 Sometimes they want to -- they're fine with a higher CPA
24 because it pushes more volume or because -- customers
25 determine their CPA so it's up to them.

1 So the system just says, tell us what you want and
2 we'll get it for you.

3 So in this example if they wanted 110 CPA, that's
4 their choice. Our system would just get that.

5 If they wanted a lower CPA, then they can go ahead
6 and get that too.

7 But generally from a business perspective, you
8 would think, yeah, lower CPA is better but the system
9 doesn't think like that. It just says, we'll get whatever
10 you want and then you can adjust that over time based on
11 your business needs.

12 THE COURT: Okay. Thank you.

13 BY MR. CAVANAUGH:

14 Q But certainly G company was apparently pleased
15 that Bing had produced a lower CPA, correct?

16 A That's my understanding of the email, yep.

17 Q As a matter of fact, it's described by Mr. Mehta
18 as seeing better performance?

19 A That's right.

20 Q So if you could turn to 904?

21 And there, Jen Mader provides some information
22 about U company's test. And states, "Wanted to provide some
23 context on U company's Bing performance as well. On 10/28,
24 U company moved five Bing text campaigns from SA360 tCPA to
25 Bing tCPA.

1 And then goes on to provide a chart with that
2 data, correct?

3 A That's right.

4 Q And goes on to say, "I also attach a note from
5 U company detailing that essentially they felt that while
6 SA360 was overly efficient and limiting Bing volume, when
7 they moved to Bing tCPA, they were able to get more volume
8 and eventually, efficiency leveled out (see week of 11/16
9 below)."

10 Did I read that correctly?

11 A That's what I understand as well.

12 Q Okay.

13 And then Ms. Mader follows up, "Sent too soon.
14 It's important to note that a result of these five initial
15 campaigns they tested, they moved the remainder of Bing text
16 campaigns from SA360 tCPA to Bing tCPA."

17 Do you see that?

18 A I do.

19 Q All right.

20 Now, let's move up that page.

21 In response to apparently something you said,
22 Ms. Schaffer says, "Ryan, while I completely understand
23 pre/post is not a fair evaluation. The client has limited
24 seasonality and only had the goal to get similar/consistent
25 performance."

1 It then goes on to say, "At this point, it looks
2 like they are successful in being able to move campaigns
3 over to Bing tCPA with performance actually improving.
4 The Bing tCPA strategy drove X percent more conversions at
5 exactly the same CPA, while Google saw consistent orders at
6 a higher CPA."

7 So, again, similar to what we'd be seeing with
8 G company, correct?

9 A Well, I'm not sure about the exact percentage;
10 but, yes, both customers saw, from their perspective, better
11 performance.

12 Q Right.

13 Well, you can see the actual number there?

14 A I can.

15 Q Your client has asked that it be redacted.

16 You'd agree with me the percentage reflected there
17 from an advertisers' standpoint seeing X percent more
18 conversions, that would be a good thing for an advertiser,
19 wouldn't it?

20 A In this case, it was, yes.

21 Q Staying on page 904, there's -- you follow up with
22 an email on December 3rd, 2020, "Thanks for all the details.
23 As much as it's difficult to say, I'm not terribly surprised
24 Microsoft auction-time bidding is performing better than
25 intraday (for the same reason Google auction-time bidding

1 does)."

2 You wrote that?

3 A I did.

4 Q And the reason you weren't surprised is that you
5 assumed that Microsoft's auction-time bidding would function
6 better -- would produce better results than its intraday --
7 than intraday bidding, correct?

8 A At that point, I didn't have any reason or data on
9 either side of the fence, is my -- I think there might have
10 been one other customer case where they didn't see good
11 performance. But we didn't have -- we have very limited
12 data so as someone who understands the impact of Google
13 auction-time bidding, I had no reason to believe at that
14 time that it wouldn't perform better, but we didn't have
15 scaled data to show either way.

16 Q Okay.

17 And when you say, "As much as it's difficult to
18 say," the reason you thought it was difficult to say was
19 that you knew that Bing's auction-time bidding feature was
20 not available through SA360, correct?

21 A Yeah.

22 And maybe just to clarify also.

23 Q Well, you can clarify --

24 A I'm sorry.

25 Q -- but is the answer to my question yes?

1 A Can you repeat the question? Sorry.

2 Q Sure.

3 The reason you say, "It's difficult to say," is
4 that you knew at this time that Bing's auction-time bidding
5 feature was not available through SA360, correct?

6 A It was not available at that time.

7 And the point of clarity I was going to add is our
8 sales team, you know, obviously, this would, in their case,
9 mean the customer might not use our platform so I was trying
10 to empathize with the sellers that this is their customer,
11 and if they choose to no longer be our customer, that would
12 impact their situation.

13 So I was empathizing with our sellers who are --
14 could be directly impacted as a result of this.

15 Q Let's turn to the first page of this.

16 Now, this is an email from Mr. Mehta, who outlines
17 the immediate implications and the long-term implications
18 from this testing, correct?

19 A That's right.

20 Q And for G company, he states, "The immediate
21 implication of this for G company is that they will be one
22 step closer towards severing their partnership with SA360.

23 "For them, SA360's X engine bidding strategy is
24 one of the value props they pay for; and if we cannot show
25 stronger performance, the investment with SA360 will come

1 under greater scrutiny."

2 Do you agree with that?

3 A That's right.

4 Q And then as to U company, he states, quote,
5 "Microsoft ads is a relatively decent share of their spend
6 and without engine parity on bidding it dents their overall
7 perception of SA360's capability as an enterprise SEM
8 platform and puts our shopping automation efforts at risk
9 too."

10 Correct?

11 A I could see that, yep.

12 Q All right.

13 And in terms of long-term implications, he writes,
14 "My long-term concern is that this creates a negative
15 perception about SA360 for its enterprise SEM platform if we
16 are unable to demonstrate parity with engine features and
17 stronger performance."

18 A I see that, yep.

19 Q And then he also notes that a third company had
20 reached out, the name of which has been redacted, that
21 they're being asked to test Microsoft auction-time bidding
22 and "will not be surprised if other advertisers follow
23 suit"?

24 A Yep.

25 Q All right.

1 So there were a number of advertisers who were
2 interested in having the availability of the Bing
3 auction-time bidding strategy through SA360, correct?

4 A Yeah, this is late 2020, and this is when we
5 started first seeing some demand.

6 We have tens of thousands of advertisers so these
7 are a few, but this is when we started to see customers
8 begin to be interested in. And as we described in the
9 diagram, is they went to Microsoft to use it. And when they
10 had success cases if we didn't have it, they sometimes
11 stayed, sometimes left.

12 But this is late 2020 when they started to -- this
13 is the first signs that we started to see customers actually
14 testing it or at least from my desk, yeah.

15 Q And if you had started doing that testing in the
16 first half of 2020 as you had anticipated doing, you would
17 have seen advertisers' reaction, correct?

18 A Possibly.

19 Maybe it's helpful context. When we did the
20 Google ads auction-time bidding, when that started,
21 customers were leaving in droves from our platform, and so
22 it was very obvious quickly to the product team that there
23 was a lot of demand.

24 I would say this has been a slightly slower
25 evolution in that direction. But this is, again, like one

1 of the first times we started seeing customers reporting
2 that they're leaving the platform.

3 But prior to that in I think it was late 2019, we
4 had not seen that level -- well, any demand from my
5 perspective. So this is about a year later and we're
6 starting to see it.

7 So I just wanted to make a clarifying point that,
8 you know, customers, they can always go to the engine, they
9 can use it. Up until this point, we had not seen that level
10 of interest from customers.

11 And, again, we have tens of thousands, upwards of
12 100,000 customers. This is two customers so --

13 But I think the sales team, to your point, is
14 saying, you know, we might start to see other customers
15 so this is kind of the, I guess, the start of that process.

16 Q Okay. Can you turn to 448.

17 MR. CAVANAUGH: Your Honor, this is already in
18 evidence.

19 BY MR. CAVANAUGH:

20 Q This is an email from you to one of your
21 colleagues at Google, correct?

22 A You're looking at the 2/18 at the top?

23 Q Yes.

24 A That's right.

25 Q And your email is in response to an email you had

1 gotten from Adam Morris at Microsoft?

2 A Let me read the email real quick.

3 It appears we had a conversation about a bidding
4 checklist. I don't actually remember the specifics of that.
5 But, yes, we must have had a conversation a few days --
6 recently with Adam, I had a conversation with Adam. He's
7 the new engineer.

8 Q Regarding auto bidding?

9 A That's my understanding.

10 Q All right.

11 And in response in your discussion with Jason
12 Krueger, you state -- in terms of how to respond to
13 Mr. Morris, you state, "In all these scenarios, we can
14 highlight that this is not a feature that has been
15 funded/prioritized. So any exploration in this space is not
16 a commitment to building such features."

17 That's what you proposed Microsoft be told as of
18 February of 2021, correct?

19 A I had a few options for the product team, just
20 trying to understand where they're coming from.

21 But at this point, I know the team was just
22 overall trying to understand what it would -- we knew what
23 it would take for Google, but we wanted to understand what
24 it would take for Microsoft to be integrated. But we didn't
25 have secured engineering resources to build it at that point

1 is my understanding.

2 Q Okay.

3 A But it was mostly on the product side to evaluate
4 so I was giving them options of how they would like to
5 reply.

6 Q All right. I have one more document for you, sir.

7 MR. CAVANAUGH: Your Honor, may I approach?

8 BY MR. CAVANAUGH:

9 Q Mr. Krueger, yesterday we were talking about your
10 use of Google chats. Do you recall that?

11 A I do.

12 Q All right.

13 Well, we actually do have a chat from you which
14 we've marked as PSX1194. And it's from -- it's dated
15 September 1, 2021.

16 Who is Seamas Leddy?

17 A He was my manager at the time.

18 Q And who was Ryan Fitzgibbon?

19 A He would have been one of my peers.

20 Q Okay.

21 And if you could turn to Bates page 4891.

22 A Okay.

23 Q Mr. Leddy asks, "Do we plan to support X-engine
24 broad match, plus FACB depth metric."

25 What is X-engine broad match?

1 A X-engine refers to cross engine. So Google, Bing,
2 Microsoft, those are the engines we support. Baidu.

3 And broad match is a targeting method for
4 campaigns. So you can -- for example, if I'm a retailer and
5 I want to only put bids on red shoes, I can do an exact
6 match or a broad match allows the search engine to match it
7 against a more -- variety of queries, basically.

8 So broad match is an engine level targeting
9 mechanism.

10 Q So then you and your colleagues go on to have a
11 discussion about issues relating to the utilization of broad
12 match, correct?

13 A Yes.

14 So the specific context is our sellers have
15 different metrics that they target, whether it's featured
16 option, things like that.

17 And the question was, is broad match something
18 that we want to include or modify as part of those
19 bidding-related metrics. So that's the context of Seamas'
20 question.

21 Q And four lines down, Mr. Fitzgibbon says, "We
22 cannot guarantee that broad match plus intraday would
23 perform well," correct?

24 A Yeah. At that point, I think broad match was
25 quite new so we didn't know -- we hadn't tested how our

1 bidding system would be able to work with broad match for
2 our intraday bidding. That's right.

3 Q And then if you turn to 4892, at the top
4 Mr. Fitzgibbon says, "It would have a huge Google bias,"
5 correct?

6 A Yes, that's right.

7 Q And then three up from the bottom, he states, "I
8 push to turn on broad plus -- plus bidding across all
9 engines."

10 Correct?

11 A I'm sorry. Let me just read real quick.

12 Q Sure.

13 A I think that's a continuation of -- he tends to
14 write and pressing enter very quickly before sentences are
15 done. But that is part of some of his statements. Yes,
16 that's right.

17 Q And then if you could turn to page 4893?

18 A Yep.

19 Q In the third item down, Mr. Fitzgibbon states,
20 "But activating across all engines would re-emphasize the
21 criticism in the Colorado case."

22 That's this case, right?

23 A I believe so, yes.

24 Q Okay.

25 And then he goes on to say that "We biased to make

1 Google looking better."

2 So you understood that was the criticism in this
3 case?

4 A I'm not familiar with all the details of this
5 case, but I think he's -- maybe just to clarify my
6 understanding of this, is he was making the statement that
7 we, and I think the conclusion of the conversation is, we
8 should not be changing our metric because we do not want to
9 have a bias.

10 And I should call out that, you know, that's in
11 line with -- even before the case was filed, that's how we
12 operated. I'm not sure why we had to call that out
13 specifically here. But his intention was how do we not have
14 bias for this decision, and we decided that we would not
15 change our sales metrics because we didn't feel comfortable
16 with it.

17 Q And so what we see as in PX1194, this is
18 illustrative of the type of discussions you have with
19 colleagues on Google Chat, correct?

20 A Yeah, these were what we would call, I guess,
21 business-related conversations over chat, yes, that's very
22 normal.

23 MR. CAVANAUGH: Nothing further, Your Honor.

24 Pass the witness.

25 THE COURT: Okay. I take it no examination from

1 the Department of Justice?

2 MS. BELLSHAW: No, Your Honor.

3 THE COURT: I'll turn to Google then.

4 Mr. Maurer.

5 - - -

6 CROSS-EXAMINATION

7 BY MR. MAURER:

8 Q Good morning, Mr. Krueger.

9 A Good morning.

10 Q We're going to be referring to some of the same
11 documents that counsel for Plaintiff States referred to.
12 Rather than give you a whole other binder, I'm just going to
13 try to use theirs and there might be a few extra that I hand
14 up to you.

15 A Okay.

16 Q Let's start with Chats, where we just left off.

17 When remember you informed about your obligations
18 to maintain materials?

19 A In September of 2021.

20 Q And what was your position at Google at that time?

21 A I was a global product lead.

22 Q Did you have anybody reporting to you in that
23 position?

24 A I did not.

25 Q Were you considered part of the leadership team of

1 SA360 in that position?

2 A No.

3 Q As a global product lead, did you have any
4 authority to decide whether or not auction-time bidding or
5 any other functionality was included in SA360?

6 A No.

7 Q When did you leave your position as a global
8 product lead?

9 A I joined the product -- I became a product manager
10 in December of 2021.

11 Q So three months after you got the litigation hold?

12 A That's right.

13 Q And what did that job change mean with respect to
14 your responsibilities regarding the integration of
15 auction-time bidding or any other feature in SA360?

16 A I moved to a new role where I was focused on our
17 new platform, the onboarding and the migration experience.
18 I was no longer involved in auction-time bidding for
19 Microsoft.

20 Q Did you have any responsibilities in that new job
21 with respect to building auction-time bidding or any other
22 feature in SA360?

23 A Other features, yes, but not Microsoft
24 auction-time bidding, no.

25 Q As of September 2021 when you got the litigation

1 hold, do you know whether or not the SA360 team was working
2 on building a Microsoft auction-time bidding functionality?

3 A The product team continued to assess the feature.
4 I wasn't directly involved, but they were -- I know it was
5 still top of mind for the team.

6 Q And now Plaintiff States' counsel asked you a
7 series of questions from late 2019 and early 2020, around
8 the conversations with Microsoft. Do you recall those
9 questions?

10 A I do.

11 Q Had you received the litigation hold at that time?

12 A No.

13 THE COURT: I'm sorry, at what time?

14 MR. MAURER: Late 2019, early 2020.

15 BY MR. MAURER:

16 Q Do you know the date that the States filed their
17 lawsuit in this case?

18 A I don't know the date.

19 Q It was December 2020. Do you know that?

20 A Well, you refreshed my memory. Now, it makes
21 sense, yeah.

22 Q Okay.

23 Do you have a practice with respect to how you
24 communicate about material decision points regarding whether
25 or not to build features in SA360?

1 A So the product team determines what features are
2 built or not. They -- they're the ones that have to secure
3 the resources from engineering. So the product managers are
4 responsible for that.

5 And then as the GPL team, we would put that into
6 the roadmap deck or from the marketing, go to market
7 perspective and then we would distribute that to our
8 customers and partners.

9 Q And in terms of documenting that process and those
10 decisions, how would you document it?

11 A So product decisions would be made by the product
12 team. Those would always be in some written form like docs,
13 emails, et cetera.

14 Any decisions that I was proposing would have to
15 also be an email or docs that have explicit sign off from
16 either my manager or the relevant senior stakeholder on the
17 product.

18 Q And that's because you lack the authority to do it
19 yourself?

20 A That -- well, yeah, at the time, yeah.

21 Q Do you recall any decisions with respect to
22 whether the Microsoft ads auction-time bidding functionality
23 or any other functionality for that matter, was to be built
24 for SA360 where chat was your sole or primary means of
25 communication about that?

1 A No.

2 Q Did you participate in any chats where you
3 deliberately rediscussed deliberately delaying building
4 auction-time bidding or any other feature for Microsoft?

5 A No.

6 Q How do you know that?

7 A That's a pretty important decision that we
8 would -- even if we discussed it over chats, would not be
9 something that would be, like, something I could approve or
10 have authority over, but B, that's not how we operated. We
11 don't -- we never intentionally tried to delay anything for
12 Microsoft.

13 Q Do you still have the exhibit that Mr. Cavanaugh
14 just handed you, Exhibit PSX1194 in front of you?

15 A I do.

16 Q Let's actually look at that first page of this
17 exhibit for a second. What are you discussing here in the
18 chat on the first page?

19 A It looks like I started talking about our Search
20 Ads 360 gathering event.

21 Q And about two-thirds of the way down the page, you
22 have a chat that says, "Also, somewhat related, when is
23 the -- I assume -- when is the new GPL coming on board,
24 approximately? Good first test to organize." Smily face.
25 Do you see that?

1 A I do.

2 Q Why did you put a smiley face there?

3 A I was hoping somebody else could organize the
4 event of a few hundred people since I did it the previous
5 year. It wasn't the most fun work.

6 Q It was a pain and you were making a joke?

7 A Yeah.

8 Q Is that in line with the typical use of chats?

9 A Yeah, this was typical. I mean, it's business
10 related, but fairly informal, yeah.

11 Q And if we turn a couple of pages further on where
12 you were asked, this is on page 892 up at the top?

13 A Yep.

14 Q And plaintiffs' counsel pointed you to the top
15 line where Mr. Fitzgibbon said it would have a huge Google
16 bias. Do you see where I am?

17 A I see it, yep.

18 Q Did you understand Mr. Fitzgibbon to be pointing
19 that out as a good thing or a bad thing?

20 A He was trying to avoid that. So he was saying,
21 this would not be a good thing, and not something we wanted
22 to do.

23 Q All right. You can put that to the side.

24 Maybe to clarify, what's the relationship between
25 SA360 and Google ads?

1 A We're separate products within the company.

2 Q Is there any overlap in the teams or budget or
3 things like that?

4 A We have engineering teams that we can -- like, the
5 engineering team works a little different than the product
6 team but the product team is separate.

7 Q So in terms of making the decisions of what to
8 support, those are separate teams?

9 A That's right.

10 Q And you discussed yesterday, and I think also
11 today, the SA360 support for Google ads auction-time
12 bidding, which was in 2019; is that right?

13 A I believe that was some -- in 2019, we launched
14 the feature is my recollection.

15 Q On SA360?

16 A That's right.

17 Q But it had been available for years before that on
18 Google ads itself?

19 A Many years, yes.

20 Q Do you know how long it took your team or the
21 SA360 team to build the support for auction-time bidding for
22 Google ads into SA360?

23 A Several years.

24 Q Why did it take that long?

25

1 MR. CAVANAUGH: Objection, Your Honor.

2 Lay some foundation that he knows about the
3 engineering work.

4 BY MR. MAURER:

5 Q Do you have an understanding as to why it took
6 three years to -- or a number of years, as you testified, to
7 build it?

8 A I know how complex the product is and we even
9 today have a lot of serviceability challenges with the
10 features so it's one of our most complex features on the
11 product.

12 Q How does that complexity of auction-time bidding
13 compare to the other bidding features available on SA360?

14 A So the intraday bidding system had been around
15 since before I was at Google so that had been long tested
16 and tried and many iterations of it. And it's completely
17 contained within our product and a lot of the complexity
18 with auction-time bidding is we have to integrate with
19 another product which brings its own level of complexity,
20 not just on the initial creation and compatibility but also
21 the long-term maintenance as things change on both
22 platforms, it's, you know, something we monitor closely.

23 Q If there's an error or mistake and the
24 auction-time bidder gets it wrong, what are the consequences
25 for SA360?

1 A Well, it takes some time to troubleshoot.
2 Typically, it's not one thing that goes wrong, it has a
3 cascading impact and many of our customers, they request
4 credits from us or they go to the Google ads to request
5 credits. So it gets pretty messy when there's issues.

6 Q When you say they request credits for you, it's
7 because when the auction-time bidding system has an issue
8 that causes money to be spent, that's actually customers'
9 money and then SA360 has to reimburse them for it?

10 A That's right.

11 Q Did this project to build the Google ads
12 auction-time bidding functionality for SA360 have a code
13 name or a project name?

14 A The Google -- well, both Google and Microsoft we
15 had separate code names, yeah.

16 Q Actually maybe I asked the question wrong. Let me
17 break it up.

18 A Yeah.

19 Q For the Google, for the project in SA360 to build
20 the Google ads version of auction-time bidding, what was
21 that project name?

22 A Project MYX, M-Y-X.

23 Q And what was the project name for the project to
24 build Bing's auction-time bidding?

25 A BYX, B-Y-X.

1 Q Is there a reason you chose BYX?

2 A I thought it was fun at the time. I don't know if
3 it was me or a group of people in the room were like, we
4 just put at B at the beginning of it and everybody
5 understood what it meant.

6 Q The B at the beginning of it for Bing?

7 A Yes.

8 Q And you testified, in response to some questions
9 this morning, that there's an alpha test of the Microsoft
10 auction-time bidding functionality going on now in SA360?

11 A That's right. I'm not involved in that directly.
12 There's a product manager that oversees that. But it is
13 ongoing, is my understanding.

14 Q What is an alpha test?

15 A It's usually a limited set of functionality or
16 early-stage testing of a feature that we've built into our
17 product.

18 Q So to have an alpha test, do you actually have to
19 have the feature built?

20 A That's right.

21 Q And how does alpha testing relate to -- well, let
22 me withdraw that and try a different question.

23 Is alpha testing in any way related to whether or
24 not a product is going to be launched?

25 A It's the -- after development has been completed,

1 that's the first step, is we start to recruit customers to
2 test the feature and stress test it is.

3 Sometimes there is lower, like, smaller features
4 that are still in flight that we add on as we go. And then
5 it goes to a beta, which is a much larger group of
6 customers, so that's where we start to see scaled activation
7 feature.

8 And once we feel that the product quality is up to
9 our standards and we're -- as you talked about with credits,
10 we're not going to be at risk of -- because one thing is
11 customers sign up for alphas and betas, they understand that
12 they're in earlier -- it's not a launched feature that we're
13 going to back if there's, like, a major credit -- or,
14 sorry -- if there's a major spend increase.

15 So customers understand that there's -- they're
16 helping us, but they're also -- we're not liable for issuing
17 credits in the event of an outage.

18 Q So Project BYX is on its way to a product launch.
19 Is that your understanding?

20 A That's right.

21 Q Let's turn to some of the late 2019 and early 2020
22 communications back and forth with Microsoft.

23 THE COURT: Counsel, I'm sorry to interrupt.

24 Can I ask a follow-up question, which is: What is
25 the -- is there a time horizon estimate that you're aware of

1 between where a product is currently in the alpha stage to
2 when it would become an active new feature available to all
3 users?

4 THE WITNESS: I'm not directly involved, so
5 I'm not sure in this particular case.

6 But, generally, it depends on the size and the
7 complexity.

8 You know, some features we put in an alpha and
9 beta maybe for a couple weeks because it's quite small and
10 not a risk. Other features like this, it could be an alpha
11 and beta for many, many months because if we -- and if
12 engineering finds a problem, they have to go secure
13 resources and fund and fix it, or improve it, and that --
14 you know, depending on how bad the problem is, that could
15 take time. So I wouldn't be surprised something like this
16 could be many, many months.

17 THE COURT: Okay. Thank you.

18 THE WITNESS: And also one thing to clarify, it
19 depends how quickly customers come on to use it. So if we
20 can't recruit customers fast enough, they have their own
21 business priorities, it's coming into retail season in Q4,
22 customers don't like to make big changes or take on the
23 risk, then that could also slow things down as well.

24 MR. CAVANAUGH: Your Honor, I'll note an objection
25 here. None of this has obviously been subject to fact

1 discovery, what they're currently doing.

2 BY MR. MAURER:

3 Q Let's look at PSX668.

4 This is something you looked at with the Plaintiff
5 States counsel.

6 MR. MAURER: And we can put this one up on the
7 screen, please, Mr. Schliesske.

8 BY MR. MAURER:

9 Q This is the email chain you discussed yesterday
10 with the list of features at the end from Microsoft. Do you
11 recall that?

12 A Yes.

13 Q Let's start with that top email. It's from Bashar
14 Kachachi to Shirley Heath. Who's Bashar Kachachi?

15 A He was the lead project manager on search A360 at
16 the time.

17 Q And who is Shirley Heath?

18 A I don't know her exact role, but she was one of
19 the more senior people at Microsoft that we communicated
20 with.

21 Q And so this is an email from your team to the
22 Microsoft team?

23 A That's right.

24 Q What's the date of this email?

25 A I don't see the date on the top of the page.

1 Q Fair enough.

2 The date underneath that one is November 26th,
3 2019; is that right?

4 A That's right.

5 Q Okay.

6 And what, if anything, did the SA360 team tell
7 Microsoft about whether or not it was going to build the
8 features or functionality that is listed in this table?

9 A We've had, you know, consistent regular meetings,
10 including the, I think, the reference -- the meeting on
11 11/13 where we took their input and it goes into our
12 prioritization process and we build based off of customer
13 demand.

14 Q And so when Mr. Kachachi here says in this email
15 at the top, "As we've mentioned in our prior meetings, SA360
16 prioritizes feature investments based primarily on feedback
17 from our customers," is that consistent with the message
18 that you are familiar with that was given to Microsoft?

19 A Yes.

20 Q And when you say "customers," who do you mean?

21 A Advertisers on our platform that hold contracts
22 with us.

23 Q And as of this time in late 2019, were you aware
24 of any advertiser demand for Microsoft's auction-time
25 bidding feature?

1 A I was not.

2 Q Let's look at the list of features then starting
3 on page 311 and then continue.

4 Let's actually turn to page 312.

5 If you remember, the rows that have the dark
6 square are the high priority items identified by Microsoft.
7 Do you recall that?

8 A That's right.

9 Q Of those, which do you understand to be the most
10 complex or challenging to build?

11 A The bidding related ones so the ones at the bottom
12 of the page.

13 ECPC is probably the easiest of all of them
14 because that's an engine side bidding system that we have no
15 part of. But the other ones would be the harder ones to
16 integrate.

17 Q I want to talk to you about those ones at the
18 bottom of the page, and I guess they continue over to the
19 next page, in a second.

20 But let me start with, up higher on that page,
21 there's dynamic search ads, DSA; is that right?

22 A Yep.

23 Q Do you know whether SA360 supports now DSA for
24 Microsoft?

25 A It does.

1 Q And then below that, there's responsive search
2 ads. Does SA360 currently support responsive search ads'
3 functionality for Microsoft?

4 A We do.

5 Q So then returning to these ones at the bottom of
6 page 312, those seven highlighted features, including the
7 one on the next page -- I think we see auction-time bidding
8 on that page?

9 A Yep.

10 Q Is there any relationship between auction-time
11 bidding and these other -- the functionalities that are
12 listed there?

13 A The three above it would be Microsoft's bid
14 strategy types that presumably use their auction-time
15 bidding. In itself, it's not -- it's not its own thing to
16 build, it's part of all the other strategy types.

17 Q And in order to build auction-time bidding are any
18 of these other functionalities required to be built first or
19 simultaneously?

20 A The conversion sharing is a fundamental part of
21 it. I think that's on the next page. So that would have to
22 be built. So that's the piece where we send the
23 advertisers' data to Microsoft.

24 And then the other ones are individual strategy
25 types that would have to be developed and tested

1 individually because they're all different.

2 Q And if you -- let's turn back to the prior page,
3 page 311, and let's look at this email at the top of the
4 page which is from Mr. La Force and you discussed with
5 plaintiffs' counsel yesterday.

6 MR. MAURER: La Force. Just like it sounds.

7 BY MR. MAURER:

8 Q In his email, he asked the SA360 team to review
9 Microsoft's compilation of this table because it was based
10 on public documents and see whether or not it was accurate.
11 Do you see that?

12 A I do.

13 Q And did you undertake that task?

14 A I did, and I looked in some of the product team
15 that would know more about some of the features that I
16 wasn't as familiar with.

17 Q And I believe you testified yesterday that there
18 were some inaccuracies; is that correct?

19 A Yes, there were a few inaccuracies.

20 Q Do you recall which ones they were?

21 A Not off the top of my head, no.

22 I think it was directionally right. There was
23 probably maybe, I'd say, 20 -- 15, 20 percent that were not
24 right.

25 Q And underneath that, there's a list of action

1 items?

2 THE COURT: I'm sorry, when you say there are
3 "inaccuracies," what do you mean? In the list that was
4 provided to you by Microsoft?

5 THE WITNESS: Meaning something was marked yes and
6 it was a no or a partial or something like that on either
7 the Google or the Microsoft side.

8 THE COURT: I see. Okay.

9 THE WITNESS: I'd say that it was directionally
10 accurate. It was just -- you know, it's a long list so
11 there's a lot of details under each of these.

12 BY MR. MAURER:

13 Q Right.

14 So for some of the ones where Microsoft indicated
15 that Google supported something perhaps Google didn't or
16 they indicated Google didn't support something and perhaps
17 Google did, things of that nature?

18 A Correct.

19 Q Back up then to this action items list from
20 Mr. La Force.

21 You were asked about that first bullet which you
22 testified referred to some of the testing that was being
23 discussed. I want to ask you about the second bullet, we'll
24 come back to the testing.

25 That second bullet says, "SA360," meaning this was

1 a task for the SA360 team, right?

2 A Yes.

3 Q And it says, "Provide Microsoft with data showing
4 that Microsoft SOW isn't negatively impacted when in
5 combined portfolio with the Google ads and Google ads
6 auction-time bidding is enabled."

7 What did you understand Mr. La Force from
8 Microsoft to be asking the SA360 team to do?

9 A They wanted to understand what happens if a
10 customer turned on Google ads auction-time bidding in a bid
11 strategy that contained Microsoft campaigns.

12 Q And so this was a comparison between -- or
13 analysis of what happened to the Microsoft -- the spend on
14 Microsoft in the SA360 version as it then existed. So you
15 had Google ads auction-time bidding, Microsoft intraday
16 bidding, and they asked your team to do an analysis of what
17 happened to the Microsoft spend; is that right?

18 A Yeah, they wanted to make -- they wanted to
19 understand what happened to their spend and, like,
20 performance in that shared portfolio, that's right.

21 Q And did you do that analysis?

22 A We did.

23 Q What was the result?

24 A We saw that the Microsoft spend was slightly
25 increasing over time after auction-time bidding for Google

1 is enabled on those portfolios.

2 MR. MAURER: May I approach, Your Honor?

3 THE COURT: Sure.

4 I'm sorry. Just to be clear, what you're saying
5 the analysis showed is that the spending on the Microsoft
6 ads through campaigns through Microsoft went up after Google
7 itself enabled auction-time bidding for the same ad campaign
8 but on Google's platform?

9 THE WITNESS: More specifically, so if you had a
10 bid strategy, let's say it had ten Google and ten Bing
11 campaigns they were both running on intraday bidding.

12 If you turned on auction-time bidding for the
13 Google ads' ten campaigns, that's when the analysis started
14 to show the impact of the spend of the portfolio and there's
15 a line in here that shows the Bing spend and it was moving
16 up and to the right over time.

17 So we did not see any correlation of negative
18 impact to Bing spend as it relates to turning on Google ads
19 auction-time bidding and we had some theories as to why that
20 would be the case that I'm happy to explain but that was
21 what I was describing.

22 BY MR. MAURER:

23 Q Now I've handed you, this is for the record
24 PSX00537. It was produced by Google in native format and I
25 see that we have printed it and unfortunately the sticker

1 didn't make it on to the copy I've handed you but this is
2 PSX537 which is admitted. It's also confidential so we're
3 not going to put it on the screen.

4 But let me ask you what is this document?

5 A So this was produced by our engineering team, as I
6 described. So as customers turned on auction-time bidding,
7 we measured the change in spend across the portfolio,
8 including the Bing portion, to see how that specific action
9 returning on auction-time bidding impacted the spend of
10 Bing. That was what they requested.

11 Q So this reflects the results of the analysis you
12 were just discussing with the judge?

13 A That's right.

14 Q Now, you could put that one to the side.

15 A I should add, the scale is a little bit hard to
16 see but if you look at the raw numbers, it's moving up and
17 to the right.

18 Q Now, taking you back to Exhibit 668, this
19 correspondence that happened in November of 2019, and then
20 you were asked about some other correspondence in, I think
21 it was January, February and March of 2020. So late 2019,
22 early 2020.

23 At some point, do you have an understanding as to
24 whether these issues got escalated to a higher level between
25 Google and Microsoft?

1 A Yeah.

2 After the -- there was a meeting in November where
3 things were a little bit, I want to say, tense and
4 controversial in the meeting, that I understand there was a
5 leadership level escalation on both sides but I was not
6 involved in those.

7 Q So after it was escalated, you no longer had any
8 involvement in that discussion?

9 A No.

10 Q I'm sorry, does that mean you agree?

11 A I would agree I was not involved in those
12 discussions, no.

13 Q I just want to make sure the record is clear.
14 I asked a bad question.

15 And you said that there was a tense meeting. This
16 email chain that we're looking at, PSX668, is this the email
17 chain that followed that meeting?

18 A Yes.

19 Q So let's talk about some of this testing from 2019
20 or the discussions about the testing in 2019 and 2020. Was
21 the testing that was being discussed and contemplated a test
22 of auction-time bidding for Microsoft on the SA360 platform?

23 A No, it was just the sharing of the data to
24 Microsoft for Microsoft's platform bidding.

25 Q Were there concerns on the part of the SA360 team

1 as to whether or not the Microsoft auction-time-time
2 functionality could actually be built for the SA360 platform
3 at that time?

4 A There was specific features as we understood, that
5 Microsoft didn't support, so the full suite of features
6 wouldn't have been able -- even if we had infinite resources
7 at that time, we couldn't build everything, and we shared
8 some of those features with them.

9 Q And what comes to mind as some of the issues that
10 Microsoft had that they would have to address before SA360
11 could be -- could support Microsoft auction-time bidding?

12 A I believe we shared at least two or three with
13 them.

14 At the time, the biggest one was fractional
15 conversion so that's the -- it was like partial credit
16 that's applied to each click leading up to individual
17 conversion events. That's -- that was not available in
18 their APIs for us to connect to or not available in their
19 platform.

20 The second was data exclusion events so we talked
21 about like outages, things like that. That's the way to
22 inform the bidder that there is a problem with the data,
23 don't use it.

24 And I believe the third one which we shared in
25 March was ROAS-based bidding which is rev -- like if you're

1 a retailer, you have revenue, ROAS is the bidding system
2 that ingests like revenue or values, that was not available
3 as was our understanding.

4 Q And I take it you -- did the SA360 team identify
5 these concerns to Microsoft?

6 A We did.

7 Q Let me just talk about fractional conversions for
8 a second.

9 What's the relationship of fractional conversions
10 in the auction-time bidding functionality? Is it required
11 or how does that work?

12 A For our customers that use those data driven
13 attribution models or models that use -- the output of that
14 is fractional conversions, they would not be able to use
15 that same data in Microsoft without Microsoft being able to
16 ingest that data.

17 Q And what percentage of SA360 customers use
18 fractional conversions?

19 A It's a good question.

20 Not -- I don't have it offhand but it's quite
21 high.

22 It's the most sophisticated measurement model that
23 we have.

24 Q Let's look at -- let's turn in your binder to
25 PSX765.

1 Are you there?

2 A Yep.

3 MR. MAURER: We can put this one up on the screen,
4 please, Mr. Schliesske.

5 BY MR. MAURER:

6 Q You were asked about this yesterday. And in
7 particular, I'm going to ask you to turn to page 2, where
8 there's an email from you to the Microsoft team at the top.
9 Do you see that?

10 A Uh-huh.

11 Q And there's a section for general inquiries.

12 What's the first bullet point discussing those
13 general inquiries?

14 A It says, "Attribution. Does Microsoft bidding
15 support uploading non-last click attribution and/or
16 fractional attribution from offline sources."

17 Q And why were you mentioning fractional attribution
18 there at Microsoft?

19 A That was the conversation we just had about our
20 customers use those features, and that would be a
21 requirement.

22 Q Yeah.

23 All right. Let's turn to PSX462 which is an email
24 chain from January of 2020 that you looked at yesterday.

25 THE COURT: I'm sorry, could I get the number

1 again?

2 MR. MAURER: 462.

3 THE COURT: Thank you.

4 BY MR. MAURER:

5 Q Are you there, Mr. Krueger?

6 A I am.

7 Q And this top email is from Mr. La Force to you.

8 And below that you forward that to Amit and Jason;

9 is that right?

10 A That's right.

11 Q And we looked at this yesterday with plaintiffs'
12 counsel and they asked you, if you turn to the next page to
13 the body of that email, they asked you about the first line
14 and the third line but I want to ask you about the second
15 line.

16 There's a tag there for @Jason Krueger.

17 Do you see where I am?

18 A Yes.

19 Q What are you asking there in that request to Jason
20 Krueger?

21 A I'm asking Jason to put together what we call --
22 we call them one shooters, sometimes they're longer.

23 But basically a perspective on BYX from a product
24 POV. This is usually a precursor to a full product
25 requirements document.

1 So they understand, like, what is it, what do we
2 need to build, what is limitations that they know of, it's,
3 I guess, a lighter form so it's easier to review so that it
4 could be brought to the leadership team to understand if it
5 could be funded as part of the roadmap.

6 Q Would the SA360 team have spent the time and
7 resources to perform that analysis about auction-time
8 bidding from Microsoft if it had already decided not to
9 build that feature?

10 A No.

11 Q To address the elephant in the room, is Jason
12 Krueger, I notice he shares a last name with you. Are you
13 any relation?

14 A Yeah, he's my brother.

15 Q What was his role in the team?

16 A He was the product manager for this feature or for
17 bidding overall.

18 Q Were you at this time in the same, I guess,
19 group -- I know you both work on SA360 but were you working
20 with each other or under the same manager or did you have
21 separate chains of reporting?

22 A Separate lines of business.

23 So I was his sales counterpart on the product side
24 and he was under the product team directly.

25 Q Let us turn to some of the -- or to a different

1 topic now.

2 Let's look at DX165. This isn't in your notebook,
3 I'm going to hand you a copy.

4 I'm actually going to hand you two things. One is
5 DX165 but because it's kind of small, we have got a clearer,
6 more blown-up version that we've marked as DX165A.

7 DX165 is in evidence.

8 MR. MAURER: Your Honor, I'd like to move DX165A
9 into evidence.

10 MR. CAVANAUGH: No objection.

11 THE COURT: It will be admitted.

12 MR. MAURER: And I believe I misspoke. Actually
13 DX165 is not yet in evidence. There's a hearsay objection
14 so let me move that into evidence as well.

15 MR. CAVANAUGH: Your Honor, subject to whatever
16 embedded hearsay might be in here, no objection.

17 THE COURT: Okay.

18 (Defendant's Exhibit DX165A
19 received into evidence.)

20 BY MR. MAURER:

21 Q Do you recognize Exhibit DX165?

22 A I do.

23 Q What is it?

24 A It's twice a year, we hold a sales services --
25 people who are basically front line with customers, we hold

1 a round of collection of what they are hearing from
2 customers, what they're -- asking the product team to build
3 in future roadmaps, and they're -- this is across all
4 regions, not just the U.S., so the European and Asia Pacific
5 region and we ask them -- it's basically kind of their wish
6 list for the product team for the next planning cycle.

7 Q And we looked at, this morning and also yesterday,
8 Exhibit PSX457. Is that another -- is this -- is the
9 exhibit we're looking at now DS165 just another in a series
10 of these?

11 A That's right. I think I'm looking at it now.
12 The 457 was for the 2020 second half roadmap
13 request, and this is for the first half of that same year.

14 Q All right.

15 So what's the time frame for Exhibit DX165, the
16 2020 first half product prioritization guide?

17 A We usually like to do it ahead of the time period.
18 So in this case, it looks like it was October of 2019 when
19 we collected this for the product team so they could plan
20 for 2020.

21 Q And if we look at turning the document to page 3,
22 starting there and then spanning over the next several
23 pages, can you explain what we see there?

24 A You want me to explain what I see?

25 Q Just generically at a high level, what are we

1 looking at in this table?

2 A So in this case, we pulled the top 20 features
3 that were requested and ordered them in priority based on
4 the most occurrences that we've heard and had the highest
5 customer demand for these features.

6 Q And in this list as of late 2019, is there
7 anything that reflects advertiser demand for Microsoft
8 auction-time bidding?

9 A It does not appear to be in this list, no.

10 Q And if a feature appears on this list, does that
11 mean it will get built?

12 A No.

13 Q Let's look now at what we looked earlier. So
14 that's H1, 2020H1. Let's look at PSX457, which you
15 discussed in your earlier testimony with plaintiffs'
16 counsel, which is 2020H2.

17 Let me know when you're there.

18 A Yep, I'm here.

19 Q And if we turn to page 740, the page ending 740 --
20 Can we put this up?

21 You testified yesterday that the -- we looked at
22 row 8, and you testified yesterday that the only client
23 mentioned in this, the specific client, is this Japanese
24 advertiser, correct?

25 A That's right.

1 Q Do you know if SA360 ever built the auction-time
2 bidding functionality for Yahoo! Japan that this advertiser
3 was requesting?

4 A We haven't built it, no.

5 Q Why not?

6 A It's very expensive and complicated, and we
7 haven't seen more than a handful of customers ask for it.

8 Q And on the same row, you were pointed to this
9 little box icon in the upper right-hand corner with the
10 yellow, and that, I believe you testified, indicated that it
11 was -- that the issue was raised in the American customer
12 survey?

13 A Yeah, that means it was part of the customer
14 survey, like -- yeah.

15 Q This was -- I'm sorry.

16 A I don't remember that bubble specifically. But on
17 the few pages before, it says, "Raised in AMER customer
18 survey."

19 Q Well, let's look at 746. This is the start of the
20 section of this exhibit talking about that AMER customer
21 survey?

22 A That's right.

23 Q And what was the survey asking?

24 A I believe on the next slide, it was three simple
25 questions. One was, "What features could SA360 build or

1 improve upon that would have the biggest impact on your
2 business."

3 The second one is the same question just asking
4 for their second priority, which was optional.

5 Ask then the third was also optional for any other
6 feedback that you would have so kind of more of a free
7 forum.

8 Q And then if we turn to the page you were directed
9 to, page 748, under Engine Requests, the first bullet point
10 says, "More Bing parity," and then lists "RSA, audiences,
11 and other formats."

12 You were asked about those yesterday.

13 Are any of those features Microsoft auction-time
14 bidding?

15 A No.

16 Q You could put that to one side.

17 The judge asked you yesterday, I think, a question
18 about roadmaps. And I just want to make sure we're clear on
19 what a roadmap is, so let me ask you if you could just give
20 us, again, what a roadmap is.

21 A So the roadmap is the official public-facing
22 document that we put out to our customers and the engines.
23 We share with anybody who's our customer or partner. And it
24 shares what we are -- we have secured engineering resources
25 for to start building or deliver in that half of year.

1 Q And I think this is clear, but is a roadmap
2 limited to just Microsoft features and functionality?

3 A No.

4 Q How does the SA360 team determine what goes on the
5 roadmap?

6 A So the product and engineering team to do a
7 planning cycle, it's actually every quarter; but the roadmap
8 is every six months so they do subplanning.

9 But for the roadmap specifically, we look at
10 generally three categories. First is engineering
11 investments to keep the lights on, so, you know, back-end
12 infrastructure, things, pipeline changes, engineering-led
13 initiatives that are not customer facing.

14 There's a second category which is new products
15 offerings that are not related to engine features but are
16 our own in-house innovations. So we have features that we
17 offer that help customers automate certain tasks or, you
18 know, we have a rules feature where customers set up a rule
19 and it automatically does things. So we have our own
20 features that as product team we want to innovate on.

21 And then a third is supporting engine features
22 that our customers are asking for.

23 Q And what steps does SA360 take in deciding whether
24 to list an engine feature that customers are asking for on
25 the roadmap?

1 A So to even get on to the roadmap, the product team
2 would have to produce articles. But we won't mention
3 requirements document, so there would have to be a product
4 requirement document of what is explicitly asking to be
5 built, what is --

6 It typically has, you know, everything from what
7 is the opportunity, what evidence do you have that shows
8 this is a good thing for the product and the business, what
9 are the specific feature requirements, what are the risks,
10 anything that, you know, the product team wants to call out.

11 If it's a customer-facing feature, there would
12 have to be designs so the user experience team has -- we
13 have designers that show what it would look like in the
14 product.

15 The engineering team would have to have a design
16 document that shows that they can technically feasibly build
17 it. So there's an -- engineering goes through their own
18 design review processes.

19 And then the last piece is, during the planning
20 cycle, we would actually have the right resources to build
21 the feature.

22 And, again, it doesn't mean it's delivered in that
23 half of the year, but we would at least have to have some
24 resources to start some pieces of that project.

25 Q And in the time period that we're sort of

1 discussing in this case, like starting in late 2019 and
2 running for the next few years, was there some project that
3 was going on that was resource intensive in SA360?

4 A So we had Project Amalgam, which is now the new
5 Search Ads 360, and that took up almost the majority of our
6 resources because we were rebuilding the platform.

7 Q Do I have it right, there was a prior version of
8 SA360 and then now there's a new version?

9 A That's right.

10 Q Is there any relation to the two or was it sort of
11 a complete rewrite?

12 A It's a completely new product. And we had to
13 basically rebuild all of our features on to the new product,
14 plus migrate customers' data and settings and everything to
15 the new product as well.

16 Q And I understand, was that resource intensive?

17 A It's taken up most of our team for, I think --
18 I don't know when it originally started but sometime in 2016
19 or 2017. So it's -- and we're not done yet.

20 Q And in the launch of this new version of SA360,
21 were there any Microsoft features included?

22 A Yes, we launched new features in the new platform.

23 Q Do you recall any of those features?

24 A I don't remember off the top of my head if there
25 was -- we had several new features.

1 MR. MAURER: One second, please.

2 One moment, Your Honor.

3 It turns out we don't have that much, so I'll just
4 move on.

5 BY MR. MAURER:

6 Q Let's look at PSX433.

7 THE COURT: Actually, Mr. Maurer, before we do
8 that, why don't we go ahead and take our morning break.
9 It's approaching 11:00.

10 So why don't we resume -- we'll resume at 11:15.
11 So we'll see everybody shortly. Thank you.

12 COURTROOM DEPUTY: All rise.

13 This Court stands in recess.

14 (Recess from 10:59 a.m. to 11:17 a.m.)

15 COURTROOM DEPUTY: All rise. The Honorable
16 Amit P. Mehta presiding.

17 THE COURT: Thank you, everyone. Please be
18 seated, everyone.

19 Mr. Maurer.

20 MR. MAURER: Thank you, Your Honor.

21 BY MR. MAURER:

22 Q Let's, if we could, Mr. Krueger, please look at
23 PSX433. It's the March 2020 email that we looked at
24 yesterday.

25 MR. MAURER: We can put up on the screen, please,

1 Mr. Schliesske.

2 BY MR. MAURER:

3 Q I believe it was the very first one in that
4 binder.

5 A Yep.

6 Q I want to direct your attention to the bottom
7 part. This is an email from you to Tareq Humphrey at
8 Microsoft; is that right?

9 A That's right.

10 Q And if we look at this bottom part, you are
11 explaining to Mr. Humphrey that the SA360 team has elected
12 to defer running Microsoft auction-time bidding auto test at
13 that time; is that right?

14 A That's right.

15 Q What did you tell him about whether or not you're
16 open to maybe doing it in the future?

17 A We said, "But remain open to revisiting this
18 feature based on customer demand in future planning cycles."

19 Q And the last sentence there, you say, you know,
20 "Additionally, for further considerations we would need to
21 see broadened support of features," and then you list some
22 things.

23 What were you telling Mr. Humphrey by that
24 sentence?

25 A That -- to build the feature there that we were

1 discussing, we would need to see fractional conversions and
2 the ROAS-based bidding strategies.

3 Q And when you say the "feature that you were
4 discussing," you mean Microsoft's auction-time bidding for
5 SA360?

6 A That's right.

7 Q Did the SA360 team ever tell Microsoft they were
8 not going to build Microsoft auction-time bidding for SA360?

9 A No.

10 Q And, in fact, as we understand it, that is
11 actually now in alpha testing; is that right?

12 A That's right.

13 Q Okay.

14 What would be the impact of not having fractional
15 conversions available for Microsoft or for Microsoft?

16 A A good portion of our customers that wanted to use
17 Microsoft auction-time bidding with their Floodlight data,
18 we wouldn't be able to get it into Microsoft so they
19 couldn't use the feature.

20 Q So for their -- there's some portion of customers
21 that would not be able to avail themselves of the feature.
22 Is that what I understand you to say?

23 A Correct.

24 Q And how does that impact the SA360 team's analysis
25 as to whether or not to build Microsoft auction-time

1 bidding?

2 A Well, we even -- well, that would mean that if we
3 built it, again, a good portion of the customers couldn't
4 even use it. That was the impact. So we -- you know,
5 beyond customer demand, it's more of a feasibility analysis
6 of would it work in our product based on how customers are
7 using it today.

8 Q You can put that to the side.

9 You were asked some questions about the G company
10 and the U company. Do you remember the email this morning?

11 And you said in your testimony that you had
12 received other feedback from other customers that wasn't
13 quite along the same lines. Do you recall that?

14 A I do.

15 Q So let me put it to you this way.

16 Did you ever receive feedback from advertisers who
17 tested the Microsoft auction-time bidding and were not
18 satisfied?

19 A We did.

20 MR. MAURER: May I approach, Your Honor?

21 THE COURT: Sure.

22 MR. MAURER: I'm going to hand up what's been
23 marked as PSX435.

24

25

1 BY MR. MAURER:

2 Q All right.

3 So this is confidential, and we're not going to
4 put it on the screen, and I'm going to ask you to be careful
5 not to use the advertisers' name, much as we did with the
6 other mail.

7 But can you explain what this is?

8 A If I recall correctly, this is emails from a
9 customer to our Google team explaining their experience
10 using Microsoft auction-time bidding, and it has a bunch of
11 information, but their -- what the test details was, the
12 results, and their final conclusions.

13 Q And if we look at their final thoughts, what was
14 the conclusion of this advertiser? This is on page 675 up
15 near the top.

16 A I could read it. It's only two sentences.

17 Q Well, I want to be careful not to -- can you
18 summarize it?

19 A Okay. I can summarize it.

20 They use the words "interesting, however, it's
21 lack of data exclusion abilities," I think I described that
22 one earlier.

23 I just want to make sure I'm not saying anything I
24 shouldn't.

25 "Coupled with cost-cutting type optimization led

1 to large decreases in conversion volume and revenue that we
2 found unacceptable." So they were not happy with their
3 experience using the feature.

4 Q You can put that to the side.

5 And now let's look at a new exhibit which I will
6 hand you which is PSX00572.

7 MR. MAURER: This one also is in evidence.

8 BY MR. MAURER:

9 Q What's the -- do you recognize this document?

10 A I do.

11 Q And it's an email chain. What's the date of it?

12 A November 12th of 2021.

13 Q And it's from Jolyn Yao.

14 Who is Jolyn Yao?

15 A She was a product manager on Search Ads 360 at the
16 time.

17 Q And what was the subject matter of this email?

18 A It was a launch email to our global team, so
19 sales, services, product engineering, announcing new, what
20 we call, other engine features in the new Search Ads 360 or
21 amalgam.

22 Q The subject here is: "Launched other engines
23 feature set in amalgam!"; is that right?

24 A That's right.

25 Q And as we discussed earlier, amalgam is the new

1 version, rewritten version of SA360, correct?

2 A That's right.

3 Q And I asked you about some Microsoft features in
4 there and you didn't recall.

5 But let me point you to a couple points and see if
6 this refreshes your recollection.

7 If we look on that first page right under the
8 TL;DR, what does that stand for in Google speak?

9 A Too long; didn't read.

10 Q All right. Sort of a summary?

11 A That's right.

12 Q Jolyn writes to this very long list of people that
13 they've launched a suite of 12 Microsoft and other engine
14 features in the new version of SA360. And is one of those
15 responsive search ads?

16 A That is, yes, it's there.

17 Q And if we go down, let's look at the second page,
18 there's a full list of bullet points, we don't need to look
19 at all of them, but I want to ask you to look at the third
20 bullet point on the second page, page sending in 749, what
21 feature is it that amalgam is reported to support there?

22 A "Now supports full management of dynamic search
23 ads for Microsoft and Yahoo! Japan."

24 Q And that's something that is newly supported in
25 the new SA360 but wasn't available in the prior one?

1 A That's right.

2 Q Was there any DSA availability -- or capability in
3 the prior version?

4 A Not that I'm aware of.

5 Q Let me point to where it says, "The dynamic search
6 ads continue to be read-only in the previous SA360";
7 is that right?

8 A Oh, I guess -- okay, yeah, I missed that part.

9 Yeah. So it sounds like read-only means that you
10 can report on that data, but you couldn't manage it. So to
11 do full management and you would have to use the new
12 platform so I correct myself.

13 Q And then the fourth bullet point, what does that
14 relate to?

15 A "Customers can opt their shopping campaigns
16 online."

17 Q Is this a local inventory support?

18 A Yes, that's a campaign type for Microsoft that we
19 would support.

20 Q And if we then go to the bottom of that second
21 page, there's a box underneath the heading, "Meet the team."
22 Do you see where I am?

23 A Yep.

24 Q And are you listed here?

25 A I'm under sales/G tech since I was in the GPL role

1 at the time, yes.

2 Q And the top row has a lot of names in it, it's
3 labeled "ENG." Who are those people?

4 A Those are our engineers.

5 Q And in your experience, how does this number of
6 engineers that were involved in this process compare to
7 other development efforts?

8 A This is a lot of engineers.

9 MR. MAURER: One second, Your Honor.

10 Thank you, Mr. Krueger.

11 THE COURT: All right. Thank you, Mr. Maurer.

12 Mr. Cavanaugh.

13 MR. CAVANAUGH: Thank you, Your Honor.

14 - - -

15 REDIRECT EXAMINATION

16 BY MR. CAVANAUGH:

17 Q Mr. Krueger, just a couple questions.

18 The exhibit, Exhibit 527, that counsel handed you,
19 yep, you got it, that's only for one month, right?

20 A Looks like the date range on this is 2019, October
21 10th, through 2019, November 11th.

22 Q So 34 days?

23 A Let me just see if there's anything -- yeah, that
24 seems about right.

25 Q And if you could just explain -- total spend, is

1 that the blue line?

2 THE COURT: I'm sorry, what are we looking at
3 again?

4 Oh, okay. Sorry. I wasn't with you.

5 So all right, 34 days. Got you.

6 MR. CAVANAUGH: Yeah. Got it.

7 BY MR. CAVANAUGH:

8 Q And the -- on the right -- on the left-hand side,
9 it says "total spend." What is meant by total spend?

10 A This is the total spend of all the campaigns in
11 the bid strategy across all of the engines that whatever --
12 however the customer configured it. So it could be Google,
13 Bing, Yahoo! or Baidu would be the limited set.

14 Q Worldwide?

15 A I'm sorry.

16 Q Worldwide or just U.S.?

17 A This is whichever customers used Google ads
18 auction-time bidding. So it would have been any customer
19 across the world, yeah.

20 Q So anyone using SA360?

21 A Only customers that had Bing spend in a bid
22 strategy where Google ads auction-time bidding was enabled
23 but I was mentioning other campaigns could be in there as
24 well.

25 Q So my question is are we talking about -- let me

1 just go back to my handy-dandy chart.

2 So are we talking about the total spend is what
3 went through SA360 or it's more than that?

4 A Specifically SA360 bid strategies, which are
5 individual entities, like there are multiple per advertiser
6 potentially, that had Google ads auction-time bidding
7 enabled that also had at least one Microsoft campaign in
8 that bid strategy.

9 Q Okay. One other question related to this, when we
10 were talking before about this, now when an advertiser goes
11 through SA360, that generates conversion data, doesn't it?

12 A The conversion data is -- yes, you have to be an
13 advertiser of ours -- well, sorry, I should clarify.

14 Floodlight data is a Google marketing platform
15 measurement product so you don't have to be an SA360
16 customer but you have to be a Google marketing platform
17 customer to use Floodlight, but generally a lot of our
18 customers use our product but not everybody.

19 Q Sure.

20 But if I'm using -- an advertiser is going through
21 SA360 and the campaign is out there, it's generating
22 conversion data within SA360, correct?

23 A If they set up Floodlight, yes.

24 Q Okay.

25 And that SA360 conversion data that's being

1 generated here in SA360, that can't be used by Microsoft's
2 auction-time bidding feature if the advertiser is seeking to
3 use that as well, right?

4 A They would have to take that data out of the
5 platform themselves and give it to Microsoft. But we did
6 not -- if you're talking about the 2019 time period, at the
7 time we did not have a feature that offered that service for
8 them.

9 Q You mentioned customers. Now, customers on SA360
10 are both Google and Microsoft advertisers, correct?

11 A Some of them only buy on Google, some of them
12 might only buy on Microsoft, some of them buy on both. And
13 some of them might not buy on either. Presumably they could
14 be only Yahoo! Japan as an example.

15 But there -- yeah. So the way we define our
16 customer is they have an advertiser set up in the account
17 and they're a contract holder of ours and that could be
18 directly with a retailer or that could be through an ad
19 agency or a partner.

20 Q But someone utilizing SA360 and paying the fee for
21 that is an advertiser who's interested in utilizing multiple
22 search engines, right?

23 A Generally speaking, yes.

24 Q When you were asked a question about when this
25 litigation was filed and they refreshed your recollection

1 that it was in December of 2020, can you tell us when the
2 States' investigation began?

3 A That, I don't know.

4 Q All right.

5 MR. CAVANAUGH: Your Honor, I'm being told I did
6 not move into admission 1194 which was the Google Chat.

7 THE COURT: Okay. It will be admitted.

8 MR. MAURER: No objection.

9 THE COURT: Okay. It will be admitted.

10 (Plaintiffs' Exhibit 1194
11 received into evidence.)

12 MR. CAVANAUGH: Nothing further.

13 Thank you very much.

14 THE COURT: All right.

15 MR. CAVANAUGH: Thank you, Mr. Krueger.

16 THE COURT: Mr. Krueger, thank you very much for
17 your time and testimony. Safe travels home.

18 MS. MURDOCK-PARK: Good morning, Your Honor.

19 Erin Murdock-Park on behalf of the United States.

20 THE COURT: Ms. Murdock-Park.

21 MS. MURDOCK-PARK: We are calling next Patrick
22 Chang as our witness and he is the former director at
23 Samsung NEXT.

24 And while we're getting him, I understand that
25 Google wants to put on the record its standing objection.

1 THE COURT: You can have a seat, Mr. Chang.

2 MR. MCGINNIS: Good morning, Your Honor.

3 Matt McGinnis on behalf of Google.

4 As Mr. Schmidtlein mentioned yesterday and if the
5 Court is okay with this, we'll just have a standing
6 objection to the extent there's any hearsay, and that will
7 hopefully prevent me during Ms. Murdock-Park's and the same,
8 and the opposite from us bumping up and down on hearsay
9 issues.

10 THE COURT: Sure. Okay.

11 MR. MCGINNIS: Thank you.

12 THE COURT: Thank you.

13 COURTROOM DEPUTY: Please stand and raise your
14 right hand.

15 (Witness is placed under oath.)

16 COURTROOM DEPUTY: Thank you.

17 THE COURT: All right. Mr. Chang.

18 THE WITNESS: Hello.

19 THE COURT: Welcome. Thank you for being here.

20 THE WITNESS: Thank you for having me.

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PATRICK CHANG, WITNESS FOR THE PLAINTIFF, SWORN

DIRECT EXAMINATION

BY MS. MURDOCK-PARK:

Q Good morning, Mr. Chang. My name is Erin Murdock-Park. I represent the United States. I'm going to ask you a few questions today.

You're a former employee of Samsung NEXT, correct?

A Correct.

Q And when you were at Samsung, did you recommend that Samsung invest in Branch Metrics?

A I did.

Q Very briefly, what is Branch Metrics?

A At the time of when we made the investment, Branch Metrics was a deep linking company that enabled linking between mobile applications.

Q And following your recommendation, did Samsung invest in Branch Metrics?

A Yes, Samsung did invest in Branch Metrics.

Q So we're going to discuss your time at Samsung NEXT and Branch Metrics today but a few preliminaries.

Are you represented by counsel today?

A I believe so, yes.

Q And who represents you?

A Crowell or Juan.

1 MS. WASZMER: I'm sorry for interrupting, but
2 we're having a little trouble hearing Mr. Chang so.

3 THE WITNESS: I'll speak louder. Sorry about
4 that.

5 THE COURT: If you would just speak into the
6 microphone.

7 THE WITNESS: Oh, speak into the microphone.

8 THE COURT: Unfortunately, the chair does not move
9 towards to the microphone.

10 THE WITNESS: I'll speak closer. I apologize.

11 BY MS. MURDOCK-PARK:

12 Q Did you say Crowell and Mr. Arteaga?

13 A Yes. Correct.

14 Q Thank you.

15 Do you know who's paying for your counsel today?

16 A I believe Samsung is.

17 Q Can you tell the Court briefly about your
18 educational background?

19 A Sure.

20 My educational background, went to undergrad.
21 I have an MBA, and, yeah, I studied finance and business.

22 Q And where is your MBA from?

23 A My MBA is from which Columbia University, Columbia
24 Business School.

25 Q When did you begin working at Samsung NEXT?

1 A I began working at Samsung NEXT in 2014.

2 Q At a high level, what is Samsung NEXT?

3 A Samsung NEXT has evolved over times, but when I
4 first joined, it was kind of in the inception of phases of
5 Samsung NEXT. But at a high level, Samsung NEXT was an
6 innovation arm for Samsung, really trying to focus on
7 capturing innovation within the Silicon Valley but also
8 enabling Samsung Electronics to tap into some of these key
9 technology partners.

10 Q Have you heard of it described as a corporate
11 venture capital firm?

12 A Yes.

13 So, you know, Samsung NEXT isn't -- as a whole,
14 when I joined, wasn't only just a corporate venture capital
15 firm. I was part of the venture capital team that was the
16 corporate venture capital arm of Samsung NEXT.

17 Q And, again, at a high level, can you explain what
18 a corporate venture capital firm is?

19 A In general, for corporate venture capital firms,
20 usually it's a venture arm within a big, you know, corporate
21 entity. Many firms have, you know, different focus areas.

22 You know, for us, at Samsung NEXT, we were
23 primarily looking to invest in, you know, very innovative
24 companies and, hopefully, independently can be successful;
25 but at the end of the day also serve -- you know adding

1 value back to Samsung by either partnerships, insights, and
2 many more.

3 Q And when you were at Samsung NEXT, what were your
4 job duties?

5 A When I was at Samsung NEXT, you know, the job
6 duties were really two prongs. One was sourcing,
7 diligencing, early stage companies, and, you know, making
8 sure that they had the right merits to be successful on
9 their own.

10 The second part of it was working very closely
11 with different business units within Samsung to see what
12 their priorities were and how can various different startups
13 that we potentially invest in or have seen in the market can
14 work with Samsung's business units.

15 Q What was your title when you left Samsung?

16 A I was a director within the Samsung NEXT ventures
17 team.

18 Q And when did you leave Samsung?

19 A I left Samsung in early 2021.

20 Q Did you continue to consult with Samsung after you
21 left?

22 A I consulted with Samsung only for a brief period
23 of time.

24 Q Do you have an understanding as to why you were
25 asked to continue consulting?

1 A It was for multiple reasons.

2 I was one of the early members of the team, but
3 also was there for a significant period of time with some of
4 the better performing companies within the portfolio but
5 also had established relationships between these portfolio
6 companies and Samsung's different business units.

7 So they wanted to keep that relationship going,
8 and I was helping Samsung, also advise them on some of these
9 collaborations but also technology insights.

10 Q Was one of those companies Branch Metrics?

11 A It was -- yeah, one of many.

12 Q What is your current job?

13 A Currently, I am the founder and managing partner
14 of Dispersion Capital, which is an early stage precede and
15 seed venture fund that invests in innovative companies from
16 day one.

17 But, yeah, we primarily focus on innovative
18 startups and, you know, luckily I was able to start this
19 fund, given, you know, close to 20 years of venture
20 experience and been very, very fortunate to have been able
21 to have invested in multiple companies that became from the
22 seed stage up to unicorn or even decacorn status.

23 Q And for the -- I guess, for clarification of the
24 Court, what is a unicorn or a decacorn?

25 A Yeah.

1 So in Silicon Valley terms, we use these phrases,
2 unicorn and decacorn, more so as companies that are valued
3 at over a billion dollars, which is a unicorn, and then
4 decacorns are companies that are valued close to or
5 exceeding \$10 billion.

6 Q Thank you.

7 Learn something new every day.

8 A Yeah.

9 Q In your job at Dispersion Capital, do you
10 currently work with anyone from Samsung?

11 A I do not work with anyone at Samsung in any
12 official capacity.

13 Q Do you work with anyone in an unofficial capacity?

14 A Sure.

15 Like I am really close with the Samsung NEXT team
16 still. We established a very good relationship.

17 One of my former colleagues within Samsung NEXT is
18 kind of, you know, still a mentor and unofficial advisor to
19 Dispersion Capital.

20 Q Is one of the individuals you work with -- who you
21 had worked with at Samsung NEXT David Eun?

22 A Yes, yes.

23 Q Who is David Eun?

24 A David Eun is the -- he was the former president of
25 Samsung NEXT but also the chief innovation officer of

1 Samsung Electronics.

2 Q Do you know if Mr. Eun ever worked at Google?

3 A Yes, he used to work at Google.

4 Q Do you have an understanding of what Mr. Eun's
5 role was when he worked at Google?

6 A I don't know the exact specifics of what Mr. Eun
7 worked -- yeah, what his responsibilities were at Google,
8 just what I've heard about his background.

9 Q Do you also work with Raymond Liao currently?

10 A Yes, I work with Raymond.

11 Q Who is Raymond Liao?

12 A So Raymond Liao is more the person I have more
13 regular conversations with, but he was the person that
14 I worked with hand in hand with at Samsung NEXT. At the
15 time, we covered the same area and I look to him while at
16 Dispersion as a, you know, technology specialist. He's more
17 the person that I was mentioning as acting as an unofficial
18 advisor.

19 Q And do you recall what Mr. Liao's title was when
20 he was at Samsung NEXT?

21 A Yes, he was an MD and vice president at Samsung
22 NEXT.

23 Q By "MD," do you mean managing director?

24 A Correct. Sorry, managing director.

25 Q And was Mr. Liao your first-level supervisor?

1 A Yes.

2 I mean, yeah, I don't exactly know the reporting
3 structure; but I believe he was, I guess, what you call
4 first level supervisor.

5 Q And I'm not asking for any specific investment
6 information about Dispersion, but did Dispersion Capital
7 receive any financing from Samsung or individuals associated
8 with Samsung?

9 A No. Dispersion Capital has zero dollars from
10 Samsung and Samsung employees.

11 Q And the same question for Google. Did Dispersion
12 Capital receive any financing from anyone associated with
13 Google?

14 A No, I do not believe -- yeah, Samsung -- I mean,
15 sorry, Dispersion does not have any investment from anyone
16 from Google or Google entities or anything related to Google
17 that I know of.

18 Q Thank you for confirming.

19 Mr. Chang, is one of -- you mentioned that Samsung
20 NEXT is a corporate venture capital firm. Is one of the
21 priorities of a corporate venture capital firm how
22 investments might be beneficial to the corporate parent?

23 A Sorry. Can you repeat that question?

24 Q Sure.

25 Is one of the considerations for investments at a

1 corporate venture capital firm whether an investment might
2 be beneficial to the corporate parent?

3 A Sure.

4 Well, from the whole scope of corporate venture
5 capital, some of them are structured where they're very --
6 they're what you call a strategic venture group where some
7 of the main priorities are the benefit to the corporate
8 mother ship.

9 Within Samsung NEXT, that was a key consideration.

10 Q At a high level, how would you decide which
11 companies to recommend for investment when you were working
12 at Samsung?

13 A When I was there -- the models changed
14 significantly.

15 But during my time at Samsung NEXT, the key
16 criteria for investment decisions was mostly based on the
17 company's merits themselves, where our main focus was always
18 around software innovation. That was what we leaned more
19 heavily on, that they were innovative software companies but
20 that they could be successful on their own with or without
21 Samsung's help.

22 Q Was one of your considerations as well the
23 consumer experience?

24 A Yes, consumers' experiences is one of the areas
25 that we take a look at or we consider.

1 Q Can you explain that a little bit more, how that
2 factored into your decision about recommending investments.

3 A You know, I don't know if we would say that
4 consumer experience was something that we, like, factored
5 in, but consumer experience can mean many different things.

6 But, you know, some of the stuff that we looked at
7 was around these portfolio companies; and if they could
8 help -- you know, what I would say consumer experiences is,
9 is help improve the lives of, you know, Samsung consumers
10 via either better technology, better UXUI, some sort of
11 value add could be really almost anything. It's a wide
12 ranging thing.

13 Q And when you say UXUI, can you please explain what
14 that is?

15 A Sorry, yeah. Just user experience and user
16 interface.

17 Q Why did you recommend that Samsung invest in
18 Branch Metrics?

19 A So the initial investment when we decided that
20 Samsung should invest in Branch Metrics was mostly based on
21 the -- you know, the potential technical innovation that
22 we believe that they had at the initial onset of the
23 investment.

24 During that time -- this was very, very early in
25 the kind of mobile app era, and they were seen as one of the

1 rising leaders in mobile deep linking, which was very, very
2 early in the phase.

3 Q You said very early in the app process.

4 Approximately, when did you first recommend that
5 Samsung invest in Branch?

6 A We were talking to Branch roughly right when I
7 joined around 2014 time frame, and we made the investment
8 after doing a few months of diligence in 2015, late 2015.

9 Q Did Samsung invest in Branch multiple times?

10 A We did. We participated -- well, Samsung NEXT
11 participated in multiple follow-on investments.

12 Q Who at Samsung made the decision to invest in
13 Branch?

14 A I made the recommendation to invest in Branch.
15 There's a few decision points that happened, but the team,
16 the Samsung NEXT ventures team approve the investment, which
17 then goes up and eventually David Eun approves, which then
18 goes up to Samsung Electronics to approve.

19 Q And without going into anything confidential, can
20 you please briefly explain the diligence process that you
21 went through when recommending that Samsung invest in
22 Branch.

23 A Sure.

24 You know, for Branch and any investments that
25 Samsung makes, usually they go through a rigorous diligence

1 process.

2 You know, first and foremost is always as I
3 mentioned is leaning more heavily towards technology, so
4 understanding deeply what technology that they had, why was
5 it interesting, and how could it be used in the real world.

6 And then secondly is understanding their --
7 depending on the stage of the company, if they have
8 commercial attraction and if they didn't, you know, what was
9 the likelihood of commercial attraction, who are their key
10 partners, what was the business model that was involved
11 here.

12 And then lastly, we discuss with potentially, you
13 know, while holding back some confidential information, we
14 talk to various different business units within Samsung to
15 just -- you know, we don't need their approval put we just
16 needed to see if it was something of interest for various
17 different Samsung groups, if it fit their products or it
18 didn't fit their products or if there was any potential
19 opportunity in the future to work with this company.

20 Q Who are your main contacts at Branch?

21 A I had multiple contacts at Branch. But when we
22 made the initial investment, it was Alex Austin.

23 Q And who is Alex Austin?

24 A Alex Austin was one of the cofounders and CEO of
25 Branch.

1 Q Have you heard the name Colin Behr before?

2 A Yes, of course.

3 Q Who's Colin Behr?

4 A Colin Behr was also another point of contact at
5 Branch Metrics.

6 At the time when we were interacting, I believe he
7 was VP -- I think his title was VP of partnerships but his
8 main focus area was around this product called Discovery.

9 Q And the Court has heard some testimony about
10 Discovery before but at a high level, can you please explain
11 what Discovery is?

12 A Yes.

13 Discovery also is a product that kind of evolved
14 over time.

15 But initially when Discovery was first started, it
16 was supposed to be targeted as a mobile app search product.

17 Q With respect to your role working with Branch
18 after you recommended investment, can you please explain a
19 little bit more of what you did?

20 A So do you mean what I did with Branch and how we
21 worked together or...

22 Q Yeah, if you could explain a little bit more to
23 the Court what your role was after Samsung invested in
24 Branch.

25 A Sure.

1 So my role, once we make an investment, regardless
2 if it's Branch or any company, is, we act as a -- kind of as
3 a outsource BDR for those companies but also for Samsung's
4 focus is almost like a partnership's tech sensing team as
5 well.

6 So we kind of sit as a middleman between our
7 portfolio companies and Samsung Electronics serving the
8 interests of both companies, where we want to see a lot of
9 our portfolio companies succeed, and we also, you know, as
10 investors, have the best interest in them, but at the same
11 time, we also want to make sure it makes sense for Samsung
12 Electronics.

13 Q Would you consider part of your role in working
14 with Branch Metrics as business development?

15 A Yes, that's -- it was one of many roles that I did
16 for Branch Metrics as an investor for Samsung NEXT.

17 Q Were you the main point of contact for Branch
18 Metrics from Samsung?

19 A I would say I was -- I don't know if I was their
20 main point of contact but I was their main point of contact
21 via the investments and for Samsung NEXT ventures.

22 Q Was Branch technology integrated on any Samsung
23 device in the United States?

24 A Yes.

25 So they -- initially it was released on the S10

1 device.

2 Q And what is the S10?

3 A The S10 is a flagship device, at the time, it was
4 the flagship device for Samsung Electronics, mobile device.

5 Q It's a mobile device, you said?

6 A It's a mobile device. Mobile phone.

7 Q Was Branch preloaded on the S10?

8 A Branch was integrated -- on the initial launch,
9 Branch was integrated within a product called S Finder.
10 The capabilities were preloaded.

11 Q Can you explain what S Finder is?

12 A S Finder is Samsung's own on-device search
13 product.

14 Q When did Branch begin to be integrated on S10
15 devices in the United States?

16 A So the process took quite a long time, but the --
17 I don't exactly remember the date on when S10 was launched.

18 Q Hopefully I'll show you something later that'll
19 refresh your memory.

20 Was Branch's full functionality integrated on S10
21 devices in the United States?

22 A Branch's full functionality that it was capable of
23 was not fully integrated.

24 Q Do you have an understanding as to why not?

25 A There was many -- it went through lots of

1 iterations, and, yes, there was many different reasons why
2 not all of the functionalities were integrated.

3 Q What were some of those reasons?

4 A Depending on what functionalities we're talking
5 about, but some of them point to UXUI, some of them point to
6 business reasons, some of them point to priorities within
7 Samsung.

8 Q And when you say business reasons, what do you
9 mean?

10 A You know, Samsung's a very, very big company and
11 there's lots of different stakeholders within Samsung. And
12 depending on, you know, various different groups which could
13 be some business groups and some of the products group, each
14 of them have different business priorities that they're
15 trying to work with.

16 Q With respect to the functionality that was
17 integrated on S10 devices, was the Discovery feature
18 integrated on S10 devices in the United States?

19 A Yes, the Discovery features were integrated into
20 the --

21 Q It was integrated in the S10?

22 A Yes.

23 Q Okay.

24 And could Discovery do off-device search
25 initially?

1 A No.

2 S -- within the S10 launch, the Discovery
3 off-device search was not -- as I recall, not integrated on
4 to the device at launch.

5 Q Was the functionality of Branch limited to certain
6 apps?

7 A Yes.

8 Q Can you please explain that a little bit more.

9 A Yeah, I don't exactly remember the number of apps.
10 But when Branch was launched -- or in discussion over the
11 many months of integration and vetting, there was a select
12 number of applications that Samsung had agreed to with
13 Branch that were going to be integrated within the
14 functionalities of the Discovery product that was integrated
15 within S Finder.

16 Q Switching topics a little bit, do you have an
17 understanding that Google and Samsung had a revenue share
18 agreement?

19 A I understood that Google and Samsung had an
20 agreement, but I do not know the details of any revenue
21 share or the exact specifics of the agreement.

22 Q To your knowledge, did Google and Samsung have an
23 agreement in effect when Branch was implemented on S10
24 devices in the United States?

25 A In general, I knew that Samsung and Google had an

1 agreement.

2 When Branch was launched, yes, there was an
3 agreement in place.

4 Q Do you know whether there is a carve-out in the
5 Samsung-Google agreement for -- that permitted Branch to be
6 preloaded on Samsung devices?

7 A There was a carve-out that we worked with in a --
8 in an early iteration of the agreement, but it was more
9 focused around flexibility for Samsung. And one of them, it
10 was inspired by Branch Metrics. So as an investor for
11 Branch Metrics, we were hoping that it left some room for
12 Branch Metrics to be integrated into Samsung devices.

13 Q You mentioned "we." Who is we?

14 A Sorry.

15 We as in Samsung NEXT ventures.

16 Q Who drafted the carve-out, was that Samsung NEXT?

17 A The exact -- so our focus was very narrow and it
18 was only around this carve-out.

19 The carve-out was drafted by Samsung NEXT.

20 Q So I'd like to walk through a few documents about
21 Branch and your experience trying to get Branch implemented,
22 and so I have a binder of documents for you.

23 MS. MURDOCK-PARK: May I approach, Your Honor?

24 THE COURT: You may.

25

1 BY MS. MURDOCK-PARK:

2 Q And I'd like you to first turn to PSX952.

3 MS. MURDOCK-PARK: And we have worked out
4 confidentiality, Your Honor, with Samsung, and these are all
5 redacted versions that we'll be using today.

6 THE COURT: Terrific. Thank you.

7 BY MS. MURDOCK-PARK:

8 Q And, Mr. Chang, we'll have the document in the
9 binder in front of you and on the screen as well if that's
10 easier.

11 A Got it.

12 Q Did you draft PSX952?

13 A I did. I was one of the main authors of this
14 document.

15 Q Approximately when was PSX952 drafted?

16 A This was roughly -- you know, I don't recall the
17 exact date of when it was drafted, but somewhere around
18 after July 2020.

19 Q Why did you draft PSX952?

20 A The reason for drafting this document was to give
21 a few executives and many different parties involved a brief
22 summary of the history -- or like a more exhaustive summary
23 of the history of our efforts as an investment group and
24 Branch Metrics, and their, over the years, relationship and
25 discussions with Samsung.

1 Q And you mentioned some executives. Did you share
2 PSX952 with these executives?

3 A We shared this with executives internally of
4 Samsung NEXT from what I recall.

5 Q Who are some of the executives that you shared the
6 document with?

7 A The executive that I believe this was shared with
8 was David Eun, who was the President, and the head of
9 Samsung NEXT ventures, Brendon Kim, and also Raymond Liao.

10 Q Now, on the first page of PSX952, you listed
11 directory of people towards the top. Do you see that?

12 A Yes, I see this.

13 Q Can you please explain why you listed these
14 individuals?

15 A Yes.

16 These individuals were individuals that had
17 discussion with Samsung NEXT -- I'm sorry, with Branch
18 Metrics over the years.

19 Q And if we could zoom in on the strategy and
20 S Finder.

21 What is the strategy team?

22 A You are speaking of the individuals under strategy
23 team?

24 Q Broadly speaking, you'd mentioned business units
25 earlier?

1 A Right.

2 Q Is the strategy team one of the business units to
3 which you were referring?

4 A You know, I don't think the strategy team is
5 considered a business unit per se. They are a group that
6 does more generalized product strategy.

7 I believe the people listed under here were
8 focused around multiple strategies, so they worked under the
9 mobile division.

10 Q And you also list S Finder. What is the S Finder
11 team?

12 A The S Finder team here were the actual product
13 owners of S Finder. So it ranged from the executive that
14 was responsible for S Finder and also many individual
15 contributors who may have been developers that worked on
16 S Finder.

17 Q Who was in charge of the S Finder team?

18 A From a product and -- a product development
19 perspective, it was VP Sally listed here.

20 Q And were the strategy team and the S Finder team
21 based out of Korea?

22 A Correct, they were based out of Korea.

23 Q If we can go to page 2, there is an entry
24 March 2017 towards the top of the page. And it starts with
25 "JK Shin/Peter Koo meeting with DE for follow-on

1 investment."

2 Who are JK Shin and Peter Koo?

3 A I don't exactly remember their titles, but
4 I believe JK Shin was the head of mobile at that time. But
5 I could be incorrect.

6 And Peter Koo was one of the -- I believe, one of
7 the senior directors of kind of partnership -- I don't
8 exactly remember his title.

9 But both of them were executives within Samsung.
10 And this was during that time where we needed executive
11 approvals.

12 Q And who is "DE" that's listed?

13 A DE is short for David Eun.

14 Q The second bullet says that "Peter Koo, Yejin Lee,
15 and DJ Koh all gave their approval on the investment."

16 Who is DJ Koh?

17 A At that time, I don't exactly remember DJ Koh's
18 title. But by the time I left, he was one of the CEOs of
19 Samsung Mobile.

20 Q And when you say "approval on the investment," are
21 you referring to Branch Metrics?

22 A Correct.

23 Q If we can go now to the bottom of page 2 and the
24 top of page 3 which is the September 2017 entry.

25 You write, "Google MDSA carve-out specifically for

1 Branch."

2 Is that the carve-out that we were discussing a
3 few minutes ago?

4 A Yes.

5 Q In the first bullet you wrote "future-proofing,"
6 and the remainder of the bullets are redacted so I ask you
7 not to reveal anything confidential.

8 A Sure.

9 Q But what did you mean when you wrote
10 "future-proofing" under Google MDSA carve-out specifically
11 for Branch?

12 A So here, this is exactly what I was speaking about
13 earlier, was that this was not really specifically for
14 Branch despite it saying specific for Branch.

15 For future-proofing, it really more meant that we
16 were trying to keep things a little more vague so that
17 Samsung could have more flexibility in creating various
18 different products or features that would enable things that
19 helped the topics that are listed in the redacted portions.

20 Q And because this is listed under Google MDSA, was
21 future-proofing an attempt to avoid conflicting with the
22 Google agreement?

23 A Yes.

24 So I think -- I don't know if it meant that it was
25 trying to avoid conflicting with the Google agreement.

1 I think it was more trying to give us the flexibility to do
2 things and which, when trying to do flexibility, is, you
3 know, Samsung honors their agreement so they don't want to
4 conflict with any type of agreements so that's why there's a
5 carve-out.

6 Q So they don't want to conflict with any type of
7 agreement, including the Google agreement?

8 A Potentially, yes.

9 Q And if we can show pages 4 and 5, there's several
10 meetings listed in Suwon. Is Suwon where Samsung
11 headquarters is located in Korea?

12 A Correct.

13 Q It looks like Alex Austin is listed as one of the
14 attendees at some of those meetings, right?

15 A Yes. I see that.

16 Q And he's an attendee at some of the meetings also
17 on page 5, it looks like in Barcelona. Nice place to go for
18 a meeting.

19 The top of page 5, you write, "Meeting resulted in
20 the Finder team being satisfied with the quality of Branch
21 results and agreeing to launch the service on the
22 Samsung S10."

23 When you wrote PSX952, was the S Finder team
24 satisfied with the quality of Branch's results?

25 A When I wrote this document, it depends.

1 So the product, when I wrote this document, was
2 different from the product that we highlighted here in this
3 bullet.

4 Q What product are you referring to?

5 A The Discovery product.

6 Q Okay.

7 So the bullet on page 5 of PSX952 refers to the
8 Discovery product?

9 A Correct, yes.

10 The Discovery product is the product that was
11 integrated into Finder.

12 Q And on page 5, under January 2019, the next bullet
13 down, you write, "Various conversations between Samsung,
14 Branch, and carriers (T-Mobile, Verizon, AT&T) to discuss
15 approval of the product for launch. There were more than
16 ten separate calls and in-person meetings."

17 Did you attend some of those calls and meetings
18 with carriers?

19 A Yes. I attended only a handful of meetings with
20 carriers.

21 Q What do you recall about those meetings with
22 carriers in the winter of 2019?

23 A My responsibility within, you know, Samsung NEXT
24 and, you know, where I kind of mention where we sit is
25 playing this middleman role in trying to get our portfolio

1 companies the highest likelihood of success in integrating
2 with Samsung products. And Samsung has a very complex
3 business relationship with multiple different parties.

4 During -- you know, at this time, where, you know,
5 Samsung has these discussions with carriers, it's around,
6 you know, product discussions.

7 My role in these discussions were more trying to
8 advocate why Branch made sense to be integrated within
9 Samsung.

10 So it was mostly kind of one-sided discussion with
11 me and a carrier.

12 Q Do you recall carriers expressing concerns with
13 Branch integration on their products?

14 A I personally never heard those directly.

15 Anytime I heard anything on carriers about having
16 concern with Branch Metrics were through the team that was
17 responsible for the -- the people that were actually
18 responsible for the Samsung and carrier relationships.

19 Q Who were the people who were responsible for the
20 Samsung carrier relationships?

21 A So there's a team within this entity called SCA.
22 I believe it means Samsung Electronics America. And they
23 handle all the business relationships between Samsung and
24 the carriers.

25 I don't remember all the people that are

1 responsible for it, but there's a lot -- it's what I think
2 was a big team.

3 Q And you said that you heard from those individuals
4 about concerns. What is your understanding of why carriers
5 had concerns with integrating Branch?

6 THE COURT: I'm sorry. Could we specify a time
7 when these concerns were raised with him? Are we still
8 talking about January 2019?

9 MS. MURDOCK-PARK: Yes, Your Honor, the winter of
10 2019.

11 THE COURT: Okay.

12 THE WITNESS: Yes.

13 Again, you know, where we sat, we -- we heard --
14 since we were not responsible for any of these business
15 relationships between Samsung and the carriers, we go out
16 and talk to the various teams that are responsible.

17 And the feedback that we heard were that it
18 conflicted with their existing agreement -- I'm sorry.
19 Those Samsung team members said the carriers said it
20 conflicted with their existing potential agreements.

21 BY MS. MURDOCK-PARK:

22 Q Potential agreements with Google?

23 A Yes, that was one of them.

24 MS. MURDOCK-PARK: And, Your Honor, I move to
25 admit PSX952.

1 MR. MCGINNIS: Subject to our standing objection
2 with respect to embedded hearsay, no other objection.

3 THE COURT: Okay.

4 All right. So 952 will be admitted.

5 (Plaintiffs' Exhibit PSX952
6 received into evidence.)

7 BY MS. MURDOCK-PARK:

8 Q And you can go ahead and put PSX952 aside.

9 And I'm going show you UPX686, and this is a
10 February 2019 email chain with the top email from David Eun.

11 And you're cc'ed on this, Mr. Chang? Do you see
12 that?

13 A Yes.

14 I'm going to review this document really quickly.

15 Q Please.

16 A Okay.

17 Q And the subject of UPX686 is "Branch collaboration
18 update and help request."

19 A Yeah.

20 Q We could go to page 5. And there's an email from
21 you at 1:53 p.m. to Mr. Eun. And you're asking him for help
22 connecting with Travis Warren and Justin Denison.

23 Are those two of the individuals who were part of
24 the Samsung Electronics America team responsible for
25 carriers?

1 A From my memory, I believe they were. They were
2 one of the team members responsible for carriers. But
3 I'm not exactly sure today.

4 Q Why were you asking Mr. Eun for help connecting
5 with Travis Warren and Justin Denison?

6 A I think here -- you know, I did not have an
7 established relationship with Travis or Justin. And I was
8 asking David, as a senior executive, to discuss Branch
9 Metrics with these individuals.

10 Q You write under "Barriers -- carriers blocking
11 Branch's search product from S10 Finder. Carriers believe
12 it violates their agreement with Google (rev share search
13 rev)"?

14 A Right.

15 Q Why were you explaining these barriers to Mr. Eun?

16 A I believe, from my memory, when I was writing this
17 email, we came across challenges with the carriers.

18 And if you see from a follow-up email later, what
19 we're more talking about -- what we're really talking about
20 here was the carriers had concerns it cannibalized their
21 existing search revenues.

22 Q And which e-mail email are you referring to?
23 We can pull it up on the screen.

24 A The email on February 3rd, 2019.

25 Q Is it on page --

1 A Oh --

2 Q -- 3?

3 A 1, 2, 3 -- 4.

4 Q The one that you sent at 9:11 p.m.?

5 A February 3rd, 11:29 p.m.

6 THE COURT: Sorry. What exhibit are we on?

7 Oh, we're moving forward in this.

8 No? We're in a different exhibit.

9 MS. MURDOCK-PARK: We're moving, I guess, back
10 towards the beginning of the exhibit, of UPX686. I want to
11 make sure we're all looking at the same thing.

12 THE WITNESS: 686, yes.

13 MS. MURDOCK-PARK: The bottom of the page is -130.

14 Okay. I see.

15 THE COURT: Right. I was there but then he was
16 referring to another --

17 THE WITNESS: I was referring to this email on
18 bottom of 130 where --

19 THE COURT: Okay.

20 THE WITNESS: Yes.

21 BY MS. MURDOCK-PARK:

22 Q If we could pull up, please, page 4, the bottom
23 half of the screen. And you said your 11:29 p.m. email,
24 Mr. Chang?

25 A Yes. Correct.

1 Q And you referred to "carriers being concerned
2 about cannibalizing revenue"?

3 A Correct.

4 Q Can you explain that a little bit more?

5 A So I don't exactly know any of the agreements
6 between Google and the carriers. But from the information
7 that was told to me from other team members from
8 Samsung's -- you know, what I'm currently calling "carrier
9 team." I don't exactly remember what the team was called.
10 They relayed to me that they generate revenue from search
11 and that this product potentially may take away revenue from
12 that search.

13 Q What was your response to these carrier concerns
14 about cannibalizing Google revenue?

15 A Our response was -- well, my response to the
16 concerns was that Branch Metrics operated in a space that is
17 more seen as app search, and it was not anything web
18 related, and that this would only complement their revenue.
19 So the carriers would actually see more money coming in
20 rather than cannibalizing any of their existing search
21 revenue.

22 Q If we could go to the top of page 2 of UPX686.

23 And Mr. Eun had asked you for a one-sentence
24 explanation of Branch. Do you see that?

25 A I see this, yes.

1 Q And did you send him that explanation?

2 A I did send him that explanation.

3 Q I'm actually going to point you to page 1, where
4 Mr. Eun tweaked your description of Branch.

5 And he wrote, "How about 'Branch is a service that
6 allows apps to link and have the current within the app
7 searched.' It is not possible for Google Search to crawl
8 inside apps, which makes this a huge potential opportunity
9 as well as a complement to Google Search."

10 Do you agree with Mr. Eun's description of Branch?

11 A Yes, I think it is an accurate description of what
12 Branch does, and you know, from his commentary at the end,
13 you know, where we sat, you know, this was subjective but we
14 thought it was a big opportunity, correct, yeah.

15 Q In February 2019, to your understanding, was
16 Google Search able to crawl inside apps?

17 A From our understanding, you know, obviously
18 I didn't work at Google or understand the true capabilities
19 of what Google Search could do.

20 But from where I sat in an understanding of the
21 Google product was that it did not have the capability to
22 search within inside-app content.

23 MS. MURDOCK-PARK: And we can put UPX686 aside and
24 I move to admit.

25 THE COURT: So it's moved in subject to the

1 standing objection.

2 MS. MURDOCK-PARK: Yes. Thank you, Your Honor.

3 (Plaintiffs' Exhibit UPX686
4 received into evidence.)

5 BY MS. MURDOCK-PARK:

6 Q Do you have an understanding if Samsung wanted to
7 limit the scope of Branch features on the S10 as
8 implemented?

9 A Yes, Samsung's product team had interest in
10 limiting the scope, correct.

11 Q Why did they have an interest in limiting the
12 scope?

13 A You know, I think it had multiple different
14 factors involved. One from a product perspective and
15 another from a business perspective.

16 Q What was the concern from a business perspective?

17 A From a business perspective, Samsung had multiple
18 different teams working on new business agreements and new
19 type of services, and they were looking to integrate
20 S Finder directly with certain applications, mainly big
21 applications and having their own direct rev share
22 agreements with them.

23 Q I'd like to fast-forward in time a little bit to
24 July 2020. Was the S Finder integrated on S10 devices by
25 that point in time?

1 A January 2020?

2 Q I'm sorry, July 2020.

3 A July 2020?

4 Yes -- yes, it was integrated within S Finder --

5 Q To your understanding --

6 A -- I believe.

7 Q -- was Samsung negotiating a new agreement with
8 Google in July 2020?

9 A I believe so, yes.

10 I think during that time, Samsung was in
11 negotiations with Google on a new agreement.

12 Q I'd like to show you UPX663.

13 And this appears to be a chat or a Slack message
14 between you and Jeff Chen on July 28th, 2020. Who is Jeff
15 Chen?

16 A Jeff Chen was the Chief of Staff for David Eun.

17 THE COURT: I'm sorry, for who?

18 THE WITNESS: David Eun.

19 THE COURT: Oh, okay.

20 BY MS. MURDOCK-PARK:

21 Q And I'd like to draw your attention to your longer
22 chat at 2:47 a.m.

23 And you write at first, "But I believe we need
24 DE's intervention here since this is ultra time-sensitive."

25 What was time-sensitive?

1 A You know, at the time when I sent this message,
2 you know, we get most of our information from, you know,
3 various different parties in Korea that work with various
4 different team members.

5 You know, I had gotten information from Harry, who
6 is a colleague of mine based in Korea, who interacts with a
7 lot of the various different team members from business
8 units to partnerships team and contract negotiation team.

9 And the information that I was getting from him,
10 I thought it was an urgent matter to discuss certain
11 agreements that may impact Branch's likelihood of being
12 integrated into S Finder.

13 Q And you referenced Harry. Is that Harry Eun?

14 A Harry Eun, correct.

15 Q You go on to write, "When Jim was here in the last
16 negotiations, he carved out for me Branch in app content
17 search."

18 Who is Jim?

19 A Jim was a former team member at Samsung NEXT. He
20 was part of the partnership's team and one of the
21 individuals that helped create that carve-out that we
22 discussed earlier in a previous exhibit.

23 Q And you write, "The current agreement is looking
24 like Google will own all search on device. Samsung is
25 allowed to do search as long as it doesn't connect to the

1 Internet or ping a server. Only look at things on device
2 such as messages, settings, et cetera. This will completely
3 kill all potential for any Branch search and other future
4 services."

5 What did you mean by the current agreement?

6 A Again, you know, so we never exactly -- you know,
7 I personally never exactly looked at any of the Google
8 agreements. But, you know, I was reacting here from what
9 Harry had told me about what the potential Google agreement
10 could look like.

11 And from what I was told, you know, here,
12 I thought that he meant that Samsung was not going to be
13 allowed to do any type of connected Internet or ping a
14 server-type of searches, which I thought, at that time,
15 would impact Branch Metrics' capability and product.

16 Q Was Samsung allowed to preload connected search
17 products under the 2017 Samsung-Google agreement?

18 A I think so.

19 I don't know the exact whole scope of it. But
20 I thought that carve-out that we had put in place allowed
21 for it.

22 Q And your last sentence you write, "But all this
23 will be killed if this Google agreement happens"?

24 A Right.

25 Q What did you mean by "all this will be killed"?

1 All of Branch?

2 A I think it -- what I was stating here is the
3 efforts would be killed, you know, it was something that we
4 worked on for so many years, getting Branch integrated into
5 the Samsung devices. And the information that we were being
6 told, I had thought that potentially all of this work that
7 we've been doing in efforts on getting this collaboration to
8 happen would end.

9 MS. MURDOCK-PARK: And we can put 663 aside and I
10 move to admit.

11 THE COURT: 6 -- 663 will be admitted.

12 (Plaintiffs' Exhibit 663
13 received into evidence.)

14 MS. MURDOCK-PARK: And, Your Honor, I'm about to
15 move to another document and I know it's our lunchtime.

16 THE COURT: Why don't we go ahead and take our
17 lunch break. We'll resume at 1:30.

18 Mr. Chang, we're going to break now for lunch.
19 And during your lunch break, I will ask you to please not
20 discuss your testimony with anyone.

21 THE WITNESS: Yes, sir.

22 THE COURT: See everybody at 1:30.

23 COURTROOM DEPUTY: All rise. This Court stands in
24 recess.

25 (Recess from 12:29 p.m. to 1:30 p.m.)

C E R T I F I C A T E

I, William P. Zaremba, RMR, CRR, certify that the foregoing is a correct transcript from the record of proceedings in the above-titled matter.

Date: October 5, 2023



William P. Zaremba, RMR, CRR

<p>BY MR. CAVANAUGH: [12] 4404/13 4410/12 4412/20 4414/14 4415/12 4415/19 4416/22 4421/13 4428/19 4430/8 4477/16 4478/7</p> <p>BY MR. MAURER: [16] 4434/7 4436/15 4441/4 4446/2 4446/8 4450/7 4451/12 4453/22 4458/5 4459/4 4461/20 4469/5 4469/21 4470/2 4472/24 4474/8</p> <p>BY MS. MURDOCK-PARK: [9] 4483/4 4484/11 4500/25 4501/7 4509/21 4510/7 4512/21 4515/5 4516/20</p> <p>COURTROOM DEPUTY: [7] 4403/2 4403/6 4469/12 4469/15 4482/13 4482/16 4519/23</p> <p>MR. CAVANAUGH: [17] 4403/22 4403/25 4415/17 4416/14 4416/19 4428/17 4430/7 4433/23 4440/25 4445/24 4461/10 4461/15 4477/13 4478/6 4481/5 4481/12 4481/15</p> <p>MR. MAURER: [18] 4403/12 4403/14 4436/14 4446/6 4450/6 4453/2 4458/3 4459/2 4461/8 4461/12 4469/1 4469/20 4469/25 4472/20 4472/22 4474/7 4477/9 4481/8</p> <p>MR. MCGINNIS: [3] 4482/2 4482/11 4510/1</p> <p>MS. BELLSHAW: [1] 4434/2</p> <p>MS. MURDOCK-PARK: [12] 4481/18 4481/21 4500/23 4501/3 4509/9 4509/24 4512/9 4512/13 4514/23 4515/2 4519/9 4519/14</p> <p>MS. WASZMER: [1] 4484/1</p> <p>THE COURT: [63] 4403/4 4403/13 4403/20 4403/24 4404/5 4409/3 4411/10 4411/23 4412/8 4412/11 4412/18 4413/6 4413/18 4413/25 4415/11 4415/18 4416/16 4419/9 4420/17 4421/12 4433/25</p>	<p>4434/3 4436/13 4444/23 4445/17 4451/2 4451/8 4453/3 4458/25 4459/3 4461/11 4461/17 4469/7 4469/17 4472/21 4477/11 4478/2 4481/7 4481/9 4481/14 4481/16 4481/20 4482/1 4482/10 4482/12 4482/17 4482/19 4484/5 4484/8 4500/24 4501/6 4509/6 4509/11 4510/3 4512/6 4512/15 4512/19 4514/25 4516/17 4516/19 4519/11 4519/16 4519/22</p> <p>THE WITNESS: [26] 4409/8 4411/18 4412/2 4412/10 4412/16 4413/12 4413/19 4414/7 4419/15 4420/22 4445/4 4445/18 4451/5 4451/9 4453/9 4482/18 4482/20 4484/3 4484/7 4484/10 4509/12 4512/12 4512/17 4512/20 4516/18 4519/21</p> <hr/> <p>\$</p> <p>\$10 [1] 4488/5 \$10 billion [1] 4488/5</p> <hr/> <p>'</p> <p>'Branch [1] 4514/5</p> <hr/> <p>0</p> <p>02199 [1] 4401/8 0340 [1] 4400/4</p> <hr/> <p>1</p> <p>10/28 [1] 4421/23 100 [1] 4420/2 100,000 [1] 4428/12 10036-6710 [1] 4400/19 10:59 [1] 4469/14 10th [1] 4477/21 11/13 [1] 4447/11 11/16 [1] 4422/8 110 [2] 4420/3 4421/3 1100 [1] 4400/3 1133 [1] 4400/18 1194 [2] 4481/6 4481/10 11:00 [1] 4469/9 11:15 [1] 4469/10 11:17 [1] 4469/14 11:29 p.m [2] 4512/5 4512/23 11th [1] 4477/21 12 [1] 4475/13 12:29 [1] 4519/25 12th [1] 4474/12 13 [1] 4447/11</p>	<p>130 [2] 4512/13 4512/18 1300 [1] 4400/14 15 [1] 4450/23 16 [1] 4422/8 17 [1] 4399/7 18 [1] 4428/22 1:30 [3] 4519/17 4519/22 4519/25 1:53 [1] 4510/21</p> <hr/> <p>2</p> <p>2/18 [1] 4428/22 20 [2] 4450/23 4463/2 20 percent [1] 4450/23 20 years [1] 4487/19 20-3010 [2] 4399/4 4403/7 20001 [1] 4401/14 20024 [1] 4401/4 2014 [2] 4485/1 4493/7 2015 [2] 4493/8 4493/8 2016 [1] 4468/18 2017 [4] 4468/19 4503/24 4504/24 4518/17 2019 [25] 4428/3 4436/7 4436/14 4440/12 4440/13 4444/21 4447/3 4447/23 4454/19 4454/21 4455/19 4455/20 4462/18 4463/6 4468/1 4477/20 4477/21 4480/6 4507/12 4507/22 4509/8 4509/10 4510/10 4511/24 4514/15 202 [4] 4400/4 4400/8 4401/4 4401/15 2020 [25] 4416/13 4423/22 4427/4 4427/12 4427/16 4436/7 4436/14 4436/19 4444/21 4454/21 4454/22 4455/20 4458/24 4462/12 4462/16 4462/20 4469/23 4481/1 4501/18 4515/24 4516/1 4516/2 4516/3 4516/8 4516/14 2020H1 [1] 4463/14 2020H2 [1] 4463/16 2021 [7] 4429/18 4430/15 4434/19 4435/10 4435/25 4474/12 4486/19 2023 [2] 4399/5 4520/7 20530 [1] 4400/8 212 [1] 4400/20 2200 [1] 4400/19 26th [1] 4447/2 2793 [1] 4400/20 28 [1] 4421/23 28th [1] 4516/14 29.9 [1] 4419/20</p>	<p>2:47 [1] 4516/22</p> <hr/> <p>3</p> <p>3010 [2] 4399/4 4403/7 307-0340 [1] 4400/4 311 [2] 4448/3 4450/3 312 [2] 4448/4 4449/6 3249 [1] 4401/15 333 [1] 4401/14 335-2793 [1] 4400/20 34 [2] 4477/22 4478/5 354-3249 [1] 4401/15 360 [5] 4419/20 4438/20 4468/5 4474/15 4474/20 3rd [3] 4423/22 4511/24 4512/5</p> <hr/> <p>4</p> <p>434-5000 [1] 4401/4 441 [2] 4404/4 4416/21 445-8082 [1] 4400/8 448 [1] 4428/16 450 [1] 4400/7 457 [2] 4404/4 4462/12 462 [2] 4404/4 4459/2 4891 [1] 4430/21 4892 [1] 4432/3 4893 [1] 4432/17</p> <hr/> <p>5</p> <p>50 [1] 4403/22 50/50 [1] 4403/22 5000 [1] 4401/4 508-6000 [1] 4400/15 527 [1] 4477/18 571 [1] 4404/4 586 [2] 4403/17 4415/13 586A [2] 4416/14 4416/17 5th [1] 4400/7</p> <hr/> <p>6</p> <p>6000 [1] 4400/15 617 [1] 4401/9 645 [1] 4404/4 663 [3] 4519/9 4519/11 4519/12 668 [1] 4454/18 6710 [1] 4400/19 675 [1] 4473/14 680 [1] 4401/3 686 [1] 4512/12</p> <hr/> <p>7</p> <p>7000 [1] 4401/9 720 [1] 4400/15 740 [2] 4463/19 4463/19 746 [1] 4464/19 748 [1] 4465/9 749 [1] 4475/20 75 [2] 4420/2 4420/5 7th [1] 4400/14</p> <hr/> <p>8</p> <p>800 [1] 4401/8 80203 [1] 4400/15</p>	<p>8082 [1] 4400/8 892 [1] 4439/12</p> <hr/> <p>9</p> <p>904 [2] 4421/20 4423/21 906 [2] 4417/17 4419/8 907 [1] 4417/4 951-7000 [1] 4401/9 952 [1] 4510/4 9:11 p.m [1] 4512/4 9:30 [1] 4399/6</p> <hr/> <p>A</p> <p>a.m [4] 4399/6 4469/14 4469/14 4516/22 A360 [1] 4446/15 Aaron [2] 4401/2 4403/14 abilities [1] 4473/21 able [12] 4410/8 4422/7 4423/2 4432/1 4456/6 4457/14 4457/15 4471/18 4471/21 4487/18 4487/20 4514/16 about [65] 4405/17 4406/1 4407/20 4408/13 4421/22 4423/9 4426/15 4428/5 4429/3 4430/9 4431/11 4434/17 4436/24 4437/25 4438/19 4438/21 4441/2 4444/9 4447/7 4448/17 4450/15 4451/21 4451/23 4454/20 4455/19 4455/20 4456/21 4457/7 4458/6 4458/19 4459/13 4459/14 4460/7 4464/20 4465/12 4465/18 4470/15 4472/9 4475/3 4477/24 4478/25 4479/2 4479/10 4480/6 4480/24 4484/3 4484/17 4489/8 4490/6 4492/2 4495/9 4498/5 4500/20 4505/12 4507/21 4508/15 4509/4 4509/8 4511/19 4511/19 4513/2 4513/14 4514/5 4518/9 4519/14 above [2] 4449/13 4520/4 above-titled [1] 4520/4 access [2] 4412/11 4412/12 account [3] 4409/12 4417/18 4480/16 accurate [5] 4413/25 4414/12 4450/10 4451/10 4514/11 acquisition [4] 4419/17 4419/21 4419/24 4420/21</p>
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A	4435/25 4437/5 4439/19 4441/5 4441/6 4441/21 4444/4 4444/9 4445/23 4447/15 4447/23 4450/16 4452/14 4453/18 4453/19 4454/5 4454/6 4454/23 4456/1 4456/4 4456/9 4457/3 4460/5 4461/6 4461/14 4463/6 4466/20 4468/15 4471/10 4471/25 4472/23 4473/5 4474/25 4478/23 4480/3 4480/14 4481/22 4482/4 4485/10 4485/13 4486/24 4488/2 4489/16 4489/17 4489/17 4491/22 4492/25 4494/2 4495/16 4496/2 4496/2 4496/4 4496/6 4496/9 4496/14 4496/16 4497/24 4499/3 4500/10 4500/15 4501/9 4501/23 4506/13 4511/8 4513/17 4514/9 4514/9 4515/7 4517/25 4517/25 4518/2 Asia [1] 4462/4 aside [3] 4510/8 4514/23 4519/9 ask [17] 4411/10 4417/3 4417/13 4444/24 4451/23 4454/4 4458/7 4459/14 4462/5 4464/7 4465/5 4465/19 4473/4 4475/19 4483/7 4505/6 4519/19 asked [20] 4423/15 4426/21 4436/6 4439/12 4442/16 4450/8 4451/21 4452/16 4454/20 4455/14 4458/6 4459/12 4459/13 4465/12 4465/17 4472/9 4475/3 4480/24 4486/25 4513/23 asking [13] 4452/8 4459/19 4459/21 4462/2 4464/23 4465/3 4466/22 4466/24 4467/4 4490/5 4510/21 4511/4 4511/8 asks [1] 4430/23 assess [1] 4436/3 associated [2] 4490/7 4490/12 assume [2] 4412/22 4438/23 assumed [1] 4424/5 attach [1] 4422/4 attempt [1] 4505/21 attend [1] 4507/17	4442/24 4443/10 4447/24 4449/7 4449/10 4449/14 4449/17 4452/6 4452/10 4452/15 4452/25 4453/7 4453/12 4453/19 4454/6 4454/9 4455/22 4456/11 4457/10 4460/7 4463/8 4464/1 4465/13 4470/12 4471/4 4471/8 4471/17 4471/25 4472/17 4473/10 4478/18 4478/22 4479/6 4480/2 auction-time-time [1] 4456/1 audiences [1] 4465/10 Austin [4] 4494/22 4494/23 4494/24 4506/13 authority [3] 4435/4 4437/18 4438/10 authors [1] 4501/13 auto [2] 4429/8 4470/12 automate [1] 4466/17 automatically [1] 4466/19 automation [1] 4426/8 avail [2] 4415/7 4471/21 availability [2] 4427/2 4476/2 available [11] 4424/20 4425/5 4425/6 4440/17 4441/13 4445/2 4456/17 4456/18 4457/2 4471/15 4475/25 Avenue [3] 4400/18 4401/3 4401/14 avoid [3] 4439/20 4505/21 4505/25 aware [3] 4444/25 4447/23 4476/4 away [1] 4513/11	based [16] 4418/16 4419/16 4421/10 4447/12 4447/16 4450/9 4456/25 4463/3 4470/18 4471/2 4472/6 4491/16 4492/20 4503/21 4503/22 4517/6 Bashar [2] 4446/13 4446/14 basically [7] 4414/9 4419/3 4431/7 4459/23 4461/25 4462/5 4468/13 basics [1] 4412/9 Bates [2] 4417/3 4430/21 BDR [1] 4496/3 be [114] 4403/4 4405/12 4405/19 4409/15 4409/15 4413/13 4414/8 4414/8 4414/10 4414/12 4414/20 4414/21 4414/22 4414/23 4415/3 4415/5 4415/6 4416/16 4419/17 4419/18 4420/13 4420/14 4420/19 4423/7 4423/15 4423/18 4425/11 4425/14 4425/21 4426/22 4427/8 4429/17 4429/24 4432/1 4433/8 4434/10 4434/13 4437/11 4437/12 4437/15 4437/23 4438/8 4438/9 4439/18 4439/21 4442/8 4443/24 4444/10 4445/10 4445/15 4445/16 4448/9 4448/15 4449/13 4449/18 4449/22 4449/25 4452/8 4453/4 4453/20 4456/2 4456/11 4457/14 4458/20 4460/4 4460/5 4461/11 4461/16 4463/9 4467/3 4467/4 4467/12 4469/17 4471/14 4471/18 4471/21 4473/4 4473/17 4476/6 4478/12 4478/13 4478/23 4479/12 4479/15 4479/16 4480/1 4480/14 4480/17 4480/18 4481/7 4481/9 4485/24 4486/8 4490/22 4491/2 4491/20 4492/11 4494/5 4495/16 4497/14 4498/13 4499/13 4500/5 4500/12 4501/5 4504/5 4508/8 4510/4 4516/13 4518/12 4518/23
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<p>B</p> <p>be... [3] 4518/25 4519/3 4519/11</p> <p>became [2] 4435/9 4487/21</p> <p>because [22] 4409/19 4413/17 4413/23 4414/21 4419/14 4419/16 4420/4 4420/24 4420/24 4433/8 4433/15 4437/18 4442/7 4444/10 4445/9 4445/11 4448/14 4450/1 4450/9 4461/5 4468/6 4505/20</p> <p>become [1] 4445/2</p> <p>been [21] 4403/17 4404/7 4417/23 4418/4 4424/10 4426/20 4427/24 4429/14 4430/19 4440/17 4441/14 4441/15 4443/25 4445/25 4456/6 4472/22 4478/18 4487/20 4487/20 4503/15 4519/7</p> <p>before [13] 4399/9 4410/6 4413/8 4432/14 4433/11 4440/17 4441/15 4456/10 4464/17 4469/7 4479/10 4495/1 4495/10</p> <p>began [2] 4481/2 4485/1</p> <p>begin [3] 4427/8 4484/25 4497/14</p> <p>beginning [3] 4443/4 4443/6 4512/10</p> <p>behalf [5] 4403/10 4403/11 4403/14 4481/19 4482/3</p> <p>Behr [3] 4495/1 4495/3 4495/4</p> <p>being [12] 4423/2 4426/21 4451/22 4455/21 4457/15 4479/25 4481/5 4482/19 4506/20 4513/1 4517/11 4519/5</p> <p>believe [32] 4415/15 4417/4 4417/20 4418/20 4419/17 4424/13 4432/23 4440/13 4450/17 4456/12 4456/24 4461/12 4464/10 4464/24 4470/3 4483/23 4484/16 4490/3 4490/14 4492/22 4495/6 4502/7 4503/7 4504/4 4504/6 4508/22 4511/1 4511/11 4511/16 4516/6 4516/9 4516/23</p> <p>BELKNAP [1] 4400/17</p>	<p>below [4] 4418/4 4422/9 4449/1 4459/8</p> <p>BENCH [1] 4399/9</p> <p>beneficial [2] 4490/22 4491/2</p> <p>benefit [2] 4411/15 4491/7</p> <p>benefits [1] 4405/15</p> <p>besides [1] 4411/8</p> <p>best [2] 4409/14 4496/10</p> <p>beta [3] 4444/5 4445/9 4445/11</p> <p>betas [1] 4444/11</p> <p>better [16] 4417/25 4420/4 4420/8 4420/19 4420/21 4421/8 4421/18 4423/10 4423/24 4424/6 4424/6 4424/14 4433/1 4487/4 4492/10 4492/10</p> <p>between [13] 4439/24 4445/1 4449/10 4452/12 4454/24 4483/16 4487/5 4496/6 4507/13 4508/23 4509/15 4513/6 4516/14</p> <p>beyond [1] 4472/5</p> <p>bias [4] 4432/4 4433/9 4433/14 4439/16</p> <p>biased [1] 4432/25</p> <p>bid [15] 4405/3 4405/6 4405/10 4405/11 4408/11 4411/19 4417/13 4419/16 4449/13 4452/10 4453/10 4478/11 4478/21 4479/4 4479/8</p> <p>bidder [6] 4405/4 4408/15 4410/5 4414/21 4441/24 4456/22</p> <p>bidding [129]</p> <p>bidding-related [1] 4431/19</p> <p>bids [6] 4405/5 4405/5 4407/8 4411/21 4414/11 4431/5</p> <p>big [6] 4445/22 4485/20 4498/10 4509/2 4514/14 4515/20</p> <p>bigger [1] 4409/23</p> <p>biggest [2] 4456/14 4465/1</p> <p>billion [2] 4488/3 4488/5</p> <p>binder [6] 4415/13 4434/12 4457/24 4470/4 4500/22 4501/9</p> <p>Bing [31] 4406/17 4407/11 4414/2 4417/10 4417/12 4418/5 4418/19 4419/13 4419/22 4420/6 4421/15 4421/23 4421/24</p>	<p>4421/25 4422/6 4422/7 4422/15 4422/16 4423/3 4423/4 4427/2 4431/1 4443/6 4453/10 4453/15 4453/18 4454/8 4454/10 4465/10 4478/13 4478/21</p> <p>Bing's [3] 4424/19 4425/4 4442/24</p> <p>bingads.com [1] 4409/11</p> <p>bit [10] 4419/21 4454/15 4455/3 4492/1 4495/19 4495/22 4499/8 4499/16 4513/4 4515/23</p> <p>blocking [1] 4511/10</p> <p>blown [1] 4461/6</p> <p>blown-up [1] 4461/6</p> <p>blue [1] 4478/1</p> <p>board [1] 4438/23</p> <p>body [1] 4459/13</p> <p>Boston [1] 4401/8</p> <p>both [15] 4405/3 4412/3 4412/4 4417/12 4418/15 4423/10 4441/21 4442/14 4453/11 4455/5 4460/19 4480/10 4480/12 4496/8 4504/9</p> <p>bottom [11] 4432/7 4448/11 4448/18 4449/5 4470/6 4470/10 4476/20 4504/23 4512/13 4512/18 4512/22</p> <p>box [2] 4464/9 4476/21</p> <p>Boylston [1] 4401/8</p> <p>Branch [69] 4483/11 4483/13 4483/14 4483/18 4483/19 4483/21 4487/10 4492/18 4492/20 4493/5 4493/6 4493/9 4493/13 4493/14 4493/22 4493/24 4494/20 4494/21 4494/25 4495/5 4495/17 4495/20 4495/24 4496/2 4496/14 4496/16 4496/17 4496/22 4497/7 4497/8 4497/9 4497/14 4499/5 4499/10 4499/13 4499/23 4500/2 4500/5 4500/10 4500/11 4500/12 4500/21 4500/21 4501/24 4502/17 4504/21 4505/1 4505/11 4505/14 4505/14 4506/20 4507/14 4508/8 4508/13 4508/16 4509/5 4510/17 4511/8 4513/16 4513/24</p>	<p>4514/4 4514/10 4514/12 4515/7 4517/16 4518/3 4518/15 4519/1 4519/4</p> <p>Branch's [5] 4497/20 4497/22 4506/24 4511/11 4517/11</p> <p>break [6] 4408/2 4442/17 4469/8 4519/17 4519/18 4519/19</p> <p>Brendon [1] 4502/9</p> <p>brief [2] 4486/22 4501/21</p> <p>briefly [3] 4483/13 4484/17 4493/20</p> <p>brings [1] 4441/19</p> <p>broad [11] 4430/24 4430/25 4431/3 4431/6 4431/8 4431/11 4431/17 4431/22 4431/24 4432/1 4432/8</p> <p>broadened [1] 4470/21</p> <p>Broadly [1] 4502/24</p> <p>Broadway [1] 4400/14</p> <p>brother [1] 4460/14</p> <p>brought [1] 4460/4</p> <p>browser [3] 4410/22 4413/9 4413/20</p> <p>Bruce [1] 4400/11</p> <p>bubble [1] 4464/16</p> <p>budget [1] 4440/2</p> <p>bugs [1] 4418/24</p> <p>build [23] 4405/2 4429/25 4436/25 4440/21 4441/7 4442/11 4442/19 4442/24 4447/7 4447/12 4448/10 4449/16 4449/17 4456/7 4460/2 4460/9 4462/2 4464/25 4467/16 4467/20 4470/25 4471/8 4471/25</p> <p>building [5] 4429/16 4435/21 4436/2 4438/3 4465/25</p> <p>built [13] 4413/23 4437/2 4437/23 4443/16 4443/19 4449/18 4449/22 4456/2 4463/11 4464/1 4464/4 4467/5 4472/3</p> <p>bullet [13] 4451/21 4451/23 4451/25 4458/12 4465/9 4475/18 4475/20 4476/13 4504/14 4505/5 4507/3 4507/7 4507/12</p> <p>bullets [1] 4505/6</p> <p>bumping [1] 4482/8</p> <p>bunch [1] 4473/10</p> <p>business [32] 4418/25 4421/7 4421/11 4433/21 4439/9 4445/21 4460/22</p>	<p>4465/2 4467/8 4484/21 4484/24 4486/11 4486/14 4487/6 4494/10 4494/14 4496/14 4498/6 4498/8 4498/13 4498/14 4502/24 4503/2 4503/5 4508/3 4508/23 4509/14 4515/15 4515/16 4515/17 4515/18 4517/7</p> <p>business-related [1] 4433/21</p> <p>buy [4] 4480/11 4480/12 4480/12 4480/13</p> <p>BYX [4] 4442/25 4443/1 4444/18 4459/23</p> <hr/> <p>C</p> <p>call [12] 4405/3 4418/11 4418/16 4433/10 4433/12 4433/20 4459/21 4459/22 4467/10 4474/20 4490/3 4491/6</p> <p>called [5] 4411/13 4495/8 4497/9 4508/21 4513/9</p> <p>calling [2] 4481/21 4513/8</p> <p>calls [2] 4507/16 4507/17</p> <p>came [3] 4415/25 4415/25 4511/17</p> <p>campaign [6] 4418/18 4419/12 4453/7 4476/18 4479/7 4479/21</p> <p>campaigns [17] 4405/7 4409/12 4409/19 4411/19 4418/13 4421/24 4422/15 4422/16 4423/2 4431/4 4452/11 4453/6 4453/11 4453/13 4476/15 4478/10 4478/23</p> <p>can [77] 4404/19 4405/12 4405/19 4405/23 4406/11 4407/25 4408/3 4408/4 4408/7 4408/10 4408/11 4408/15 4408/25 4409/14 4411/16 4412/5 4412/11 4412/12 4413/10 4414/25 4415/7 4418/22 4419/9 4420/12 4421/5 4421/10 4423/13 4423/14 4424/23 4425/1 4428/8 4428/9 4428/16 4429/13 4431/4 4431/5 4439/23 4440/4 4444/24 4446/6 4458/3 4462/23</p>
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<p>C</p> <p>can... [35] 4463/20 4467/16 4469/25 4472/8 4473/7 4473/17 4473/19 4474/4 4476/10 4476/15 4481/1 4482/1 4484/17 4485/17 4485/24 4486/12 4486/13 4490/23 4492/1 4492/5 4492/13 4493/19 4495/10 4495/18 4497/11 4499/8 4502/13 4503/23 4504/23 4506/9 4510/8 4511/23 4513/4 4514/23 4519/9</p> <p>can't [9] 4407/11 4407/11 4408/19 4409/20 4410/19 4413/3 4413/16 4445/20 4480/1</p> <p>cannibalized [1] 4511/20</p> <p>cannibalizing [3] 4513/2 4513/14 4513/20</p> <p>cannot [2] 4425/24 4431/22</p> <p>capabilities [2] 4497/10 4514/18</p> <p>capability [4] 4426/7 4476/2 4514/21 4518/15</p> <p>capable [1] 4497/22</p> <p>capacity [2] 4488/12 4488/13</p> <p>capital [16] 4485/11 4485/14 4485/15 4485/16 4485/18 4485/19 4487/14 4488/9 4488/19 4490/6 4490/9 4490/12 4490/20 4490/21 4491/1 4491/5</p> <p>capturing [1] 4485/7</p> <p>careful [2] 4473/4 4473/17</p> <p>Carr [1] 4400/13</p> <p>carrier [5] 4508/11 4508/18 4508/20 4513/8 4513/13</p> <p>carriers [20] 4507/14 4507/18 4507/20 4507/22 4508/5 4508/12 4508/15 4508/24 4509/4 4509/15 4509/19 4510/25 4511/2 4511/10 4511/11 4511/17 4511/20 4513/1 4513/6 4513/19</p> <p>carve [11] 4500/4 4500/7 4500/16 4500/18 4500/19 4504/25 4505/2 4505/10 4506/5 4517/21 4518/20</p> <p>carved [1] 4517/16</p> <p>cascading [1] 4442/3</p> <p>case [18] 4406/10 4410/6 4419/7 4419/22 4423/20 4424/10 4425/8 4432/21 4432/22 4433/3 4433/5 4433/11 4436/17 4445/5 4453/20 4462/18 4463/2 4468/1</p> <p>cases [1] 4427/10</p> <p>categories [1] 4466/10</p> <p>category [1] 4466/14</p> <p>causes [1] 4442/8</p> <p>Cavanaugh [6] 4400/17 4403/10 4404/5 4412/19 4438/13 4477/12</p> <p>cc'ed [1] 4510/11</p> <p>Center [1] 4400/13</p> <p>CEO [1] 4494/24</p> <p>CEOs [1] 4504/18</p> <p>certain [4] 4466/17 4499/5 4515/20 4517/10</p> <p>certainly [1] 4421/14</p> <p>Certified [1] 4401/12</p> <p>certify [1] 4520/2</p> <p>cetera [2] 4437/13 4518/2</p> <p>CH [1] 4401/13</p> <p>chain [6] 4446/9 4455/16 4455/17 4458/24 4474/11 4510/10</p> <p>chains [1] 4460/21</p> <p>chair [1] 4484/8</p> <p>challenges [2] 4441/9 4511/17</p> <p>challenging [1] 4448/10</p> <p>Chang [11] 4481/22 4482/1 4482/17 4483/2 4483/5 4484/2 4490/19 4501/8 4510/11 4512/24 4519/18</p> <p>change [4] 4433/15 4435/13 4441/21 4454/7</p> <p>changed [1] 4491/13</p> <p>changes [2] 4445/22 4466/12</p> <p>changing [1] 4433/8</p> <p>charge [1] 4503/17</p> <p>charged [1] 4410/25</p> <p>chart [3] 4418/4 4422/1 4479/1</p> <p>chat [9] 4430/13 4433/19 4433/21 4437/24 4438/18 4438/22 4481/6 4516/13 4516/22</p>	<p>carve-out [11] 4500/4 4500/7 4500/16 4500/18 4500/19 4504/25 4505/2 4505/10 4506/5 4517/21 4518/20</p> <p>chats [5] 4430/10 4434/16 4438/2 4438/8 4439/8</p> <p>checklist [1] 4429/4</p> <p>Chen [3] 4516/14 4516/15 4516/16</p> <p>chief [2] 4488/25 4516/16</p> <p>choice [1] 4421/4</p> <p>choose [3] 4414/1 4414/15 4425/11</p> <p>chose [1] 4443/1</p> <p>citing [2] 4418/24 4419/3</p> <p>Civil [1] 4403/7</p> <p>clarification [1] 4487/23</p> <p>clarify [7] 4404/17 4424/22 4424/23 4433/5 4439/24 4445/18 4479/13</p> <p>clarifying [2] 4411/11 4428/7</p> <p>clarity [1] 4425/7</p> <p>clear [8] 4408/18 4410/11 4413/16 4419/25 4453/4 4455/13 4465/18 4466/1</p> <p>clearer [1] 4461/5</p> <p>click [3] 4419/13 4456/16 4458/15</p> <p>client [4] 4422/23 4423/15 4463/22 4463/23</p> <p>close [3] 4487/19 4488/4 4488/15</p> <p>closely [2] 4441/22 4486/10</p> <p>closer [3] 4420/5 4425/22 4484/10</p> <p>CO [1] 4400/15</p> <p>coag.gov [1] 4400/16</p> <p>code [2] 4442/12 4442/15</p> <p>cofounders [1] 4494/24</p> <p>Colin [3] 4495/1 4495/3 4495/4</p> <p>collaboration [2] 4510/17 4519/7</p> <p>collaborations [1] 4487/9</p> <p>colleague [1] 4517/6</p> <p>colleagues [4] 4428/21 4431/10 4433/19 4488/17</p> <p>collected [1] 4462/19</p> <p>collection [1] 4462/1</p> <p>Colorado [4] 4400/11 4400/11 4400/13 4432/21</p> <p>COLUMBIA [3] 4399/1 4484/23 4484/23</p> <p>column [3] 4419/15 4419/17 4420/13</p> <p>combined [1] 4452/5</p> <p>come [3] 4425/25</p>	<p>4445/19 4451/24</p> <p>comes [1] 4456/9</p> <p>comfortable [1] 4433/15</p> <p>coming [4] 4429/20 4438/23 4445/21 4513/19</p> <p>commentary [1] 4514/12</p> <p>commercial [2] 4494/8 4494/9</p> <p>commitment [1] 4429/16</p> <p>common [2] 4409/22 4413/22</p> <p>communicate [1] 4436/24</p> <p>communicated [1] 4446/19</p> <p>communication [1] 4437/25</p> <p>communications [1] 4444/22</p> <p>companies [17] 4485/24 4486/7 4487/4 4487/6 4487/10 4487/15 4487/21 4488/2 4488/4 4491/11 4491/19 4492/7 4496/3 4496/7 4496/8 4496/9 4508/1</p> <p>company [23] 4416/24 4416/24 4417/11 4417/12 4417/19 4417/23 4418/23 4421/14 4421/24 4422/5 4423/8 4425/20 4425/21 4426/4 4426/19 4440/1 4472/9 4472/10 4483/15 4494/7 4494/19 4496/2 4498/10</p> <p>company's [3] 4421/22 4421/23 4491/17</p> <p>compare [2] 4441/13 4477/6</p> <p>comparing [1] 4418/18</p> <p>comparison [3] 4417/24 4418/5 4452/12</p> <p>compatibility [1] 4441/20</p> <p>compilation [1] 4450/9</p> <p>complement [2] 4513/18 4514/9</p> <p>complete [1] 4468/11</p> <p>completed [1] 4443/25</p> <p>completely [4] 4422/22 4441/16 4468/12 4518/2</p> <p>complex [4] 4441/8 4441/10 4448/10 4508/2</p> <p>complexity [4] 4441/12 4441/17 4441/19 4445/7</p> <p>complicated [1] 4464/6</p>	<p>computer [1] 4401/16</p> <p>computer-aided [1] 4401/16</p> <p>concern [4] 4419/1 4426/14 4508/16 4515/16</p> <p>concerned [1] 4513/1</p> <p>concerns [9] 4455/25 4457/5 4508/12 4509/4 4509/5 4509/7 4511/20 4513/13 4513/16</p> <p>conclusion [2] 4433/7 4473/14</p> <p>conclusions [1] 4473/12</p> <p>concurrently [1] 4418/16</p> <p>confidential [5] 4454/2 4473/3 4493/19 4494/13 4505/7</p> <p>confidentiality [2] 4403/16 4501/4</p> <p>configured [1] 4478/12</p> <p>confirming [1] 4490/18</p> <p>conflict [2] 4506/4 4506/6</p> <p>conflicted [2] 4509/18 4509/20</p> <p>conflicting [2] 4505/21 4505/25</p> <p>connect [2] 4456/18 4517/25</p> <p>connected [2] 4518/13 4518/16</p> <p>connecting [2] 4510/22 4511/4</p> <p>CONNOLLY [1] 4401/3</p> <p>consequences [1] 4441/24</p> <p>consider [2] 4491/25 4496/13</p> <p>consideration [1] 4491/9</p> <p>considerations [3] 4470/20 4490/25 4491/22</p> <p>considered [2] 4434/25 4503/5</p> <p>consistent [4] 4422/24 4423/5 4447/9 4447/17</p> <p>Constitution [1] 4401/14</p> <p>consult [1] 4486/20</p> <p>consulted [1] 4486/22</p> <p>consulting [1] 4486/25</p> <p>consumer [5] 4400/12 4491/23 4492/4 4492/5 4492/8</p> <p>consumers [1] 4492/9</p> <p>consumers' [1] 4491/24</p> <p>contact [4] 4495/4 4496/17 4496/20 4496/20</p> <p>contacts [2] 4494/20 4494/21</p> <p>contained [3] 4405/6 4441/17 4452/11</p>
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C	4480/10 4483/8 4483/9 4484/13 4489/24 4503/22 4504/22 4506/12 4507/9 4512/25 4513/3 4514/14 4515/10 4517/14 4520/3 correctly [2] 4422/10 4473/8 correlation [1] 4453/17 correspondence [2] 4454/19 4454/20 cost [7] 4419/13 4419/16 4419/21 4419/21 4419/23 4420/21 4473/25 cost-cutting [1] 4473/25 could [60] 4408/2 4408/15 4409/11 4410/2 4410/23 4411/10 4411/24 4412/7 4412/16 4414/1 4415/13 4417/17 4418/2 4419/9 4421/20 4425/14 4426/11 4430/21 4432/17 4438/9 4439/3 4445/10 4445/14 4445/16 4445/23 4454/14 4456/2 4456/11 4456/11 4458/25 4460/4 4460/5 4462/19 4464/25 4465/16 4465/19 4469/22 4473/16 4477/25 4478/12 4478/23 4480/13 4480/17 4480/18 4491/20 4492/7 4492/11 4494/5 4495/22 4498/12 4498/24 4502/19 4504/5 4505/17 4509/6 4510/20 4512/22 4513/22 4514/19 4518/10 couldn't [4] 4456/7 4471/19 4472/3 4476/10 counsel [11] 4434/11 4436/6 4439/14 4444/23 4446/5 4450/5 4459/12 4463/16 4477/18 4483/22 4484/15 counterpart [1] 4460/23 couple [5] 4418/7 4439/11 4445/9 4475/5 4477/17 Coupled [1] 4473/25 course [1] 4495/2 COURT [10] 4399/1 4401/11 4401/13 4469/13 4482/5 4484/17 4487/24 4495/9 4495/23 4519/23	covered [1] 4489/15 CPA [18] 4415/4 4417/24 4419/16 4419/17 4419/18 4420/2 4420/2 4420/13 4420/20 4420/20 4420/23 4420/25 4421/3 4421/5 4421/8 4421/15 4423/5 4423/6 CPA-based [1] 4419/16 crawl [2] 4514/7 4514/16 create [1] 4517/21 creates [1] 4426/14 creating [1] 4505/17 creation [1] 4441/20 credit [2] 4444/13 4456/15 credits [5] 4442/4 4442/5 4442/6 4444/9 4444/17 criteria [1] 4491/16 criticism [2] 4432/21 4433/2 cross [3] 4402/4 4431/1 4434/6 CROSS-EXAMINATION [1] 4434/6 Crowell [2] 4483/25 4484/12 CRR [2] 4520/2 4520/8 Curious [1] 4417/9 current [5] 4412/2 4487/12 4514/6 4517/23 4518/5 currently [9] 4407/11 4407/21 4445/1 4446/1 4449/2 4487/13 4488/10 4489/9 4513/8 customer [35] 4408/3 4408/4 4408/7 4409/18 4409/20 4411/18 4413/17 4414/1 4414/1 4415/5 4419/3 4419/5 4420/1 4424/10 4425/9 4425/10 4425/11 4447/12 4452/10 4463/5 4464/11 4464/13 4464/17 4464/20 4465/23 4466/13 4467/11 4470/18 4472/5 4473/9 4478/12 4478/18 4479/16 4479/17 4480/16 customer's [3] 4405/8 4420/10 4420/22 customer-facing [1] 4467/11 customers [52] 4407/15 4407/18 4408/14 4409/25 4411/8 4413/22 4417/10 4420/24 4423/10 4427/7 4427/13 4427/21 4428/1 4428/8 4428/10	4428/12 4428/12 4428/14 4437/8 4442/3 4444/1 4444/6 4444/11 4444/15 4445/19 4445/20 4445/22 4447/17 4447/20 4454/6 4457/12 4457/17 4458/20 4461/25 4462/2 4464/7 4465/22 4466/17 4466/18 4466/22 4466/24 4471/16 4471/20 4472/3 4472/6 4472/12 4476/15 4478/17 4478/21 4479/18 4480/9 4480/9 customers' [2] 4442/8 4468/14 cutting [1] 4473/25 CV [1] 4399/4 cycle [3] 4462/6 4466/7 4467/20 cycles [1] 4470/18 D D.C [5] 4399/5 4400/3 4400/8 4401/4 4401/14 dandy [1] 4479/1 dark [1] 4448/5 data [24] 4407/6 4420/12 4422/2 4424/8 4424/12 4424/15 4449/23 4452/3 4455/23 4456/20 4456/22 4457/12 4457/15 4457/16 4468/14 4471/17 4473/21 4476/10 4479/11 4479/12 4479/14 4479/22 4479/25 4480/4 date [10] 4436/16 4436/18 4446/24 4446/25 4447/2 4474/11 4477/20 4497/17 4501/17 4520/7 dated [1] 4430/14 David [10] 4488/21 4488/23 4488/24 4493/17 4502/8 4504/13 4510/10 4511/8 4516/16 4516/18 day [5] 4399/7 4407/7 4485/25 4487/16 4488/7 days [3] 4429/5 4477/22 4478/5 de [5] 4403/18 4403/19 4503/25 4504/12 4504/13 DE's [1] 4516/24 de-designated [1] 4403/19 de-designating [1] 4403/18 decacorn [3] 4487/22	4487/24 4488/2 decacorns [1] 4488/4 December [4] 4423/22 4435/10 4436/19 4481/1 December 3rd [1] 4423/22 decent [1] 4426/5 decide [2] 4435/4 4491/10 decided [3] 4433/14 4460/8 4492/19 decides [1] 4412/22 deciding [1] 4466/23 decision [6] 4433/14 4436/24 4438/7 4492/2 4493/12 4493/15 decisions [6] 4437/10 4437/11 4437/14 4437/21 4440/7 4491/16 deck [1] 4437/6 decreases [1] 4474/1 deep [2] 4483/15 4493/1 deeply [1] 4494/4 Defendant [2] 4399/7 4401/2 DEFENDANT'S [2] 4402/19 4461/18 defer [1] 4470/12 define [1] 4480/15 defined [1] 4405/8 defines [1] 4411/18 delay [1] 4438/11 delaying [1] 4438/3 deliberately [2] 4438/3 4438/3 deliver [1] 4465/25 delivered [1] 4467/22 demand [9] 4427/5 4427/23 4428/4 4447/13 4447/24 4463/5 4463/7 4470/18 4472/5 demonstrate [1] 4426/16 Denison [2] 4510/22 4511/5 denoting [1] 4405/25 dents [1] 4426/6 Denver [1] 4400/15 DEPARTMENT [4] 4400/2 4400/6 4400/11 4434/1 depending [4] 4445/14 4494/7 4498/4 4498/12 depends [4] 4420/22 4445/6 4445/19 4506/25 depth [1] 4430/24 described [6] 4414/12 4421/17 4427/8 4454/6 4473/21 4485/10 describing [1] 4453/21 description [3] 4514/4 4514/10 4514/11 design [2] 4467/15
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D	4483/10 4484/25 4486/18 4492/17 4493/4 4501/12 4501/19 4502/1 4507/17 4514/1 didn't [21] 4404/3 4409/24 4414/24 4420/15 4424/8 4424/10 4424/11 4424/14 4427/10 4429/24 4431/25 4433/15 4451/15 4451/16 4454/1 4456/5 4475/4 4475/9 4494/8 4494/18 4514/18 difference [2] 4415/3 4418/14 different [29] 4405/12 4406/10 4418/17 4431/15 4440/5 4443/22 4450/1 4460/25 4485/21 4486/11 4486/12 4487/6 4492/5 4494/14 4494/17 4498/1 4498/11 4498/12 4498/14 4501/21 4505/18 4507/2 4508/3 4512/8 4515/13 4515/18 4517/3 4517/4 4517/7 difficult [4] 4423/23 4424/17 4424/18 4425/3 diligence [3] 4493/8 4493/20 4493/25 diligencing [1] 4486/7 Dintzer [2] 4400/2 4403/9 direct [5] 4402/4 4404/10 4470/6 4483/3 4515/21 directed [1] 4465/8 direction [1] 4427/25 directionally [2] 4450/22 4451/9 directly [17] 4408/7 4408/25 4409/4 4409/16 4410/7 4410/15 4411/9 4412/1 4412/23 4425/14 4436/4 4443/11 4445/4 4460/24 4480/18 4508/14 4515/20 director [4] 4481/22 4486/16 4489/23 4489/24 directors [1] 4504/7 directory [1] 4502/11 discovery [14] 4446/1 4495/8 4495/10 4495/11 4495/13 4495/15 4498/17 4498/19 4498/24 4499/2 4499/14 4507/5 4507/8 4507/10 discuss [6] 4483/20 4494/12 4507/14	4511/8 4517/10 4519/20 discussed [9] 4438/8 4440/10 4446/9 4450/4 4451/23 4455/21 4463/15 4474/25 4517/22 discussing [7] 4438/17 4454/12 4458/12 4468/1 4471/1 4471/4 4505/2 discussion [6] 4429/11 4431/11 4455/8 4499/10 4502/17 4508/10 discussions [7] 4433/18 4455/12 4455/20 4501/25 4508/5 4508/6 4508/7 Dispersion [9] 4487/14 4488/9 4488/19 4489/16 4490/6 4490/6 4490/9 4490/11 4490/15 distinction [2] 4408/21 4410/9 distribute [1] 4437/7 DISTRICT [3] 4399/1 4399/1 4399/10 division [2] 4400/7 4503/9 DJ [3] 4504/15 4504/16 4504/17 DJ Koh [2] 4504/15 4504/16 DJ Koh's [1] 4504/17 do [99] 4408/8 4409/5 4410/19 4415/23 4415/24 4417/14 4417/15 4422/17 4422/18 4426/2 4430/10 4430/11 4430/13 4430/23 4431/5 4433/8 4433/13 4436/1 4436/8 4436/10 4436/16 4436/19 4436/23 4437/18 4437/21 4438/6 4438/13 4438/15 4438/25 4439/1 4439/16 4439/22 4440/20 4441/5 4443/18 4446/10 4447/20 4448/7 4448/9 4448/23 4449/4 4450/11 4450/12 4450/20 4451/3 4452/8 4452/16 4452/21 4454/23 4458/9 4459/17 4460/1 4461/21 4461/22 4462/17 4464/1 4466/6 4466/8 4467/7 4468/7 4468/23 4469/7 4472/10 4472/13 4472/14 4474/9 4474/10 4476/11 4476/22 4484/15	4486/24 4488/9 4488/11 4488/13 4489/2 4489/4 4489/9 4489/19 4489/23 4490/14 4495/20 4497/24 4498/8 4498/24 4499/16 4499/20 4500/4 4502/11 4506/1 4506/2 4507/21 4508/12 4510/11 4513/24 4514/10 4514/19 4515/6 4517/25 4518/13 do you [19] 4417/14 4426/2 4430/10 4436/8 4438/13 4443/18 4446/10 4448/7 4450/20 4461/21 4468/23 4472/13 4488/9 4488/13 4489/9 4489/19 4507/21 4508/12 4514/10 do you have [7] 4436/23 4441/5 4454/23 4467/7 4489/4 4499/16 4515/6 do you know [4] 4436/1 4436/16 4436/19 4438/6 do you recognize [1] 4474/9 Do you remember [1] 4472/10 do you see [11] 4415/23 4422/17 4438/25 4439/16 4450/11 4458/9 4459/17 4476/22 4502/11 4510/11 4513/24 do you understand [1] 4448/9 docs [2] 4437/12 4437/15 document [24] 4415/16 4415/22 4415/25 4416/11 4417/4 4420/16 4430/6 4437/10 4454/4 4459/25 4462/21 4465/22 4467/3 4467/4 4467/16 4474/9 4501/8 4501/14 4501/20 4502/6 4506/25 4507/1 4510/14 4519/15 documenting [1] 4437/9 documents [5] 4416/3 4434/11 4450/10 4500/20 4500/22 does [24] 4409/20 4414/18 4416/10 4424/1 4441/12 4443/21 4448/25 4449/2 4455/10 4457/11 4458/14 4463/9 4463/10 4466/4	4466/19 4466/23 4471/24 4475/8 4476/13 4477/5 4484/8 4490/15 4503/6 4514/12 doesn't [5] 4414/16 4421/9 4467/22 4479/11 4517/25 doing [11] 4411/15 4412/6 4415/6 4420/4 4420/8 4427/15 4427/16 4446/1 4470/16 4493/8 4519/7 DOJ [2] 4400/2 4403/9 dollars [2] 4488/3 4490/9 don't [57] 4407/15 4407/22 4408/9 4408/13 4409/9 4410/18 4411/24 4412/4 4412/5 4413/21 4413/23 4414/9 4416/8 4416/12 4416/13 4419/4 4419/18 4420/7 4420/15 4429/4 4436/18 4438/11 4443/2 4445/22 4446/18 4446/25 4456/23 4457/20 4464/16 4468/18 4468/24 4469/3 4469/8 4469/10 4475/18 4479/15 4481/3 4489/6 4490/2 4492/3 4494/15 4496/19 4497/17 4499/9 4501/16 4503/4 4504/3 4504/7 4504/17 4505/24 4506/3 4506/6 4508/25 4513/5 4513/9 4518/19 4519/16 done [3] 4416/24 4432/15 4468/19 down [7] 4431/21 4432/19 4438/21 4445/23 4475/17 4482/8 4507/13 downside [1] 4413/3 DR [1] 4475/8 draft [2] 4501/12 4501/19 drafted [4] 4500/16 4500/19 4501/15 4501/17 drafting [1] 4501/20 draw [2] 4404/18 4516/21 driven [1] 4457/12 drove [1] 4423/4 droves [1] 4427/21 DS165 [1] 4462/9 DSA [3] 4448/21 4448/23 4476/2 during [9] 4403/16 4467/19 4482/7 4491/15 4492/24 4504/10 4508/4 4516/10 4519/19 duties [2] 4486/4
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<p>D duties... [1] 4486/6 DX165 [6] 4461/2 4461/5 4461/7 4461/13 4461/21 4462/15 DX165A [3] 4461/6 4461/8 4461/18 dynamic [3] 4448/21 4475/22 4476/5</p>	<p>4458/23 4459/7 4459/13 4469/23 4470/7 4472/10 4474/11 4474/17 4474/18 4510/10 4510/10 4510/20 4511/17 4511/18 4511/22 4511/24 4512/17 4512/23 emails [4] 4416/23 4417/14 4437/13 4473/8</p>	<p>4508/21 entry [2] 4503/23 4504/24 era [1] 4492/25 Erin [3] 4400/6 4481/19 4483/5 erin.murdock [1] 4400/9 erin.murdock-park [1] 4400/9 error [2] 4403/17 4441/23 escalated [2] 4454/24 4455/7 escalation [1] 4455/5 essentially [2] 4414/15 4422/5 established [3] 4487/5 4488/16 4511/7 estimate [1] 4444/25 et [4] 4399/3 4403/8 4437/13 4518/2 et al [1] 4403/8 et cetera [2] 4437/13 4518/2 Eun [18] 4488/21 4488/23 4488/24 4489/2 4489/6 4493/17 4502/8 4504/13 4510/10 4510/21 4511/4 4511/15 4513/23 4514/4 4516/16 4516/18 4517/13 4517/14 Eun's [2] 4489/4 4514/10 European [1] 4462/4 evaluate [1] 4430/3 evaluation [1] 4422/23 even [12] 4408/6 4409/18 4409/22 4410/6 4433/11 4438/8 4441/8 4456/6 4467/1 4472/2 4472/4 4487/22 event [3] 4438/20 4439/4 4444/17 events [2] 4456/17 4456/20 eventually [2] 4422/8 4493/17 ever [4] 4464/1 4471/7 4472/16 4489/2 every [4] 4407/4 4466/7 4466/8 4488/7 everybody [4] 4443/4 4469/11 4479/18 4519/22 everyone [4] 4403/4 4407/24 4469/17 4469/18 everything [4] 4412/4 4456/7 4467/6 4468/14 evidence [15] 4404/3 4416/15 4416/17 4428/18 4461/7 4461/9 4461/13 4461/14 4461/18 4467/7 4474/7 4481/10 4510/5 4515/3</p>	<p>4519/12 evolution [1] 4427/25 evolved [2] 4485/3 4495/13 exact [9] 4419/19 4423/9 4431/5 4446/18 4489/6 4499/21 4500/17 4501/17 4518/19 exactly [13] 4423/5 4490/2 4497/17 4499/9 4504/3 4504/8 4504/17 4505/12 4511/3 4513/5 4513/9 4518/6 4518/7 examination [6] 4403/16 4404/10 4433/25 4434/6 4477/15 4483/3 example [5] 4414/3 4420/3 4421/3 4431/4 4480/14 exceeding [1] 4488/5 exclusion [2] 4456/20 4473/21 excuse [1] 4412/12 executive [4] 4502/7 4503/13 4504/10 4511/8 executives [6] 4501/21 4502/1 4502/2 4502/3 4502/5 4504/9 exhaustive [1] 4501/22 exhibit [24] 4403/17 4416/17 4416/21 4438/13 4438/14 4438/17 4454/18 4461/18 4461/21 4462/8 4462/9 4462/15 4464/20 4474/5 4477/18 4477/18 4481/10 4510/5 4512/6 4512/8 4512/10 4515/3 4517/22 4519/12 Exhibit 586 [1] 4403/17 exhibits [3] 4402/8 4402/17 4404/2 existed [1] 4452/14 existing [4] 4509/18 4509/20 4511/21 4513/20 expensive [1] 4464/6 experience [12] 4413/12 4435/17 4467/12 4473/9 4474/3 4477/5 4487/20 4491/23 4492/4 4492/5 4492/15 4500/21 experiences [2] 4491/24 4492/8 explain [17] 4409/1 4453/20 4462/23 4462/24 4473/7 4477/25 4485/17 4492/1 4492/13 4493/20 4495/10 4495/18 4495/22 4497/11 4499/8</p>	<p>4502/13 4513/4 explaining [3] 4470/11 4473/9 4511/15 explanation [3] 4513/24 4514/1 4514/2 explicit [1] 4437/15 explicitly [1] 4467/4 exploration [1] 4429/15 expressing [1] 4508/12 extent [1] 4482/6 extra [1] 4434/13</p>
<p>E e-mail [1] 4511/22 each [5] 4411/19 4451/11 4456/16 4460/20 4498/13 earlier [8] 4444/12 4463/13 4463/15 4473/22 4474/25 4502/25 4505/13 4517/22 early [13] 4436/7 4436/14 4443/16 4444/21 4454/22 4486/7 4486/19 4487/2 4487/14 4492/24 4493/2 4493/3 4500/8 early-stage [1] 4443/16 easier [2] 4460/3 4501/10 easiest [1] 4448/13 ECPC [1] 4448/13 educational [2] 4484/18 4484/20 effect [1] 4499/23 effectively [1] 4414/21 efficiency [1] 4422/8 efficient [2] 4419/23 4422/6 efforts [5] 4426/8 4477/7 4501/23 4519/3 4519/7 eight [1] 4407/5 either [7] 4424/9 4424/15 4437/16 4451/6 4480/13 4486/1 4492/10 elected [1] 4470/11 Electronics [8] 4485/8 4489/1 4493/18 4496/7 4496/12 4497/4 4508/22 4510/24 elephant [1] 4460/11 else [3] 4407/24 4408/19 4439/3 email [46] 4400/4 4400/9 4400/16 4400/20 4401/5 4401/5 4401/9 4417/6 4417/17 4419/25 4421/16 4423/22 4425/16 4428/20 4428/25 4428/25 4429/2 4437/15 4446/9 4446/13 4446/21 4446/24 4447/14 4450/3 4450/8 4455/16 4455/16 4458/8</p>	<p>4473/8 embedded [2] 4461/16 4510/2 empathize [1] 4425/10 empathizing [1] 4425/13 emphasize [1] 4432/20 employee [1] 4483/8 employees [1] 4490/10 enable [1] 4505/18 enabled [6] 4452/6 4453/1 4453/7 4478/22 4479/7 4483/15 enabling [1] 4485/8 end [5] 4446/10 4466/11 4485/25 4514/12 4519/8 ending [1] 4463/19 ending 740 [1] 4463/19 ENG [1] 4477/3 engine [21] 4409/17 4409/21 4410/23 4411/22 4425/23 4426/6 4426/16 4428/8 4430/23 4430/25 4431/1 4431/1 4431/6 4431/8 4448/14 4465/9 4466/15 4466/21 4466/24 4474/20 4475/13 engine's [1] 4405/5 engineer [1] 4429/7 engineering [14] 4429/25 4437/3 4440/4 4440/5 4441/3 4445/12 4454/5 4465/24 4466/6 4466/10 4466/12 4467/15 4467/17 4474/19 engineering-led [1] 4466/12 engineers [3] 4477/4 4477/6 4477/8 engines [12] 4405/12 4405/19 4411/5 4412/3 4413/4 4431/2 4432/9 4432/20 4465/22 4474/22 4478/11 4480/22 enough [2] 4445/20 4447/1 enter [1] 4432/14 enterprise [2] 4426/7 4426/15 entities [3] 4416/24 4479/5 4490/16 entity [2] 4485/21</p>	<p>4508/21 entry [2] 4503/23 4504/24 era [1] 4492/25 Erin [3] 4400/6 4481/19 4483/5 erin.murdock [1] 4400/9 erin.murdock-park [1] 4400/9 error [2] 4403/17 4441/23 escalated [2] 4454/24 4455/7 escalation [1] 4455/5 essentially [2] 4414/15 4422/5 established [3] 4487/5 4488/16 4511/7 estimate [1] 4444/25 et [4] 4399/3 4403/8 4437/13 4518/2 et al [1] 4403/8 et cetera [2] 4437/13 4518/2 Eun [18] 4488/21 4488/23 4488/24 4489/2 4489/6 4493/17 4502/8 4504/13 4510/10 4510/21 4511/4 4511/15 4513/23 4514/4 4516/16 4516/18 4517/13 4517/14 Eun's [2] 4489/4 4514/10 European [1] 4462/4 evaluate [1] 4430/3 evaluation [1] 4422/23 even [12] 4408/6 4409/18 4409/22 4410/6 4433/11 4438/8 4441/8 4456/6 4467/1 4472/2 4472/4 4487/22 event [3] 4438/20 4439/4 4444/17 events [2] 4456/17 4456/20 eventually [2] 4422/8 4493/17 ever [4] 4464/1 4471/7 4472/16 4489/2 every [4] 4407/4 4466/7 4466/8 4488/7 everybody [4] 4443/4 4469/11 4479/18 4519/22 everyone [4] 4403/4 4407/24 4469/17 4469/18 everything [4] 4412/4 4456/7 4467/6 4468/14 evidence [15] 4404/3 4416/15 4416/17 4428/18 4461/7 4461/9 4461/13 4461/14 4461/18 4467/7 4474/7 4481/10 4510/5 4515/3</p>	<p>4519/12 evolution [1] 4427/25 evolved [2] 4485/3 4495/13 exact [9] 4419/19 4423/9 4431/5 4446/18 4489/6 4499/21 4500/17 4501/17 4518/19 exactly [13] 4423/5 4490/2 4497/17 4499/9 4504/3 4504/8 4504/17 4505/12 4511/3 4513/5 4513/9 4518/6 4518/7 examination [6] 4403/16 4404/10 4433/25 4434/6 4477/15 4483/3 example [5] 4414/3 4420/3 4421/3 4431/4 4480/14 exceeding [1] 4488/5 exclusion [2] 4456/20 4473/21 excuse [1] 4412/12 executive [4] 4502/7 4503/13 4504/10 4511/8 executives [6] 4501/21 4502/1 4502/2 4502/3 4502/5 4504/9 exhaustive [1] 4501/22 exhibit [24] 4403/17 4416/17 4416/21 4438/13 4438/14 4438/17 4454/18 4461/18 4461/21 4462/8 4462/9 4462/15 4464/20 4474/5 4477/18 4477/18 4481/10 4510/5 4512/6 4512/8 4512/10 4515/3 4517/22 4519/12 Exhibit 586 [1] 4403/17 exhibits [3] 4402/8 4402/17 4404/2 existed [1] 4452/14 existing [4] 4509/18 4509/20 4511/21 4513/20 expensive [1] 4464/6 experience [12] 4413/12 4435/17 4467/12 4473/9 4474/3 4477/5 4487/20 4491/23 4492/4 4492/5 4492/15 4500/21 experiences [2] 4491/24 4492/8 explain [17] 4409/1 4453/20 4462/23 4462/24 4473/7 4477/25 4485/17 4492/1 4492/13 4493/20 4495/10 4495/18 4495/22 4497/11 4499/8</p>	<p>F FACB [1] 4430/24 face [2] 4438/24 4439/2 facing [3] 4465/21 4466/13 4467/11 fact [4] 4416/11 4421/17 4445/25 4471/10 factored [2] 4492/2 4492/4 factors [1] 4515/14 fair [2] 4422/23 4447/1 fairly [2] 4413/22 4439/10 familiar [5] 4407/2 4415/16 4433/4 4447/18 4450/16 fast [2] 4445/20 4515/23 fast-forward [1] 4515/23 feasibility [1] 4472/5 feasibly [1] 4467/16 feature [50] 4406/13 4407/12 4407/14 4408/1 4408/20 4409/1 4409/14 4409/24 4410/1 4410/4 4410/20 4410/23 4413/21 4415/2 4415/9 4424/19 4425/5 4429/14 4435/15 4435/22 4436/3 4438/4 4440/14 4443/16 4443/19 4444/2 4444/7 4444/12 4445/2 4447/16 4447/25 4460/9 4460/16 4463/10 4466/18 4466/24 4467/9 4467/11 4467/21 4470/18 4470/25 4471/3 4471/19 4471/21 4474/3 4474/23 4475/21 4480/2 4480/7 4498/17 featured [2] 4414/16 4431/15 features [50] 4408/16 4409/21 4410/2 4410/16 4410/18 4411/20 4412/3 4413/13 4413/14</p>

<p>F</p> <p>features... [41] 4426/16 4429/16 4435/23 4436/25 4437/1 4441/10 4441/10 4441/13 4444/3 4445/8 4445/10 4446/10 4447/8 4448/2 4449/6 4450/15 4456/4 4456/5 4456/8 4458/20 4463/2 4463/5 4464/25 4465/13 4466/2 4466/15 4466/16 4466/20 4466/21 4468/13 4468/21 4468/22 4468/23 4468/25 4470/21 4474/20 4475/3 4475/14 4498/19 4505/18 4515/7</p> <p>February [6] 4429/18 4454/21 4510/10 4511/24 4512/5 4514/15</p> <p>February 3rd [2] 4511/24 4512/5</p> <p>fee [2] 4410/25 4480/20</p> <p>feedback [5] 4447/16 4465/6 4472/12 4472/16 4509/17</p> <p>feel [2] 4433/15 4444/8</p> <p>felt [1] 4422/5</p> <p>fence [1] 4424/9</p> <p>few [15] 4427/7 4429/5 4429/19 4434/13 4439/4 4450/19 4464/17 4468/2 4483/7 4483/21 4493/8 4493/15 4500/20 4501/21 4505/3</p> <p>figured [1] 4417/13</p> <p>file [1] 4415/23</p> <p>filed [3] 4433/11 4436/16 4480/25</p> <p>files [1] 4416/1</p> <p>final [2] 4473/12 4473/13</p> <p>finance [1] 4484/21</p> <p>financing [2] 4490/7 4490/12</p> <p>Finder [21] 4497/9 4497/11 4497/12 4499/15 4502/20 4503/10 4503/10 4503/12 4503/13 4503/14 4503/16 4503/17 4503/20 4506/20 4506/23 4507/11 4511/11 4515/20 4515/24 4516/4 4517/12</p> <p>finds [1] 4445/12</p> <p>fine [2] 4412/18 4420/23</p> <p>firm [6] 4485/11 4485/15 4485/18 4490/20 4490/21</p>	<p>4491/1</p> <p>firms [2] 4485/19 4485/21</p> <p>first [28] 4425/15 4427/5 4427/13 4427/16 4428/1 4438/16 4438/18 4438/24 4444/1 4449/18 4451/21 4458/12 4459/13 4462/13 4462/16 4465/9 4466/10 4470/3 4475/7 4485/4 4489/25 4490/4 4493/4 4494/2 4501/2 4502/10 4505/5 4516/23</p> <p>first-level [1] 4489/25</p> <p>fist [1] 4495/15</p> <p>fit [2] 4494/17 4494/18</p> <p>Fitzgibbon [6] 4430/18 4431/21 4432/4 4432/19 4439/15 4439/18</p> <p>five [2] 4421/24 4422/14</p> <p>fix [1] 4445/13</p> <p>flagship [2] 4497/3 4497/4</p> <p>flexibility [4] 4500/9 4505/17 4506/1 4506/2</p> <p>flight [1] 4444/4</p> <p>Floodlight [4] 4471/17 4479/14 4479/17 4479/23</p> <p>Floor [1] 4400/14</p> <p>focus [7] 4485/6 4485/21 4487/17 4491/17 4495/8 4496/4 4500/17</p> <p>focused [3] 4435/16 4500/9 4503/8</p> <p>follow [6] 4423/21 4426/22 4444/24 4493/11 4503/25 4511/18</p> <p>follow-on [2] 4493/11 4503/25</p> <p>follow-up [2] 4444/24 4511/18</p> <p>followed [1] 4455/17</p> <p>following [1] 4483/17</p> <p>follows [2] 4404/9 4422/13</p> <p>Force [5] 4450/4 4450/6 4451/20 4452/7 4459/7</p> <p>foregoing [1] 4520/3</p> <p>foremost [1] 4494/2</p> <p>form [2] 4437/12 4460/3</p> <p>format [1] 4453/24</p> <p>formats [1] 4465/11</p> <p>former [5] 4481/22 4483/8 4488/17 4488/24 4517/19</p> <p>forth [1] 4444/22</p> <p>fortunate [1] 4487/20</p> <p>forum [1] 4465/7</p>	<p>forward [3] 4459/8 4512/7 4515/23</p> <p>found [1] 4474/2</p> <p>foundation [1] 4441/2</p> <p>founder [1] 4487/13</p> <p>four [2] 4407/7 4431/21</p> <p>fourth [1] 4476/13</p> <p>fractional [9] 4456/14 4457/7 4457/9 4457/14 4457/18 4458/16 4458/17 4471/1 4471/14</p> <p>frame [2] 4462/15 4493/7</p> <p>free [1] 4465/6</p> <p>front [3] 4438/14 4461/25 4501/9</p> <p>full [10] 4407/15 4413/12 4418/8 4456/5 4459/24 4475/18 4475/22 4476/11 4497/20 4497/22</p> <p>fully [2] 4407/18 4497/23</p> <p>fun [2] 4439/5 4443/2</p> <p>function [2] 4414/24 4424/5</p> <p>functionalities [5] 4449/11 4449/18 4498/2 4498/4 4499/14</p> <p>functionality [17] 4435/5 4436/2 4437/22 4437/23 4442/12 4443/10 4443/15 4447/8 4449/3 4456/2 4457/10 4464/2 4466/2 4497/20 4497/22 4498/16 4499/5</p> <p>functionally [1] 4415/6</p> <p>fund [3] 4445/13 4487/15 4487/19</p> <p>fundamental [1] 4449/20</p> <p>funded [2] 4429/15 4460/5</p> <p>funded/prioritized [1] 4429/15</p> <p>further [5] 4404/8 4433/23 4439/11 4470/20 4481/12 4470/16 4470/18 4494/19 4505/5 4505/10 4505/15 4505/21 4518/3</p> <p>future-proofing [4] 4505/5 4505/10 4505/15 4505/21</p>	<p>general [4] 4458/11 4458/13 4485/19 4499/25</p> <p>generalized [1] 4503/6</p> <p>generally [5] 4421/7 4445/6 4466/10 4479/17 4480/23</p> <p>generate [1] 4513/10</p> <p>generated [2] 4419/13 4480/1</p> <p>generates [1] 4479/11</p> <p>generating [1] 4479/21</p> <p>generically [1] 4462/25</p> <p>get [18] 4407/4 4407/6 4413/10 4413/10 4418/8 4421/2 4421/4 4421/6 4421/9 4422/7 4422/24 4458/25 4463/11 4467/1 4471/18 4500/21 4507/25 4517/2</p> <p>gets [2] 4441/24 4442/5</p> <p>getting [7] 4404/19 4404/19 4417/22 4481/24 4517/9 4519/4 4519/7</p> <p>give [5] 4434/12 4465/19 4480/5 4501/20 4506/1</p> <p>given [2] 4447/18 4487/19</p> <p>giving [1] 4430/4</p> <p>global [4] 4434/21 4435/3 4435/7 4474/18</p> <p>go [39] 4408/4 4408/7 4408/15 4408/25 4409/4 4409/6 4409/9 4409/12 4409/21 4410/14 4410/15 4410/19 4410/19 4411/4 4411/19 4412/22 4413/8 4413/19 4421/5 4428/8 4431/10 4437/6 4442/4 4444/4 4445/12 4469/8 4475/17 4476/20 4479/1 4493/25 4503/23 4504/23 4506/17 4509/15 4510/8 4510/20 4513/22 4517/15 4519/16</p> <p>go ahead [2] 4510/8 4519/16</p> <p>goal [11] 4415/5 4420/1 4420/2 4420/3 4420/5 4420/5 4420/15 4420/18 4420/18 4420/22 4422/24</p> <p>goes [14] 4412/1 4418/22 4422/1 4422/4 4423/1 4432/25 4442/2 4444/5 4447/11 4466/4 4467/17 4479/10 4493/17 4493/18</p> <p>going [34] 4404/18 4404/21 4408/20</p>	<p>4410/14 4414/6 4418/7 4425/7 4434/10 4434/12 4443/10 4443/24 4444/10 4444/13 4447/7 4454/3 4458/7 4461/3 4461/4 4468/3 4471/8 4472/22 4473/3 4473/4 4479/20 4483/6 4483/20 4487/7 4493/19 4499/13 4510/9 4510/14 4514/3 4518/12 4519/18</p> <p>good [20] 4403/4 4403/6 4403/12 4403/13 4404/14 4423/18 4424/10 4434/8 4434/9 4438/24 4439/19 4439/21 4457/19 4467/8 4471/16 4472/3 4481/18 4482/2 4483/5 4488/16</p> <p>Good morning [7] 4403/4 4403/12 4403/13 4434/8 4434/9 4481/18 4483/5</p> <p>GOOGLE [123]</p> <p>Google LLC [1] 4403/8</p> <p>Google's [2] 4410/25 4453/8</p> <p>got [8] 4435/11 4435/25 4454/24 4461/5 4477/19 4478/5 4478/6 4501/11</p> <p>gotten [2] 4429/1 4517/5</p> <p>GPL [3] 4437/5 4438/23 4476/25</p> <p>GRAY [1] 4401/7</p> <p>greater [1] 4426/1</p> <p>grounds [1] 4403/15</p> <p>group [7] 4443/3 4444/5 4460/19 4491/6 4498/13 4501/23 4503/5</p> <p>groups [4] 4405/7 4494/17 4498/12 4498/13</p> <p>guarantee [1] 4431/22</p> <p>guess [10] 4420/12 4428/15 4433/20 4448/18 4460/3 4460/18 4476/8 4487/23 4490/3 4512/9</p> <p>guide [1] 4462/16</p>
H				
<p>H1 [1] 4463/14</p> <p>had [63] 4403/19 4416/11 4419/13 4419/20 4421/15 4422/24 4424/13 4426/19 4427/10 4427/15 4427/16 4428/4 4428/9 4428/25 4429/3 4429/5 4429/6 4429/19 4433/12 4436/11 4440/17</p>				

H	4508/5	4503/7 4503/12	4436/23 4437/10	4448/18 4460/3
had... [42] 4441/14	have [128]	4503/19 4505/12	4438/6 4438/10	4460/18 4476/8
4441/15 4442/15	haven't [3] 4413/23	4507/2 4511/6 4511/20	4440/20 4441/8	4487/23 4490/3 4512/9
4447/9 4452/15 4453/9	4464/4 4464/7	4516/24 4517/15	4441/12 4443/21	I have [4] 4430/6
4453/10 4453/19	having [7] 4404/7	4518/8 4518/11 4519/2	4445/14 4445/19	4468/7 4484/21
4455/7 4456/6 4456/10	4427/2 4471/14	high [9] 4418/23	4454/8 4457/11 4466/4	4500/22
4458/19 4460/8 4463/4	4482/20 4484/2	4448/6 4457/21	4471/24 4472/6 4477/5	I just [4] 4428/7
4468/4 4468/12	4508/15 4515/21	4462/25 4485/2 4485/5	4486/12 4490/21	4455/13 4465/18
4468/25 4472/11	he [34] 4417/9 4425/20	4485/17 4491/10	4491/10 4492/1 4494/5	4473/23
4478/21 4479/6 4479/7	4426/4 4426/13	4495/10	4495/20 4514/5	I know [5] 4429/21
4486/8 4487/5 4488/21	4426/19 4430/17	higher [6] 4419/20	however [3] 4409/13	4436/4 4441/8 4460/19
4492/22 4494/4	4430/19 4432/7	4420/18 4420/23	4473/20 4478/12	4490/17
4494/21 4499/12	4432/13 4432/25	4423/6 4448/20	huge [3] 4432/4	I mean [3] 4420/20
4499/17 4499/19	4433/6 4439/20	4454/24	4439/15 4514/8	4439/9 4490/2
4499/25 4502/16	4439/20 4441/2	highest [2] 4463/4	huh [1] 4458/10	I misspoke [1] 4461/12
4509/5 4511/20	4446/15 4450/8	4508/1	Humphrey [3] 4470/7	I recall [2] 4499/3
4513/23 4515/9	4460/12 4460/16	highlight [1] 4429/14	4470/11 4470/23	4502/4
4515/13 4515/17	4460/24 4481/22	highlighted [2] 4449/6	hundred [1] 4439/4	I see [1] 4462/24
4517/5 4518/9 4518/20	4488/24 4489/3 4489/5	4507/2	I	I should [3] 4433/10
4519/6	4489/13 4489/20	him [8] 4470/15	I also [1] 4422/4	4454/15 4479/13
hadn't [1] 4431/25	4489/21 4490/3 4495/6	4481/24 4489/15	I am [5] 4411/14	I think [29] 4407/14
half [7] 4427/16	4504/18 4512/15	4509/7 4510/21 4514/1	4459/6 4459/17	4408/21 4409/24
4462/12 4462/13	4514/5 4517/16	4514/2 4517/9	4476/22 4488/15	4410/6 4424/9 4428/3
4462/16 4465/25	4517/19 4518/12	his [11] 4432/15	I apologize [1] 4484/10	4428/13 4431/24
4467/23 4512/23	he's [5] 4429/6 4433/5	4433/13 4450/8	I asked [1] 4455/14	4432/13 4433/5 4433/7
Hallah [1] 4417/6	4460/14 4489/16	4460/15 4460/23	I assume [1] 4438/23	4440/10 4447/10
hand [10] 4434/13	4506/16	4489/7 4489/8 4495/7	I believe [21] 4415/15	4449/21 4450/22
4461/3 4461/4 4464/9	head [5] 4413/7	4495/7 4504/8 4514/12	4417/4 4440/13	4454/20 4462/11
4472/22 4474/6 4478/8	4450/21 4468/24	history [2] 4501/22	4450/17 4456/12	4465/17 4466/1
4482/14 4489/14	4502/8 4504/4	4501/23	4456/24 4461/12	4468/17 4473/21
4489/14	heading [1] 4476/21	hitting [1] 4420/5	4464/10 4464/24	4495/7 4506/1 4509/1
handed [4] 4438/14	headquarters [1]	hold [6] 4435/11	4470/3 4484/16 4490/3	4511/6 4514/11
4453/23 4454/1	4506/11	4436/1 4436/11	4495/6 4502/7 4503/7	4515/13 4516/10
4477/18	heard [11] 4417/9	4447/21 4461/24	4504/4 4504/6 4508/22	4519/2
handful [2] 4464/7	4463/4 4485/10 4489/8	4461/25	4511/1 4511/16	I thought [6] 4404/17
4507/19	4495/1 4495/9 4508/14	holder [1] 4480/17	4516/23	4443/2 4517/10
handle [1] 4508/23	4508/15 4509/3	holding [1] 4494/13	I can [6] 4412/11	4518/12 4518/14
handy [1] 4479/1	4509/13 4509/17	home [1] 4481/17	4412/12 4420/12	4518/20
handy-dandy [1]	hearing [2] 4462/1	Honor [28] 4403/6	4423/14 4431/5	I understand [7]
4479/1	4484/2	4415/17 4416/14	4473/19	4411/12 4412/17
happen [1] 4519/8	hearsay [5] 4461/13	4428/17 4430/7	I did [11] 4424/3	4413/18 4422/11
happened [5] 4452/13	4461/16 4482/6 4482/8	4433/23 4434/2 4441/1	4434/24 4439/4	4455/4 4468/16
4452/17 4452/19	4510/2	4445/24 4453/2 4461/8	4450/14 4481/5	4471/22
4454/19 4493/15	Heath [2] 4446/14	4461/15 4469/2	4483/12 4495/20	I want [11] 4411/25
happens [2] 4452/9	4446/17	4469/20 4472/20	4496/15 4501/13	4412/17 4420/2 4431/5
4518/23	heavily [2] 4491/19	4477/9 4477/13 4481/5	4511/6 4514/2	4448/17 4451/23
happy [5] 4410/5	4494/3	4481/18 4482/2	I didn't [2] 4404/3	4455/3 4459/14 4470/6
4419/6 4420/11	Hello [1] 4482/18	4482/2	4514/18	4473/17 4512/10
4453/20 4474/2	help [9] 4410/2	4500/23 4501/4 4509/9	I don't [29] 4407/15	I wanted [1] 4413/15
hard [3] 4420/6 4420/7	4420/17 4466/17	4509/24 4515/2	4408/13 4414/9	I was [33] 4409/1
4454/15	4491/21 4492/8 4492/9	4519/14	4416/13 4419/4	4425/7 4425/9 4425/13
harder [1] 4448/15	4510/18 4510/21	HONORABLE [3]	4419/18 4429/4	4430/4 4434/21
Harry [5] 4517/5	4511/4	4399/9 4403/2 4469/15	4436/18 4443/2	4435/18 4439/3
4517/13 4517/13	helped [2] 4505/19	honors [1] 4506/3	4446/18 4464/16	4441/15 4448/1
4517/14 4518/9	4517/21	hopefully [3] 4482/7	4468/18 4468/24	4453/21 4455/5
has [31] 4404/16	helpful [2] 4415/11	4485/24 4497/18	4481/3 4489/6 4490/2	4455/11 4460/23
4406/5 4406/8 4406/18	4427/19	hoping [2] 4439/3	4492/3 4496/19	4476/25 4478/23
4406/22 4407/1 4411/4	helping [2] 4444/16	4500/11	4497/17 4499/9 4503/4	4486/16 4487/2 4487/8
4412/25 4417/23	4487/8	horizon [1] 4444/25	4504/3 4504/7 4504/17	4487/18 4489/17
4418/4 4418/24	her [1] 4446/18	hours [1] 4407/5	4505/24 4508/25	4496/19 4496/20
4422/23 4423/15	here [27] 4410/15	house [2] 4405/4	4513/5 4513/9 4518/19	4501/13 4505/12
4426/20 4427/24	4418/10 4420/17	4466/16	I don't have [2]	4511/7 4511/16
4429/14 4442/2 4442/7	4433/13 4438/17	housekeeping [1]	4407/22 4457/20	4512/15 4512/17
4442/9 4443/25	4445/25 4447/14	4404/1	I don't recall [2]	4517/9 4518/8 4518/11
4445/25 4467/6	4453/15 4461/16	how [30] 4404/18	4416/8 4501/16	4519/2
4467/12 4470/11	4463/18 4474/22	4407/15 4429/12	I guess [10] 4420/12	I will [1] 4519/19
4473/10 4477/2 4485/3	4476/24 4480/1	4430/4 4431/25	4428/15 4433/20	I work [1] 4489/10
4490/9 4495/9 4508/2	4482/19 4494/11	4433/11 4433/13		I worked [1] 4489/14

I	4425/20 impact [11] 4424/12 4425/12 4442/3 4453/14 4453/18 4465/1 4471/14 4471/24 4472/4 4517/11 4518/15 impacted [3] 4425/14 4452/4 4454/9 impacting [1] 4414/23 implemented [3] 4499/23 4500/21 4515/8 implication [1] 4425/21 implications [3] 4425/17 4425/17 4426/13 important [2] 4422/14 4438/7 improve [3] 4445/13 4465/1 4492/9 improving [1] 4423/3 inaccuracies [3] 4450/18 4450/19 4451/3 inception [1] 4485/4 include [1] 4431/18 included [2] 4435/5 4468/21 including [4] 4447/10 4449/6 4454/8 4506/7 incorrect [1] 4504/5 increase [1] 4444/14 increasing [1] 4452/25 independent [1] 4409/6 independently [1] 4485/24 INDEX [3] 4402/2 4402/8 4402/17 indicated [3] 4451/14 4451/16 4464/10 indicates [1] 4415/25 individual [4] 4449/24 4456/16 4479/5 4503/14 individually [1] 4450/1 individuals [10] 4488/20 4490/7 4502/14 4502/16 4502/16 4502/22 4509/3 4510/23 4511/9 4517/21 infinite [1] 4456/6 inform [1] 4456/22 informal [1] 4439/10 information [11] 4407/4 4414/20 4421/21 4473/11 4490/6 4494/13 4513/6 4517/2 4517/5 4517/9 4519/5 informed [1] 4434/17 informing [1] 4415/4 infrastructure [1] 4466/12 ingest [1] 4457/16	ingests [1] 4457/2 initial [6] 4422/14 4441/20 4492/19 4492/22 4494/22 4497/8 initially [3] 4495/15 4496/25 4498/25 initiatives [1] 4466/13 innovate [1] 4466/20 innovation [5] 4485/6 4485/7 4488/25 4491/18 4492/21 innovations [1] 4466/16 innovative [4] 4485/23 4487/15 4487/17 4491/19 input [1] 4447/11 inquiries [2] 4458/11 4458/13 inside [3] 4514/8 4514/16 4514/22 inside-app [1] 4514/22 insights [2] 4486/1 4487/9 inspired [1] 4500/10 integrate [3] 4441/18 4448/16 4515/19 integrated [22] 4429/24 4496/22 4497/8 4497/9 4497/14 4497/20 4497/23 4498/2 4498/17 4498/18 4498/19 4498/21 4499/3 4499/13 4499/14 4500/12 4507/11 4508/8 4515/24 4516/4 4517/12 4519/4 integrating [2] 4508/1 4509/5 integration [3] 4435/14 4499/11 4508/13 intensive [2] 4468/3 4468/16 intention [1] 4433/13 intentionally [1] 4438/11 interacting [1] 4495/6 interacts [1] 4517/6 interest [5] 4428/10 4494/16 4496/10 4515/9 4515/11 interested [3] 4427/2 4427/8 4480/21 interesting [2] 4473/20 4494/5 interests [1] 4496/8 interface [1] 4492/16 interlay [1] 4405/3 internally [1] 4502/3 Internet [2] 4518/1 4518/13 interpretation [1] 4419/5 interrupt [2] 4419/10 4444/23 interrupting [1] 4484/1	intervention [1] 4516/24 intraday [16] 4407/1 4407/4 4407/6 4407/25 4408/13 4408/15 4410/5 4411/20 4423/25 4424/6 4424/7 4431/22 4432/2 4441/14 4452/15 4453/11 inventory [1] 4476/17 invest [12] 4483/11 4483/18 4483/19 4485/23 4486/13 4492/17 4492/20 4493/5 4493/9 4493/12 4493/14 4493/21 invested [2] 4487/21 4495/23 investigation [1] 4481/2 investment [18] 4425/25 4483/14 4490/5 4490/15 4491/1 4491/11 4491/16 4492/19 4492/23 4493/7 4493/16 4494/22 4495/18 4496/1 4501/23 4504/1 4504/15 4504/20 investments [8] 4447/16 4466/11 4490/22 4490/25 4492/2 4493/11 4493/24 4496/21 investor [2] 4496/16 4500/10 investors [1] 4496/10 invests [1] 4487/15 involved [12] 4407/24 4408/19 4435/18 4436/4 4443/11 4445/4 4455/6 4455/11 4477/6 4494/10 4501/21 4515/14 involvement [1] 4455/8 is [299] is -130 [1] 4512/13 is that correct [1] 4450/18 is that right [7] 4440/12 4448/21 4452/17 4459/9 4471/11 4474/23 4476/7 is there [6] 4440/2 4443/1 4444/25 4449/10 4463/6 4468/10 isn't [5] 4407/24 4420/20 4452/4 4461/2 4485/13 issue [2] 4442/7 4464/11 issues [5] 4431/11 4442/5 4454/24 4456/9 4482/9 issuing [1] 4444/16	it [267] it would be [4] 4409/15 4413/13 4414/8 4449/13 it's [77] 4407/18 4409/10 4409/17 4410/4 4413/10 4413/16 4414/23 4416/13 4418/14 4419/4 4419/16 4419/18 4419/19 4420/7 4420/25 4421/17 4422/14 4423/23 4424/17 4425/3 4427/19 4430/14 4430/14 4431/15 4439/9 4441/10 4441/16 4441/22 4442/2 4442/6 4443/15 4443/25 4444/12 4445/9 4445/21 4446/13 4449/15 4449/15 4449/16 4451/10 4454/2 4454/16 4457/19 4457/20 4457/22 4460/2 4460/3 4461/5 4461/24 4462/5 4464/6 4466/7 4467/11 4467/22 4468/12 4468/17 4468/19 4469/9 4469/23 4472/5 4473/16 4473/20 4474/11 4474/13 4475/16 4477/2 4479/3 4479/21 4485/20 4492/11 4496/2 4497/5 4497/6 4508/5 4509/1 4514/25 4519/15 item [1] 4432/19 items [3] 4448/6 4451/1 4451/19 iteration [1] 4500/8 iterations [2] 4441/16 4498/1 its [10] 4406/18 4406/22 4407/10 4414/21 4424/6 4426/15 4441/19 4444/18 4449/15 4481/25 itself [3] 4440/18 4449/15 4453/7
J			January [5] 4454/21 4458/24 4507/12 4509/8 4516/1 January 2019 [1] 4507/12 Japan [3] 4464/2 4475/23 4480/14 Japanese [1] 4463/23 Jason [6] 4429/11 4459/8 4459/16 4459/19 4459/21 4460/11 Jeff [3] 4516/14	

J	K		
Jeff... [2] 4516/14 4516/16	Kachachi [3] 4446/14 4446/14 4447/14	4517/1 4517/2 4517/2 4517/5 4518/6 4518/6 4518/8 4518/11 4518/19 4519/3 4519/15	least [6] 4413/22 4420/15 4427/14 4456/12 4467/23 4479/7
Jen [1] 4421/21	keep [3] 4466/11 4487/7 4505/16	knowledge [1] 4499/22	leave [2] 4435/7 4486/18
Jim [3] 4517/15 4517/18 4517/19	Kenneth [2] 4400/2 4403/9	knows [1] 4441/2	leaving [2] 4427/21 4428/2
JK [3] 4503/25 4504/2 4504/4	kenneth.dintzer2 [1] 4400/5	Koh [2] 4504/15 4504/16	led [2] 4466/12 4473/25
JK Shin [2] 4504/2 4504/4	key [5] 4413/15 4485/8 4491/9 4491/15 4494/9	Koh's [1] 4504/17	Leddy [2] 4430/16 4430/23
JK Shin/Peter [1] 4503/25	kill [1] 4518/3	Koo [4] 4503/25 4504/2 4504/6 4504/14	Lee [1] 4504/14
job [8] 4420/4 4420/9 4435/13 4435/20 4486/4 4486/5 4487/12 4488/9	killed [3] 4518/23 4518/25 4519/3	Korea [5] 4503/21 4503/22 4506/11 4517/3 4517/6	left [10] 4410/6 4416/19 4427/11 4434/16 4478/8 4486/15 4486/19 4486/21 4500/11 4504/18
John [2] 4401/2 4403/11	Kim [1] 4502/9	KRUEGER [15] 4404/7 4404/14 4415/21 4429/12 4430/9 4434/8 4459/5 4459/16 4459/20 4460/12 4469/22 4477/10 4477/17 4481/15 4481/16	left-hand [1] 4478/8
John Schmidlein [1] 4403/11	kind [13] 4428/15 4461/5 4462/5 4465/6 4485/4 4488/18 4492/25 4495/13 4496/2 4496/6 4504/7 4507/24 4508/10	Kunal [1] 4417/11	let [18] 4411/10 4417/3 4429/2 4432/11 4442/16 4443/21 4448/20 4454/4 4457/7 4460/25 4461/14 4463/17 4465/19 4472/15 4475/5 4476/5 4477/23 4478/25
joined [4] 4435/9 4485/4 4485/14 4493/7	knew [4] 4424/19 4425/4 4429/22 4499/25	L	let's [28] 4404/21 4409/10 4412/22 4416/19 4422/20 4425/15 4434/16 4438/16 4444/21 4446/3 4446/13 4448/2 4448/4 4450/2 4450/3 4453/10 4455/19 4457/24 4457/24 4458/23 4461/2 4463/13 4463/14 4464/19 4469/6 4469/22 4474/5 4475/17
joke [1] 4439/6	know [110] 4403/17 4403/21 4407/15 4408/13 4409/9 4413/15 4413/24 4414/9 4419/4 4419/19 4420/7 4420/15 4425/8 4428/8 4428/14 4429/21 4431/25 4433/10 4436/1 4436/4 4436/16 4436/18 4436/19 4438/6 4440/20 4441/8 4441/22 4443/2 4445/8 4445/14 4446/18 4447/9 4448/23 4450/15 4451/10 4460/2 4460/19 4463/17 4464/1 4466/11 4466/18 4467/6 4467/10 4468/18 4470/19 4472/4 4481/3 4484/15 4485/13 4485/20 4485/21 4485/22 4485/23 4485/25 4486/5 4486/7 4487/18 4487/19 4488/18 4489/2 4489/6 4489/16 4490/2 4490/17 4492/3 4492/3 4492/6 4492/8 4492/9 4492/21 4493/24 4494/2 4494/8 4494/13 4494/15 4496/9 4496/19 4498/10 4498/12 4499/20 4500/4 4501/16 4503/4 4505/24 4506/3 4507/23 4507/24 4508/4 4508/4 4508/6 4509/13 4511/6 4513/5 4513/8 4514/12 4514/13 4514/13 4514/17 4515/13	La [5] 4450/4 4450/6 4451/20 4452/7 4459/7	level [14] 4428/4 4428/9 4431/8 4441/19 4454/24 4455/5 4462/25 4485/2 4485/5 4485/17 4489/25 4490/4 4491/10 4495/10
Jolyn [3] 4474/13 4474/14 4475/12	kn [1] 4403/17	labeled [1] 4477/3	leveraging [1] 4417/23
jon.sallet [1] 4400/16	Jonathan [1] 4400/11	lack [2] 4437/18 4473/21	liable [1] 4444/16
Jr [1] 4400/17	Jr [1] 4400/17	large [1] 4474/1	Liao [5] 4489/9 4489/11 4489/12 4489/25 4502/9
jschmidlein [1] 4401/5	jschmidlein [1] 4401/5	larger [1] 4444/5	Liao's [1] 4489/19
Juan [1] 4483/25	Juan [1] 4483/25	last [8] 4417/4 4417/5 4458/15 4460/12 4467/19 4470/19 4517/15 4518/22	lighter [1] 4460/3
judge [4] 4399/10 4404/15 4454/12 4465/17	Judge [1] 4400/13	lastly [1] 4494/12	lights [1] 4466/11
July [6] 4501/18 4515/24 4516/2 4516/3 4516/8 4516/14	July [6] 4501/18 4515/24 4516/2 4516/3 4516/8 4516/14	late [11] 4427/4 4427/12 4428/3 4436/7 4436/14 4444/21 4447/23 4454/21 4463/6 4468/1 4493/8	like [52] 4411/23 4415/4 4416/12 4419/6 4420/10 4421/9 4423/2 4427/25 4430/4 4431/16 4437/12 4438/9 4438/19 4440/3 4440/4 4443/3 4444/3 4444/13 4445/10 4445/15 4445/22
just [56] 4404/17 4409/3 4409/19 4411/12 4412/7 4412/8 4413/7 4413/21 4414/4 4414/11 4418/7 4418/8 4419/9 4421/1 4421/4 4421/9 4424/22 4428/7 4429/19 4429/21 4432/11 4433/5 4434/12 4434/16 4438/14 4441/20 4443/4 4450/6 4451/10 4453/4 4454/12 4455/13 4455/23 4457/7 4458/19 4462/4 4462/9 4462/25 4465/3 4465/18 4465/19 4466/2 4469/3 4473/23 4477/17 4477/23 4477/25 4478/16 4479/1 4482/5 4484/5 4485/14 4489/8 4492/15 4494/15 4494/15	just [56] 4404/17 4409/3 4409/19 4411/12 4412/7 4412/8 4413/7 4413/21 4414/4 4414/11 4418/7 4418/8 4419/9 4421/1 4421/4 4421/9 4424/22 4428/7 4429/19 4429/21 4432/11 4433/5 4434/12 4434/16 4438/14 4441/20 4443/4 4450/6 4451/10 4453/4 4454/12 4455/13 4455/23 4457/7 4458/19 4462/4 4462/9 4462/25 4465/3 4465/18 4465/19 4466/2 4469/3 4473/23 4477/17 4477/23 4477/25 4478/16 4479/1 4482/5 4484/5 4485/14 4489/8 4492/15 4494/15 4494/15	later [3] 4428/5 4497/18 4511/18	lives [1] 4492/9
JUSTICE [3] 4400/2 4400/6 4434/1	JUSTICE [3] 4400/2 4400/6 4434/1	launch [8] 4444/18 4468/20 4474/18 4497/8 4499/2 4499/4 4506/21 4507/15	LLC [2] 4399/6 4403/8
justification [1] 4418/24	justification [1] 4418/24	launched [10] 4407/18 4440/13 4443/24 4444/12 4468/22 4474/22 4475/13 4497/17 4499/10 4500/2	LLP [3] 4400/18 4401/3 4401/7
Justin [3] 4510/22 4511/5 4511/7	Justin [3] 4510/22 4511/5 4511/7	launches [1] 4409/24	local [1] 4476/17
		LAW [1] 4400/11	located [1] 4506/11
		lawsuit [1] 4436/17	log [4] 4409/11 4410/22 4411/8
		Lay [1] 4441/2	
		lead [4] 4434/21 4435/3 4435/8 4446/15	
		leaders [1] 4493/1	
		leadership [3] 4434/25 4455/5 4460/4	
		leading [1] 4456/16	
		leaned [1] 4491/18	
		leaning [1] 4494/3	
		Learn [1] 4488/7	

L	4422/13 mail [2] 4473/6 4511/22 main [10] 4415/3 4419/15 4491/7 4491/17 4494/20 4495/8 4496/17 4496/20 4496/20 4501/13 Maine [1] 4401/3 mainly [1] 4515/20 maintain [1] 4434/18 maintenance [1] 4441/21 major [2] 4444/13 4444/14 majority [1] 4468/5 make [15] 4408/22 4410/11 4412/17 4413/15 4428/7 4432/25 4445/22 4452/18 4454/1 4455/13 4465/18 4473/23 4496/1 4496/11 4512/11 makes [4] 4436/20 4493/25 4496/11 4514/8 making [5] 4413/21 4433/6 4439/6 4440/7 4486/7 manage [1] 4476/10 managed [1] 4409/15 management [2] 4475/22 4476/11 manager [9] 4407/23 4430/17 4435/9 4437/16 4443/12 4446/15 4460/16 4460/20 4474/15 managers [1] 4437/3 managing [3] 4487/13 4489/23 4489/24 manual [1] 4405/5 many [19] 4407/15 4440/19 4441/16 4442/3 4445/11 4445/11 4445/16 4445/16 4485/21 4486/2 4487/11 4492/5 4496/15 4497/25 4498/1 4499/11 4501/21 4503/14 4519/4 March [4] 4454/21 4456/25 4469/23 4503/24 March 2017 [1] 4503/24 marked [5] 4415/20 4430/14 4451/5 4461/6 4472/23 market [2] 4437/6 4486/13 marketing [3] 4437/6 4479/14 4479/16 match [12] 4430/24 4430/25 4431/3 4431/6	4431/6 4431/6 4431/8 4431/12 4431/17 4431/22 4431/24 4432/1 material [1] 4436/24 materials [1] 4434/18 Matt [2] 4417/23 4482/3 Matt McGinnis [1] 4482/3 matter [6] 4404/1 4421/17 4437/23 4474/17 4517/10 4520/4 Matthew [2] 4401/6 4417/6 matthew.mcginis [1] 4401/10 Maurer [7] 4401/2 4403/14 4403/21 4434/4 4469/7 4469/19 4477/11 may [10] 4415/17 4415/18 4430/7 4453/2 4472/20 4500/23 4500/24 4503/15 4513/11 4517/11 maybe [12] 4408/2 4409/3 4412/18 4413/7 4424/22 4427/19 4433/5 4439/24 4442/16 4445/9 4450/23 4470/16 MBA [3] 4484/21 4484/22 4484/23 McGinnis [2] 4401/6 4482/3 MD [2] 4489/21 4489/23 MDSA [3] 4504/25 4505/10 4505/20 me [32] 4403/20 4404/19 4411/10 4412/12 4417/3 4417/11 4420/17 4423/16 4429/2 4432/11 4442/16 4443/3 4443/22 4448/20 4454/4 4457/7 4461/14 4462/24 4463/17 4465/19 4472/15 4475/5 4476/5 4477/23 4478/25 4482/7 4482/20 4508/11 4513/7 4513/10 4517/16 4518/9 mean [25] 4409/5 4409/5 4409/20 4418/15 4420/4 4420/20 4425/9 4435/13 4439/9 4447/20 4451/3 4455/10 4463/11 4467/22 4471/4 4472/2 4489/23 4490/2 4490/14 4492/5 4495/20 4498/9 4505/9	4518/5 4518/25 meaning [2] 4451/5 4451/25 means [6] 4416/2 4418/11 4437/24 4464/13 4476/9 4508/22 meant [5] 4443/5 4478/9 4505/15 4505/24 4518/12 measured [1] 4454/7 measurement [3] 4408/6 4457/22 4479/15 mechanical [1] 4401/16 mechanism [1] 4431/9 Meet [1] 4476/21 meeting [8] 4447/10 4455/2 4455/4 4455/15 4455/17 4503/25 4506/18 4506/19 meetings [9] 4447/9 4447/15 4506/10 4506/14 4506/16 4507/16 4507/17 4507/19 4507/21 MEHTA [5] 4399/9 4403/3 4421/17 4425/16 4469/16 member [1] 4517/19 members [6] 4487/2 4509/19 4511/2 4513/7 4517/4 4517/7 memory [4] 4436/20 4497/19 4511/1 4511/16 mention [2] 4467/2 4507/24 mentioned [12] 4404/2 4404/15 4419/5 4447/15 4463/23 4480/9 4482/4 4490/19 4494/3 4500/13 4502/1 4502/24 mentioning [3] 4458/17 4478/23 4489/17 mentor [1] 4488/18 Merit [1] 4401/12 merits [2] 4486/8 4491/17 message [3] 4447/17 4516/13 4517/1 messages [1] 4518/2 messy [1] 4442/5 metadata [1] 4415/22 method [1] 4431/3 metric [2] 4430/24 4433/8 metrics [25] 4431/15 4431/19 4433/15 4483/11 4483/13 4483/15 4483/18 4483/19 4483/21 4487/10 4492/18 4492/20 4495/5 4496/14 4496/16	4496/18 4500/10 4500/11 4500/12 4501/24 4502/18 4504/21 4508/16 4511/9 4513/16 Metrics' [1] 4518/15 microphone [3] 4484/6 4484/7 4484/9 Microsoft [105] 4406/17 4406/18 4407/12 4408/4 4408/5 4408/6 4408/7 4408/16 4408/17 4408/25 4409/4 4409/6 4409/12 4410/7 4410/8 4410/15 4411/7 4411/9 4413/14 4413/17 4413/20 4414/6 4414/16 4414/20 4417/23 4418/12 4419/6 4423/24 4426/5 4426/21 4427/9 4429/1 4429/17 4429/24 4431/2 4435/19 4435/23 4436/2 4436/8 4437/22 4438/4 4438/12 4442/14 4443/9 4444/22 4446/10 4446/19 4446/22 4447/7 4447/18 4448/6 4448/24 4449/3 4449/23 4451/4 4451/7 4451/14 4452/3 4452/4 4452/8 4452/11 4452/13 4452/14 4452/15 4452/17 4452/24 4453/5 4453/6 4454/25 4455/22 4455/24 4456/1 4456/5 4456/10 4456/11 4457/5 4457/15 4457/15 4458/8 4458/14 4458/18 4460/8 4463/7 4465/13 4466/2 4468/21 4470/8 4470/12 4471/7 4471/8 4471/15 4471/15 4471/17 4471/18 4471/25 4472/17 4473/10 4475/3 4475/13 4475/23 4476/18 4479/7 4480/5 4480/10 4480/12 Microsoft's [11] 4408/5 4408/13 4408/20 4409/13 4424/5 4447/24 4449/13 4450/9 4455/24 4471/4 4480/1 microsoftadvertising.com [1] 4409/10 middleman [2] 4496/6 4507/25 might [9] 4424/9 4425/9 4428/14 4434/13 4461/16 4480/12 4480/13
M	M-Y-X [1] 4442/22 MA [1] 4401/8 made [8] 4403/15 4437/11 4483/14 4493/7 4493/12 4493/14 4494/22 4508/8 Mader [2] 4421/21			

M	move [12] 4416/14 4422/20 4423/2 4461/8 4461/14 4469/4 4481/6 4484/8 4509/24 4514/24 4519/10 4519/15 moved [5] 4421/24 4422/7 4422/15 4435/16 4514/25 moving [4] 4453/15 4454/16 4512/7 4512/9 Mr [2] 4421/17 4482/1 Mr. [58] 4403/21 4404/5 4404/14 4412/19 4415/21 4425/16 4429/13 4430/9 4430/23 4431/21 4432/4 4432/19 4434/4 4434/8 4438/13 4439/15 4439/18 4446/7 4447/14 4450/4 4451/20 4452/7 4458/4 4459/5 4459/7 4469/7 4469/19 4469/22 4470/1 4470/11 4470/23 4477/10 4477/11 4477/12 4477/17 4481/15 4481/16 4482/4 4482/17 4483/5 4484/2 4484/12 4489/2 4489/4 4489/6 4489/19 4489/25 4490/19 4501/8 4510/11 4510/21 4511/4 4511/15 4512/24 4513/23 4514/4 4514/10 4519/18 Mr. Arteaga [1] 4484/12 Mr. Cavanaugh [4] 4404/5 4412/19 4438/13 4477/12 Mr. Chang [8] 4482/17 4483/5 4484/2 4490/19 4501/8 4510/11 4512/24 4519/18 Mr. Eun [7] 4489/2 4489/6 4510/21 4511/4 4511/15 4513/23 4514/4 Mr. Eun's [2] 4489/4 4514/10 Mr. Fitzgibbon [5] 4431/21 4432/4 4432/19 4439/15 4439/18 Mr. Humphrey [2] 4470/11 4470/23 Mr. Kachachi [1] 4447/14 Mr. Krueger [10] 4404/14 4415/21 4430/9 4434/8 4459/5 4469/22 4477/10 4477/17 4481/15 4481/16	Mr. La [1] 4459/7 Mr. La Force [3] 4450/4 4451/20 4452/7 Mr. Leddy [1] 4430/23 Mr. Liao [1] 4489/25 Mr. Liao's [1] 4489/19 Mr. Maurer [5] 4403/21 4434/4 4469/7 4469/19 4477/11 Mr. Mehta [1] 4425/16 Mr. Morris [1] 4429/13 Mr. Schliesske [3] 4446/7 4458/4 4470/1 Mr. Schmidlein [1] 4482/4 Ms [1] 4482/7 Ms. [3] 4422/13 4422/22 4481/20 Ms. Mader [1] 4422/13 Ms. Murdock-Park [1] 4481/20 Ms. Schaffer [1] 4422/22 much [7] 4423/23 4424/17 4444/5 4469/3 4473/5 4481/13 4481/16 multiple [12] 4405/19 4479/5 4480/21 4487/1 4487/21 4493/9 4493/11 4494/21 4503/8 4508/3 4515/13 4515/17 Murdock [5] 4400/6 4481/19 4481/20 4482/7 4483/6 Murdock-Park [3] 4400/6 4481/19 4483/6 Murdock-Park's [1] 4482/7 must [1] 4429/5 my [38] 4403/22 4407/13 4407/16 4413/7 4415/7 4416/3 4420/3 4421/16 4424/9 4424/25 4426/14 4427/14 4428/4 4429/9 4430/1 4430/17 4430/19 4433/5 4436/20 4437/16 4440/14 4443/13 4450/21 4460/14 4468/24 4478/25 4479/1 4483/5 4484/20 4484/23 4488/17 4491/15 4496/1 4507/23 4508/7 4511/1 4511/16 4513/15 myself [1] 4476/12 MYX [1] 4442/22	4477/2 narrow [1] 4500/17 native [1] 4453/24 natively [1] 4410/3 nature [1] 4451/17 NC [1] 4419/18 near [1] 4473/15 need [6] 4460/2 4470/20 4471/1 4475/18 4494/15 4516/23 needed [2] 4494/16 4504/10 needs [1] 4421/11 negative [2] 4426/14 4453/17 negatively [1] 4452/4 negotiating [1] 4516/7 negotiation [1] 4517/8 negotiations [2] 4516/11 4517/16 never [4] 4438/11 4508/14 4518/6 4518/7 new [30] 4400/19 4429/7 4431/25 4435/16 4435/17 4435/20 4438/23 4445/2 4466/14 4468/4 4468/8 4468/12 4468/13 4468/15 4468/20 4468/22 4468/22 4468/25 4474/5 4474/19 4474/20 4474/25 4475/14 4475/25 4476/11 4488/7 4515/18 4515/18 4516/7 4516/11 newly [1] 4475/24 news [1] 4417/9 next [47] 4448/19 4449/7 4449/21 4459/12 4462/6 4462/22 4464/24 4468/2 4481/21 4481/23 4483/8 4483/21 4484/25 4485/1 4485/2 4485/3 4485/5 4485/5 4485/13 4485/16 4485/22 4486/3 4486/5 4486/16 4488/15 4488/17 4488/21 4488/25 4489/14 4489/20 4489/22 4490/20 4491/9 4491/15 4493/10 4493/16 4496/16 4496/21 4500/15 4500/16 4500/19 4502/4 4502/9 4502/17 4507/12 4507/23 4517/19 Nice [1] 4506/17 no [35] 4399/4 4416/12 4424/13 4425/11 4433/25 4434/2 4435/2 4435/6 4435/18 4435/24 4436/12	4438/1 4438/5 4448/14 4450/21 4451/6 4455/7 4455/9 4455/12 4455/23 4460/10 4461/10 4461/16 4463/9 4463/12 4464/4 4465/15 4466/3 4471/9 4481/8 4490/9 4490/14 4499/1 4510/2 4512/8 non [1] 4458/15 non-last [1] 4458/15 None [1] 4445/25 normal [1] 4433/22 not [126] note [3] 4422/4 4422/14 4445/24 notebook [1] 4461/2 notes [2] 4418/7 4426/19 nothing [3] 4412/6 4433/23 4481/12 notice [1] 4460/12 November [5] 4447/2 4454/19 4455/2 4474/12 4477/21 November 26th [1] 4447/2 now [30] 4404/23 4405/22 4406/16 4406/18 4407/9 4407/23 4411/4 4422/20 4425/16 4436/6 4436/20 4443/10 4448/23 4453/23 4454/14 4454/18 4461/1 4462/9 4462/11 4463/13 4468/4 4468/8 4471/11 4474/5 4475/22 4479/10 4480/9 4502/10 4504/23 4519/18 nuance [1] 4414/9 number [8] 4404/2 4423/13 4427/1 4441/6 4458/25 4477/5 4499/9 4499/12 numbers [1] 4454/16 NW [3] 4400/3 4400/7 4401/14 NY [1] 4400/19
	N		O	
	name [10] 4415/23 4426/20 4442/13 4442/13 4442/21 4442/23 4460/12 4473/5 4483/5 4495/1 names [2] 4442/15		oath [1] 4482/15 objection [12] 4403/15 4440/25 4445/24 4461/10 4461/13 4461/16 4481/8 4481/25 4482/6 4510/1 4510/2 4515/1 objective [1] 4420/7 obligations [1] 4434/17 observed [1] 4418/14 obvious [1] 4427/22 obviously [3] 4425/8 4445/25 4514/17 occurrences [1]	

<p>O</p> <p>occurrences... [1] 4463/4</p> <p>October [4] 4399/5 4462/18 4477/20 4520/7</p> <p>off [9] 4410/6 4416/19 4434/16 4437/15 4447/12 4450/21 4468/24 4498/24 4499/3</p> <p>off-device [2] 4498/24 4499/3</p> <p>offer [1] 4466/17</p> <p>offered [2] 4412/14 4480/7</p> <p>offerings [1] 4466/15</p> <p>offers [1] 4408/17</p> <p>offhand [1] 4457/20</p> <p>officer [1] 4488/25</p> <p>official [3] 4401/13 4465/21 4488/12</p> <p>offline [1] 4458/16</p> <p>Oh [6] 4476/8 4478/4 4484/7 4512/1 4512/7 4516/19</p> <p>okay [50] 4404/5 4404/20 4404/22 4405/9 4405/14 4406/4 4406/15 4406/17 4406/21 4406/25 4413/6 4416/5 4416/7 4417/16 4417/21 4418/9 4418/21 4421/12 4422/12 4424/16 4428/16 4430/2 4430/20 4430/22 4432/24 4433/25 4434/15 4436/22 4445/17 4447/5 4451/8 4461/17 4471/13 4473/19 4476/8 4478/4 4479/9 4479/24 4481/7 4481/9 4482/5 4482/10 4498/23 4507/6 4509/11 4510/3 4510/16 4512/14 4512/19 4516/19</p> <p>onboarding [1] 4435/17</p> <p>once [2] 4444/8 4496/1</p> <p>one [73] 4403/18 4405/15 4407/10 4409/23 4410/9 4410/13 4416/13 4418/11 4420/13 4424/10 4425/21 4425/24 4427/25 4428/20 4430/6 4430/19 4441/10 4442/2 4444/10 4445/18 4446/6 4446/18 4447/2 4449/7 4454/14 4456/14 4456/24 4458/3 4459/22 4461/4 4464/25 4465/3</p>	<p>4465/16 4469/1 4469/2 4470/3 4473/22 4474/7 4475/14 4475/25 4477/9 4477/19 4479/7 4479/9 4486/6 4487/2 4487/10 4487/11 4487/16 4488/17 4488/20 4490/19 4490/20 4490/25 4491/22 4491/24 4492/25 4494/24 4496/15 4500/9 4501/13 4503/2 4504/6 4504/6 4504/18 4506/13 4508/10 4509/23 4511/2 4512/4 4513/23 4515/14 4517/20</p> <p>one-sentence [1] 4513/23</p> <p>one-sided [1] 4508/10</p> <p>ones [11] 4407/2 4437/2 4448/11 4448/11 4448/15 4448/15 4448/17 4449/5 4449/24 4450/20 4451/14</p> <p>ongoing [1] 4443/13</p> <p>online [1] 4476/16</p> <p>only [21] 4403/25 4407/25 4408/15 4413/13 4422/24 4431/5 4463/22 4473/16 4476/6 4476/9 4477/19 4478/21 4480/11 4480/12 4480/14 4485/14 4486/22 4500/18 4507/19 4513/18 4518/1</p> <p>onset [1] 4492/22</p> <p>open [6] 4410/21 4412/7 4413/9 4413/9 4470/16 4470/17</p> <p>operated [3] 4433/12 4438/10 4513/16</p> <p>operating [1] 4414/8</p> <p>opportunity [4] 4467/7 4494/19 4514/8 4514/14</p> <p>opposite [1] 4482/8</p> <p>opt [2] 4417/13 4476/15</p> <p>optimization [1] 4473/25</p> <p>optimizing [1] 4420/14</p> <p>option [1] 4431/16</p> <p>optional [2] 4465/4 4465/5</p> <p>options [2] 4429/19 4430/4</p> <p>order [1] 4449/17</p> <p>ordered [1] 4463/3</p> <p>orders [3] 4419/14 4419/14 4423/5</p> <p>organize [2] 4438/24 4439/3</p> <p>originally [1] 4468/18</p>	<p>other [42] 4403/25 4405/17 4408/18 4411/16 4413/4 4413/8 4414/13 4418/7 4420/20 4424/10 4426/22 4428/14 4434/12 4435/5 4435/15 4435/21 4435/23 4437/23 4438/4 4441/13 4445/10 4448/15 4449/11 4449/16 4449/18 4449/24 4454/20 4460/20 4465/5 4465/11 4472/12 4472/12 4473/6 4474/20 4474/22 4475/13 4477/7 4478/23 4479/9 4510/2 4513/7 4518/3</p> <p>our [86] 4405/2 4405/4 4405/22 4407/6 4408/4 4408/7 4408/10 4408/10 4408/11 4408/14 4408/14 4408/15 4408/24 4409/15 4409/18 4409/19 4409/19 4409/20 4409/25 4410/2 4410/5 4412/5 4413/17 4413/22 4414/7 4414/10 4414/24 4418/12 4421/4 4425/7 4425/9 4425/11 4425/13 4426/8 4427/21 4431/14 4431/25 4432/2 4433/8 4433/15 4435/16 4437/7 4438/19 4441/10 4441/17 4442/3 4443/16 4444/9 4447/11 4447/15 4447/17 4447/21 4454/5 4457/3 4457/12 4458/19 4465/22 4465/23 4466/16 4466/19 4466/22 4468/5 4468/13 4468/17 4469/8 4471/16 4472/6 4473/9 4474/18 4477/4 4479/17 4479/18 4480/15 4481/22 4491/17 4496/6 4496/9 4500/17 4501/23 4507/25 4510/1 4513/15 4514/17 4517/2 4519/15 4519/16</p> <p>ours [2] 4479/13 4480/17</p> <p>out [27] 4420/17 4422/8 4426/20 4433/10 4433/12 4439/19 4465/22 4467/10 4469/3 4479/21 4480/4 4500/4</p>	<p>4500/7 4500/16 4500/18 4500/19 4501/3 4503/21 4503/22 4504/25 4505/2 4505/10 4506/5 4509/15 4517/16 4517/21 4518/20</p> <p>outage [1] 4444/17</p> <p>outages [1] 4456/21</p> <p>outlines [1] 4425/16</p> <p>output [1] 4457/13</p> <p>outside [1] 4409/5</p> <p>outsource [1] 4496/3</p> <p>over [21] 4404/16 4418/12 4418/14 4418/17 4419/1 4419/19 4421/10 4423/3 4433/21 4438/8 4438/10 4448/18 4452/25 4453/16 4462/22 4485/3 4488/3 4495/14 4499/10 4501/24 4502/18</p> <p>overall [3] 4426/6 4429/22 4460/17</p> <p>overlap [1] 4440/2</p> <p>overly [1] 4422/6</p> <p>oversees [1] 4443/12</p> <p>own [15] 4406/18 4409/12 4413/7 4414/21 4441/19 4445/20 4449/15 4466/16 4466/19 4467/17 4486/9 4491/20 4497/12 4515/21 4517/24</p> <p>owners [1] 4503/13</p> <p>owns [1] 4407/23</p>	<p>4511/25 4512/13 4512/22 4513/22 4514/3</p> <p>page 1 [1] 4514/3</p> <p>page 2 [4] 4458/7 4503/23 4504/23 4513/22</p> <p>page 3 [2] 4462/21 4504/24</p> <p>page 311 [2] 4448/3 4450/3</p> <p>page 312 [2] 4448/4 4449/6</p> <p>page 4 [1] 4512/22</p> <p>page 4891 [1] 4430/21</p> <p>page 4893 [1] 4432/17</p> <p>page 5 [5] 4506/17 4506/19 4507/7 4507/12 4510/20</p> <p>page 675 [1] 4473/14</p> <p>page 740 [1] 4463/19</p> <p>page 748 [1] 4465/9</p> <p>page 892 [1] 4439/12</p> <p>page 904 [1] 4423/21</p> <p>page 907 [1] 4417/4</p> <p>pages [4] 4439/11 4462/23 4464/17 4506/9</p> <p>pages 4 [1] 4506/9</p> <p>pain [1] 4439/6</p> <p>parent [2] 4490/22 4491/2</p> <p>parity [3] 4426/6 4426/16 4465/10</p> <p>park [5] 4400/6 4400/9 4481/19 4481/20 4483/6</p> <p>Park's [1] 4482/7</p> <p>part [20] 4409/8 4419/25 4420/6 4431/18 4432/15 4434/25 4448/15 4449/16 4449/20 4455/25 4460/5 4464/13 4470/7 4470/10 4476/8 4485/15 4486/10 4496/13 4510/23 4517/20</p> <p>partial [2] 4451/6 4456/15</p> <p>participate [1] 4438/2</p> <p>participated [2] 4493/10 4493/11</p> <p>particular [4] 4410/4 4416/13 4445/5 4458/7</p> <p>parties [3] 4501/21 4508/3 4517/3</p> <p>partner [3] 4465/23 4480/19 4487/13</p> <p>partners [3] 4437/8 4485/9 4494/10</p> <p>partnership [2] 4425/22 4504/7</p> <p>partnership's [2] 4496/4 4517/20</p> <p>partnerships [3] 4486/1 4495/7 4517/8</p>
--	---	--	--	--

P	phrases [1] 4488/1	4476/13 4495/4	4476/6 4517/22	4507/15 4508/6
parts [1] 4408/2	piece [3] 4409/7	4496/17 4496/20	PREVIOUSLY [1]	4511/11 4513/11
Pass [1] 4433/24	4449/22 4467/19	4496/20 4498/5 4498/5	4404/8	4514/21 4515/9
passing [1] 4414/20	pieces [1] 4467/24	4498/6 4514/3 4515/25	primarily [3] 4447/16	4515/14 4518/15
path [1] 4415/23	ping [2] 4518/1	4498/6 4514/3 4515/25	4485/23 4487/17	products [9] 4440/1
Patrick [2] 4481/21	4518/13	pointed [2] 4439/14	primary [1] 4437/24	4466/14 4494/17
4483/2	pipeline [1] 4466/12	4464/8	printed [1] 4453/25	4494/18 4498/13
PATTERSON [1]	place [4] 4406/16	pointing [1] 4439/18	prior [6] 4428/3	4505/18 4508/2
4400/17	4500/3 4506/17	points [4] 4436/24	4447/15 4450/2 4468/7	4508/13 4518/17
pay [1] 4425/24	4518/20	4475/5 4475/18	4475/25 4476/3	project [12] 4442/11
paying [2] 4480/20	placed [1] 4482/15	4493/15	priorities [6] 4445/21	4442/13 4442/19
4484/15	Plaintiff [6] 4400/10	portal [3] 4409/5	4486/12 4490/21	4442/21 4442/22
pbwt.com [1] 4400/20	4403/10 4434/11	4409/6 4413/9	4491/7 4498/6 4498/14	4442/23 4442/23
peers [1] 4430/19	4436/6 4446/4 4483/2	portfolio [11] 4411/19	prioritization [2]	4444/18 4446/15
people [12] 4413/16	PLAINTIFF's [2]	4452/5 4452/20	4447/12 4462/16	4467/24 4468/2 4468/4
4439/4 4443/3 4446/19	4402/5 4402/10	4453/14 4454/7 4487/4	prioritized [1] 4429/15	Project BYX [1]
4461/25 4475/12	Plaintiffs [4] 4399/4	4487/5 4492/7 4496/7	prioritizes [1] 4447/16	4444/18
4477/3 4502/11 4503/7	4400/2 4404/7 4416/17	4496/9 4507/25	priority [4] 4418/23	Project MYX [1]
4508/17 4508/19	plaintiffs' [8] 4439/14	portfolios [2] 4405/7	4448/6 4463/3 4465/4	4442/22
4508/25	4450/5 4459/11	4453/1	probably [3] 4403/22	prongs [1] 4486/6
per [7] 4419/13	4463/15 4481/10	portion [4] 4454/8	4448/13 4450/23	proofing [4] 4505/5
4419/16 4419/21	4510/5 4515/3 4519/12	4471/16 4471/20	problem [4] 4403/20	4505/10 4505/15
4419/23 4420/21	plan [2] 4430/23	4472/3	4445/12 4445/14	4505/21
4479/5 4503/5	4462/19	portions [1] 4505/19	4456/22	proposed [1] 4429/17
percent [4] 4419/20	planning [4] 4462/6	position [4] 4434/20	proceedings [3]	proposing [1] 4437/14
4423/4 4423/17	4466/7 4467/19	4434/23 4435/1 4435/7	4399/9 4401/16 4520/4	proposition [1]
4450/23	4470/18	possible [2] 4408/25	4428/15 4437/9	4418/25
percentage [3] 4423/9	platform [31] 4408/10	4514/7	4447/12 4477/6 4493/3	propositions [1]
4423/16 4457/17	4408/10 4408/11	Possibly [1] 4427/18	4493/20 4494/1	4410/13
perception [2] 4426/7	4408/14 4408/24	post [3] 4418/11	4497/16	props [1] 4425/24
4426/15	4409/19 4409/20	4418/16 4422/23	processes [1] 4467/18	Protection [1] 4400/12
perform [3] 4424/14	4410/1 4410/3 4411/2	potential [7] 4492/21	produce [2] 4424/6	provide [4] 4418/22
4431/23 4460/7	4412/2 4412/13 4414/6	4494/18 4509/20	4467/2	4421/22 4422/1 4452/3
performance [13]	4425/9 4426/8 4426/15	4509/22 4514/8 4518/3	produced [4] 4401/16	provided [1] 4451/4
4417/10 4417/25	4427/21 4428/2	4518/9	4421/15 4453/24	provides [1] 4421/21
4419/6 4420/19	4435/17 4447/21	potentially [6] 4479/6	4454/5	Prudential [1] 4401/7
4421/18 4421/23	4453/8 4455/22	4486/13 4494/12	product [77] 4407/23	PSX00537 [1] 4453/24
4422/25 4423/3	4455/24 4456/2	4506/8 4513/11 4519/6	4427/22 4429/19	PSX00572 [1] 4474/6
4423/11 4424/11	4456/19 4468/6	POV [1] 4459/24	4430/3 4434/21 4435/3	PSX1194 [2] 4430/14
4425/25 4426/17	4468/22 4476/12	practice [1] 4436/23	4435/8 4435/9 4435/9	4438/14
4452/20	4479/14 4479/16	practices [1] 4409/14	4436/3 4437/1 4437/3	PSX433 [2] 4469/6
performing [2]	4480/5	pre [3] 4418/11	4437/11 4437/11	4469/23
4423/24 4487/4	platforms [2] 4411/16	4418/16 4422/23	4437/17 4440/5 4440/6	PSX435 [1] 4472/23
perhaps [2] 4451/15	4441/22	precede [1] 4487/14	4441/8 4441/11	PSX457 [2] 4462/8
4451/16	playing [1] 4507/25	precursor [1] 4459/24	4441/17 4441/19	4463/14
period [6] 4419/20	please [17] 4403/4	preliminaries [1]	4443/12 4443/17	PSX462 [1] 4458/23
4462/17 4467/25	4446/7 4458/4 4469/1	4483/21	4443/24 4444/8	PSX537 [1] 4454/2
4480/6 4486/22 4487/3	4469/17 4469/22	preload [1] 4518/16	4444/18 4445/1	PSX586A [1] 4415/20
periods [2] 4418/17	4469/25 4482/13	preloaded [3] 4497/7	4450/14 4459/23	PSX668 [2] 4446/3
4419/19	4492/13 4493/20	4497/10 4500/6	4459/24 4460/16	4455/16
permitted [1] 4500/5	4495/10 4495/18	president [3] 4488/24	4460/23 4460/24	PSX765 [1] 4457/25
person [4] 4489/12	4499/8 4502/13	4489/21 4502/8	4462/2 4462/6 4462/16	PSX952 [11] 4501/2
4489/13 4489/17	4510/15 4512/22	presiding [2] 4403/3	4462/19 4466/6	4501/12 4501/15
4507/16	4519/19	4469/16	4466/20 4467/1 4467/3	4501/19 4502/2
personally [2] 4508/14	pleased [1] 4421/14	pressing [1] 4432/14	4467/8 4467/10	4502/10 4506/23
4518/7	plus [6] 4418/24	pressing [1] 4432/14	4467/14 4468/12	4507/7 4509/25 4510/5
perspective [11]	4430/24 4431/22	presumably [5]	4467/14 4468/12	4510/8
4405/5 4421/7 4423/10	4432/8 4432/8 4468/14	4405/17 4418/13	4468/13 4468/15	public [2] 4450/10
4428/5 4437/7 4459/23	point [32] 4408/3	4419/19 4449/14	4472/6 4474/15	4465/21
4503/19 4515/14	4409/3 4413/15	4480/13	4474/19 4479/15	public-facing [1]
4515/15 4515/16	4413/21 4414/23	presume [2] 4406/1	4479/18 4495/8	4465/21
4515/17	4418/12 4420/11	4419/18	4495/13 4495/16	publisher [1] 4410/22
Peter [4] 4503/25	4423/1 4424/8 4425/7	pretty [2] 4438/7	4497/9 4497/13	pull [2] 4511/23
4504/2 4504/6 4504/14	4428/7 4428/9 4428/13	4442/5	4499/14 4503/6	4512/22
phase [1] 4493/2	4429/21 4429/25	Prettyman [1] 4401/13	4503/12 4503/18	pulled [1] 4463/2
phases [1] 4485/4	4431/24 4454/23	prevent [1] 4482/7	4503/18 4507/1 4507/2	push [1] 4432/8
Philip [1] 4401/2	4458/12 4465/9 4475/5	prevents [1] 4412/6	4507/4 4507/5 4507/8	pushes [1] 4420/24
phone [1] 4497/6	4475/20 4476/5	previous [3] 4439/4	4507/10 4507/10	put [25] 4431/5 4437/5

P	read-only [2] 4476/6 4476/9 reading [2] 4418/10 4419/11 real [4] 4407/6 4429/2 4432/11 4494/5 really [8] 4485/6 4486/6 4488/15 4492/11 4505/13 4505/15 4510/14 4511/19 Realtime [1] 4401/12 reason [8] 4423/25 4424/4 4424/8 4424/13 4424/18 4425/3 4443/1 4501/20 reasons [6] 4413/24 4487/1 4498/1 4498/3 4498/6 4498/8 rebuild [1] 4468/13 rebuiding [1] 4468/6 recall [19] 4416/8 4417/14 4417/15 4430/10 4436/8 4437/21 4446/11 4448/7 4450/20 4468/23 4472/13 4473/8 4475/4 4489/19 4499/3 4501/16 4502/4 4507/21 4508/12 receive [3] 4472/16 4490/7 4490/12 received [8] 4416/17 4436/11 4461/18 4472/12 4481/10 4510/5 4515/3 4519/12 recent [3] 4409/23 4417/10 4418/24 recently [1] 4429/6 recess [4] 4469/13 4469/14 4519/24 4519/25 recognize [2] 4461/21 4474/9 recollecting [1] 4418/10 recollection [4] 4416/10 4440/14 4475/6 4480/25 recommend [4] 4483/10 4491/11 4492/17 4493/4 recommendation [2] 4483/17 4493/14 recommended [1] 4495/18 recommending [2] 4492/2 4493/21 record [4] 4453/23 4455/13 4481/25 4520/3 recorded [1] 4401/16 RECROSS [1] 4402/4 recruit [2] 4444/1 4445/20 red [1] 4431/5 redacted [6] 4418/5 4423/15 4426/20	4501/5 4505/6 4505/19 REDIRECT [2] 4402/4 4477/15 rediscussed [1] 4438/3 reference [1] 4447/10 referenced [1] 4517/13 referred [3] 4434/11 4451/22 4513/1 referring [7] 4434/10 4503/3 4504/21 4507/4 4511/22 4512/16 4512/17 refers [2] 4431/1 4507/7 reflected [1] 4423/16 reflects [2] 4454/11 4463/7 refresh [2] 4416/10 4497/19 refreshed [2] 4436/20 4480/25 refreshes [1] 4475/6 regarding [4] 4416/23 4429/8 4435/14 4436/24 regardless [1] 4496/1 region [1] 4462/5 regions [2] 4417/10 4462/4 regions/customers [1] 4417/10 Registered [1] 4401/12 regular [2] 4447/9 4489/13 reimburse [1] 4442/9 relate [2] 4443/21 4476/14 related [10] 4431/19 4433/21 4438/22 4439/10 4443/23 4448/11 4466/15 4479/9 4490/16 4513/18 relates [1] 4453/18 relating [1] 4431/11 relation [2] 4460/13 4468/10 relationship [8] 4439/24 4449/10 4457/9 4487/7 4488/16 4501/24 4508/3 4511/7 relationships [5] 4487/5 4508/18 4508/20 4508/23 4509/15 relatively [1] 4426/5 relayed [1] 4513/10 released [1] 4496/25 relevant [1] 4437/16 remain [1] 4470/17 remainder [2] 4422/15 4505/6 remember [15] 4416/12 4416/13 4429/4 4434/17 4448/5 4464/16 4468/24 4472/10 4497/17	4499/9 4504/3 4504/8 4504/17 4508/25 4513/9 remit [1] 4407/16 repeat [3] 4412/16 4425/1 4490/23 reply [1] 4430/5 report [1] 4476/10 reported [2] 4417/11 4475/21 Reporter [4] 4401/11 4401/12 4401/12 4401/13 reporting [4] 4428/1 4434/22 4460/21 4490/2 represent [2] 4415/21 4483/6 representative [1] 4417/18 represented [1] 4483/22 represents [1] 4483/24 request [6] 4442/3 4442/4 4442/6 4459/19 4462/13 4510/18 requested [2] 4454/10 4463/3 requesting [1] 4464/3 Requests [1] 4465/9 require [2] 4414/4 4414/5 required [2] 4449/18 4457/10 requirement [2] 4458/21 4467/4 requirements [3] 4459/25 4467/3 4467/9 resource [2] 4468/3 4468/16 resources [9] 4429/25 4437/3 4445/13 4456/6 4460/7 4465/24 4467/20 4467/24 4468/6 respect [7] 4435/13 4435/21 4436/23 4437/21 4495/17 4498/16 4510/2 respond [1] 4429/12 response [7] 4422/21 4428/25 4429/11 4443/8 4513/13 4513/15 4513/15 responsibilities [3] 4435/14 4435/20 4489/7 responsibility [1] 4507/23 responsible [10] 4437/4 4503/14 4508/17 4508/18 4508/19 4509/1 4509/14 4509/16 4510/24 4511/2 responsive [3] 4449/1 4449/2 4475/15 result [3] 4422/14	4425/14 4452/23 resulted [1] 4506/19 results [8] 4417/12 4419/1 4420/11 4424/6 4454/11 4473/12 4506/21 4506/24 resume [3] 4469/10 4469/10 4519/17 RESUMED [1] 4404/8 retail [1] 4445/21 retailer [3] 4431/4 4457/1 4480/18 returning [2] 4449/5 4454/9 rev [4] 4456/25 4511/12 4511/13 4515/21 rev share [2] 4511/12 4515/21 reveal [1] 4505/7 revenue [12] 4419/14 4457/1 4457/2 4474/1 4499/17 4499/20 4513/2 4513/10 4513/11 4513/14 4513/18 4513/21 revenues [1] 4511/21 review [4] 4450/8 4460/3 4467/18 4510/14 reviewed [1] 4416/11 revisiting [1] 4470/17 rewrite [1] 4468/11 rewritten [1] 4475/1 right [122] 4404/19 4404/25 4405/12 4405/16 4405/20 4405/21 4405/24 4406/7 4406/8 4406/9 4406/14 4406/17 4406/20 4406/24 4407/19 4407/23 4408/23 4410/16 4410/17 4410/21 4410/23 4410/24 4411/2 4411/3 4411/5 4411/9 4413/1 4413/2 4413/18 4415/10 4416/9 4416/16 4417/1 4417/2 4417/8 4418/3 4419/11 4421/19 4422/3 4422/19 4423/12 4425/19 4426/3 4426/12 4426/25 4428/24 4429/10 4430/6 4430/12 4432/2 4432/6 4432/16 4432/22 4435/12 4439/23 4440/9 4440/12 4440/16 4442/10 4443/11 4443/20 4444/20 4446/23 4447/3 4447/4 4448/8 4448/21 4450/22 4450/24 4451/13 4452/1 4452/17 4452/20 4453/16
Q	Q4 [1] 4445/21 quality [3] 4444/8 4506/20 4506/24 quarter [1] 4466/7 queries [1] 4431/7 question [18] 4412/17 4415/7 4424/25 4425/1 4431/17 4431/20 4442/16 4443/22 4444/24 4455/14 4457/19 4465/3 4465/17 4478/25 4479/9 4480/24 4490/11 4490/23 questions [8] 4411/11 4436/7 4436/9 4443/8 4464/25 4472/9 4477/17 4483/7 quick [2] 4429/2 4432/11 quickly [4] 4427/22 4432/14 4445/19 4510/14 quite [5] 4431/25 4445/9 4457/20 4472/13 4497/16 quote [1] 4426/4			
R	raise [1] 4482/13 raised [3] 4464/11 4464/17 4509/7 Ralph [1] 4400/13 range [1] 4477/20 ranged [1] 4503/13 ranging [1] 4492/12 rather [2] 4434/12 4513/20 raw [1] 4454/16 Raymond [5] 4489/9 4489/10 4489/11 4489/12 4502/9 re [1] 4432/20 re-emphasize [1] 4432/20 reached [1] 4426/20 reacting [1] 4518/8 reaction [1] 4427/17 read [8] 4418/7 4422/10 4429/2 4432/11 4473/16 4475/9 4476/6 4476/9			

R	running [6] 4418/15 4418/18 4418/19 4453/11 4468/2 4470/12 RYAN [3] 4404/7 4422/22 4430/18	4475/14 4475/25 4476/6 4478/20 4479/3 4479/4 4479/11 4479/15 4479/21 4479/22 4479/25 4480/1 4480/9 4480/20 SA360's [3] 4411/24 4425/23 4426/7 Safe [1] 4481/17 said [13] 4411/12 4413/8 4422/21 4439/15 4455/15 4470/17 4472/11 4493/3 4497/5 4509/3 4509/19 4509/19 4512/23 sales [7] 4425/8 4428/13 4433/15 4460/23 4461/24 4474/19 4476/25 sales/G [1] 4476/25 Sallet [1] 4400/11 Sally [1] 4503/19 same [24] 4404/18 4408/9 4409/17 4410/4 4411/15 4413/14 4418/13 4419/20 4423/5 4423/25 4434/10 4453/7 4457/15 4460/18 4460/20 4462/13 4464/8 4465/3 4472/13 4482/7 4489/15 4490/11 4496/10 4512/11 Samsung [118] 4481/23 4483/8 4483/10 4483/11 4483/17 4483/19 4483/20 4484/16 4484/25 4485/1 4485/2 4485/3 4485/5 4485/5 4485/6 4485/8 4485/13 4485/16 4485/22 4486/1 4486/3 4486/5 4486/11 4486/15 4486/16 4486/18 4486/19 4486/20 4486/22 4487/8 4488/10 4488/11 4488/15 4488/17 4488/21 4488/25 4489/1 4489/14 4489/20 4489/21 4490/7 4490/8 4490/10 4490/10 4490/14 4490/19 4491/9 4491/12 4491/15 4492/9 4492/17 4492/20 4493/5 4493/9 4493/10 4493/12 4493/16 4493/18 4493/21 4493/25 4494/14 4494/17 4495/23 4496/7 4496/11 4496/16 4496/18 4496/21 4496/22 4497/4 4498/7	4498/11 4499/12 4499/17 4499/19 4499/22 4499/25 4500/5 4500/6 4500/9 4500/12 4500/15 4500/16 4500/19 4501/4 4501/25 4502/4 4502/9 4502/17 4504/9 4504/19 4505/17 4506/3 4506/10 4506/22 4507/13 4507/23 4508/2 4508/2 4508/5 4508/9 4508/18 4508/20 4508/22 4508/23 4509/15 4509/19 4510/24 4515/6 4515/17 4516/7 4516/10 4517/19 4517/24 4518/12 4518/16 4518/17 4519/5 Samsung S10 [1] 4506/22 Samsung's [8] 4486/14 4487/6 4491/21 4496/3 4497/12 4498/10 4513/8 4515/9 Samsung-Google [2] 4500/5 4518/17 sat [3] 4509/13 4514/13 4514/20 satisfied [3] 4472/18 4506/20 4506/24 saw [3] 4423/5 4423/10 4452/24 say [38] 4409/4 4409/10 4410/10 4411/24 4413/25 4418/15 4418/22 4420/2 4420/6 4420/8 4420/13 4422/4 4423/1 4423/23 4424/17 4424/18 4424/18 4425/3 4425/3 4427/24 4432/25 4442/6 4447/20 4450/23 4451/2 4451/9 4453/10 4455/3 4470/19 4471/3 4471/22 4484/12 4492/3 4492/8 4492/13 4496/19 4498/8 4504/20 saying [6] 4416/2 4428/14 4439/20 4453/4 4473/23 4505/14 says [16] 4417/9 4421/1 4421/9 4422/22 4431/21 4432/4 4438/22 4447/14 4451/25 4452/3 4458/14 4464/17 4465/10 4476/5 4478/9 4504/14 SCA [1] 4508/21 scale [1] 4454/15 scaled [2] 4424/15	4444/6 scenarios [1] 4429/13 Schaffer [2] 4417/18 4422/22 Schlieske [3] 4446/7 4458/4 4470/1 Schmidlein [3] 4401/2 4403/11 4482/4 School [1] 4484/24 scope [6] 4407/15 4491/4 4515/7 4515/10 4515/12 4518/19 screen [8] 4446/7 4454/3 4458/3 4469/25 4473/4 4501/9 4511/23 4512/23 scrutiny [1] 4426/1 se [1] 4503/5 Seamas [1] 4430/16 Seamas' [1] 4431/19 search [38] 4405/12 4405/19 4413/4 4419/20 4431/6 4438/19 4446/15 4448/21 4449/1 4449/2 4468/5 4474/15 4474/20 4475/15 4475/22 4476/5 4480/22 4495/16 4497/12 4498/24 4499/3 4511/11 4511/12 4511/21 4513/10 4513/12 4513/17 4513/20 4514/7 4514/9 4514/16 4514/19 4514/22 4517/17 4517/24 4517/25 4518/3 4518/16 Search Ads 360 [1] 4468/5 searched.' [1] 4514/7 searches [1] 4518/14 season [1] 4445/21 seasonality [1] 4422/24 seat [1] 4482/1 seated [2] 4403/5 4469/18 second [20] 4409/8 4417/5 4438/17 4448/19 4451/23 4451/25 4456/20 4457/8 4459/14 4462/12 4465/3 4465/4 4466/14 4469/1 4475/17 4475/20 4476/20 4477/9 4486/10 4504/14 secondly [1] 4494/6 section [3] 4400/12 4458/11 4464/20 secure [2] 4437/2 4445/12 secured [2] 4429/25 4465/24 see [50] 4415/23 4418/2 4420/15 4422/8
----------	---	---	--	---

<p>S see... [46] 4422/17 4423/13 4424/10 4426/11 4426/18 4427/7 4427/13 4428/6 4428/14 4433/17 4438/25 4439/16 4439/17 4444/6 4446/25 4449/7 4450/10 4450/11 4451/8 4453/17 4453/25 4454/8 4454/16 4458/9 4459/17 4462/23 4462/24 4469/11 4470/21 4471/1 4475/5 4476/22 4477/23 4486/11 4494/16 4496/8 4502/11 4502/12 4506/15 4510/11 4511/18 4512/14 4513/19 4513/24 4513/25 4519/22 seed [2] 4487/15 4487/22 seeing [7] 4417/12 4417/25 4421/18 4423/7 4423/17 4427/5 4428/1 seeking [1] 4480/2 seems [1] 4477/24 seen [7] 4427/17 4428/4 4428/9 4464/7 4486/13 4492/25 4513/17 select [2] 4411/14 4499/11 sellers [3] 4425/10 4425/13 4431/14 SEM [3] 4405/16 4426/7 4426/15 send [3] 4449/22 4514/1 4514/2 sending [1] 4475/20 senior [4] 4437/16 4446/19 4504/7 4511/8 sense [3] 4436/21 4496/11 4508/8 sensing [1] 4496/4 sensitive [2] 4516/24 4516/25 sent [3] 4422/13 4512/4 4517/1 sentence [4] 4470/19 4470/24 4513/23 4518/22 sentences [2] 4432/14 4473/16 separate [9] 4411/5 4414/22 4440/1 4440/6 4440/8 4442/15 4460/21 4460/22 4507/16 separately [1] 4414/6 September [4] 4430/15 4434/19 4435/25 4504/24</p>	<p>September 1 [1] 4430/15 series [3] 4416/23 4436/7 4462/9 serve [1] 4485/25 server [2] 4518/1 4518/14 server-type [1] 4518/14 service [3] 4480/7 4506/21 4514/5 serviceability [1] 4441/9 services [4] 4461/24 4474/19 4515/19 4518/4 serving [1] 4496/7 Session [1] 4399/7 set [12] 4405/5 4409/13 4411/21 4411/22 4414/11 4418/13 4443/15 4466/18 4474/23 4478/13 4479/23 4480/16 sets [1] 4405/4 settings [2] 4468/14 4518/2 seven [1] 4449/6 several [4] 4440/23 4462/22 4468/25 4506/9 severing [1] 4425/22 share [8] 4420/12 4426/5 4465/23 4499/17 4499/21 4502/1 4511/12 4515/21 shared [7] 4452/20 4456/7 4456/12 4456/24 4502/3 4502/5 4502/7 shares [2] 4460/12 4465/24 sharing [2] 4449/20 4455/23 she [4] 4417/18 4417/22 4446/18 4474/15 Shin [3] 4503/25 4504/2 4504/4 ship [1] 4491/8 Shirin [1] 4417/7 Shirley [2] 4446/14 4446/17 shoes [1] 4431/5 shooters [1] 4459/22 shopping [2] 4426/8 4476/15 short [1] 4504/13 shortly [1] 4469/11 should [5] 4433/8 4433/10 4454/15 4479/13 4492/20 shouldn't [1] 4473/24 show [8] 4424/15 4425/24 4453/14 4467/13 4497/18</p>	<p>4506/9 4510/9 4516/12 showed [1] 4453/5 showing [3] 4419/11 4419/18 4452/3 shows [3] 4453/15 4467/7 4467/16 side [13] 4414/25 4420/6 4424/9 4430/3 4439/23 4448/14 4451/7 4454/14 4460/23 4465/16 4472/8 4474/4 4478/8 sided [1] 4508/10 sides [1] 4455/5 sign [2] 4437/15 4444/11 significant [1] 4487/3 significantly [1] 4491/14 signs [1] 4427/13 Silicon [2] 4485/7 4488/1 similar [3] 4405/18 4422/24 4423/7 similar/consistent [1] 4422/24 simple [1] 4464/24 simply [1] 4414/4 simultaneously [1] 4449/19 since [5] 4439/4 4441/15 4476/25 4509/14 4516/24 sir [2] 4430/6 4519/21 sit [2] 4496/6 4507/24 sitting [1] 4420/8 situation [1] 4425/12 six [3] 4407/5 4407/7 4466/8 size [1] 4445/6 Slack [1] 4516/13 slide [1] 4464/24 slightly [2] 4427/24 4452/24 slow [1] 4445/23 slower [1] 4427/24 small [3] 4409/3 4445/9 4461/5 smaller [1] 4444/3 smiley [1] 4439/2 Smily [1] 4438/24 so [194] So I think [3] 4410/9 4420/6 4505/24 so it's [8] 4414/23 4418/14 4420/7 4420/25 4441/10 4460/3 4468/19 4514/25 so this is [3] 4428/5 4428/15 4446/21 so this means [1] 4418/11 So this reflects [1] 4454/11 software [3] 4409/7 4491/18 4491/19 sole [1] 4437/24</p>	<p>some [61] 4404/16 4411/10 4414/9 4416/23 4419/1 4421/21 4421/22 4427/5 4432/15 4434/10 4437/12 4440/13 4441/2 4442/1 4443/8 4444/21 4445/8 4450/14 4450/15 4450/18 4451/14 4451/22 4453/19 4454/20 4454/23 4455/19 4456/8 4456/9 4460/25 4467/23 4467/24 4468/2 4470/21 4471/20 4472/9 4475/3 4480/11 4480/11 4480/12 4480/13 4485/8 4487/3 4487/8 4491/5 4491/6 4492/6 4492/10 4494/13 4495/9 4498/3 4498/5 4498/5 4498/6 4498/13 4498/13 4500/11 4502/1 4502/5 4506/14 4506/16 4507/17 somebody [1] 4439/3 someone [3] 4410/5 4424/12 4480/20 something [20] 4412/5 4413/23 4422/21 4431/17 4438/9 4438/9 4439/21 4441/22 4445/15 4446/4 4451/5 4451/6 4451/15 4451/16 4475/24 4488/7 4492/4 4494/16 4497/18 4519/3 sometime [1] 4468/18 sometimes [5] 4420/23 4427/10 4427/11 4444/3 4459/22 somewhat [1] 4438/22 somewhere [1] 4501/17 soon [1] 4422/13 sophisticated [1] 4457/22 sorry [31] 4406/10 4412/16 4419/9 4424/24 4425/1 4432/11 4436/13 4444/14 4444/23 4451/2 4453/4 4455/10 4458/25 4464/15 4478/2 4478/4 4478/15 4479/13 4484/1 4484/3 4489/24 4490/15 4490/23 4492/15 4500/14 4502/17 4509/6 4509/18 4512/6 4516/2 4516/17 sort [5] 4420/21 4467/25 4468/10 4475/10 4492/10 sounds [5] 4411/23 4419/6 4420/10 4450/6</p>	<p>4476/9 source [1] 4408/6 sources [1] 4458/16 sourcing [1] 4486/6 SOW [1] 4452/4 space [2] 4429/15 4513/16 spanning [1] 4462/22 speak [5] 4475/8 4484/3 4484/5 4484/7 4484/10 speaking [4] 4480/23 4502/22 4502/24 4505/12 specialist [1] 4489/16 specific [7] 4431/14 4454/8 4456/4 4463/23 4467/9 4490/5 4505/14 specifically [9] 4420/1 4433/13 4453/9 4464/16 4466/9 4479/4 4504/25 4505/10 4505/13 specifics [3] 4429/4 4489/6 4499/21 specify [1] 4509/6 spend [18] 4419/22 4426/5 4444/14 4452/13 4452/17 4452/19 4452/24 4453/14 4453/15 4453/18 4454/7 4454/9 4477/25 4478/9 4478/9 4478/10 4478/21 4479/2 spending [1] 4453/5 spent [2] 4442/8 4460/6 square [1] 4448/6 stacking [1] 4404/16 Staff [1] 4516/16 stage [6] 4443/16 4445/1 4486/7 4487/14 4487/22 4494/7 stakeholder [1] 4437/16 stakeholders [1] 4498/11 stand [3] 4404/8 4475/8 4482/13 standalone [3] 4409/6 4412/12 4412/13 standards [1] 4444/9 standing [4] 4481/25 4482/5 4510/1 4515/1 standpoint [1] 4423/17 stands [2] 4469/13 4519/23 start [13] 4404/21 4417/3 4428/14 4428/15 4434/16 4444/1 4444/6 4446/13 4448/20 4464/19 4465/25 4467/24 4487/18 started [12] 4417/23 4427/5 4427/7 4427/12 4427/13 4427/15</p>
--	--	---	--	---

S	stress [1] 4444/2	4424/4 4426/22	4434/25 4436/1 4436/3	4438/24 4443/9
started... [6] 4427/20	strong [2] 4417/12	4445/15	4436/5 4437/1 4437/5	4443/14 4443/18
4428/1 4438/19	4418/25	survey [5] 4464/12	4437/12 4440/5 4440/6	4444/2 4444/2 4455/21
4453/13 4468/18	stronger [2] 4425/25	4464/14 4464/18	4440/6 4440/20	4470/12 4473/11
4495/15	4426/17	4464/21 4464/23	4440/21 4446/21	tested [5] 4422/15
starting [4] 4428/6	structure [1] 4490/3	Suwon [2] 4506/10	4446/22 4447/6 4450/8	4431/25 4441/15
4448/2 4462/22 4468/1	structured [1] 4491/5	4506/10	4450/14 4452/1 4452/8	4449/25 4472/17
starts [1] 4503/24	studied [1] 4484/21	SW [1] 4401/3	4452/16 4454/5	testified [10] 4404/8
startups [2] 4486/12	stuff [1] 4492/6	switched [1] 4418/12	4455/25 4457/4 4458/8	4405/23 4415/15
4487/18	subject [7] 4445/25	Switching [1] 4499/16	4460/4 4460/6 4460/15	4441/6 4443/8 4450/17
state [3] 4400/11	4461/15 4474/17	SWORN [2] 4404/8	4460/24 4462/2 4462/6	4451/22 4463/21
4429/12 4429/13	4474/22 4510/1	4483/2	4462/19 4466/4 4466/6	4463/22 4464/10
statement [1] 4433/6	4510/17 4514/25	sync [2] 4409/20	4466/20 4467/1	testimony [5] 4463/15
statements [1]	subjective [1] 4514/13	4414/16	4467/10 4467/12	4472/11 4481/17
4432/15	subplanning [1]	syncing [1] 4409/18	4467/15 4468/17	4495/9 4519/20
states [21] 4399/1	4466/8	system [9] 4420/14	4470/11 4471/7 4473/9	testing [18] 4407/20
4399/3 4399/10 4403/7	succeed [1] 4496/9	4421/1 4421/4 4421/8	4474/18 4476/21	4407/21 4407/25
4403/10 4417/22	success [2] 4427/10	4432/1 4441/14 4442/7	4485/15 4486/17	4408/19 4419/2
4421/22 4425/20	4508/1	4448/14 4457/1	4487/2 4488/15	4419/12 4425/18
4426/4 4432/7 4432/19	successful [4] 4423/2		4493/15 4493/16	4427/14 4427/15
4434/11 4436/16	4485/24 4486/8	T	4496/4 4502/21	4443/16 4443/21
4446/5 4481/19 4483/6	4491/20	T-Mobile [1] 4507/14	4502/23 4503/2 4503/4	4443/23 4451/22
4496/23 4497/15	such [2] 4429/16	tab [2] 4410/22	4503/11 4503/12	4451/24 4455/19
4497/21 4498/18	4518/2	4413/20	4503/17 4503/20	4455/20 4455/21
4499/24	suit [1] 4426/23	table [3] 4447/8 4450/9	4503/20 4506/20	4471/11
States' [2] 4436/6	suite [4] 4400/14	4463/1	4506/23 4508/16	tests [1] 4416/23
4481/2	4400/19 4456/5	tag [1] 4459/16	4508/21 4509/2	text [2] 4421/24
stating [1] 4519/2	4475/13	take [18] 4407/3	4509/19 4510/24	4422/15
status [1] 4487/22	summarize [2] 4473/18	4412/13 4414/4 4414/5	4511/2 4513/7 4513/9	than [12] 4408/18
stayed [1] 4427/11	4473/19	4416/6 4429/23	4513/9 4515/9 4517/4	4414/13 4420/19
Staying [1] 4423/21	summary [3] 4475/10	4429/24 4433/25	4517/7 4517/8 4517/8	4423/24 4424/6 4424/7
stenography [1]	4501/22 4501/22	4440/24 4445/15	4517/19 4517/20	4434/12 4440/5 4464/7
4401/16	supervisor [2] 4489/25	4445/22 4457/4	team's [1] 4471/24	4479/3 4507/15
step [4] 4414/5 4414/6	4490/4	4466/23 4469/8 4480/4	teams [5] 4440/2	4513/20
4425/22 4444/1	supplement [1] 4414/2	4491/25 4513/11	4440/4 4440/8 4509/16	thank [23] 4415/11
steps [1] 4466/23	support [24] 4409/18	4519/16	4515/18	4421/12 4445/17
sticker [1] 4453/25	4409/24 4410/16	taken [1] 4468/17	tech [2] 4476/25	4459/3 4469/11
still [7] 4414/20 4436/5	4410/18 4411/20	takes [1] 4442/1	4496/4	4469/17 4469/20
4438/13 4444/4	4412/4 4412/4 4413/13	taking [1] 4454/18	technical [1] 4492/21	4477/10 4477/11
4488/16 4488/18	4413/14 4413/21	talk [5] 4448/17	technically [1] 4467/16	4477/13 4481/13
4509/7	4430/23 4431/2 4440/8	4455/19 4457/7	technology [8]	4481/15 4481/16
strategic [1] 4491/6	4440/11 4440/21	4494/14 4509/16	4405/18 4485/9 4487/9	4482/11 4482/12
strategies [17]	4449/2 4451/16 4456/5	talked [2] 4444/9	4489/16 4492/10	4482/16 4482/19
4404/23 4405/3 4405/7	4456/11 4458/15	4456/20	4494/3 4494/4 4496/22	4482/20 4484/14
4405/10 4405/11	4470/21 4475/21	talking [14] 4406/1	tell [8] 4404/3 4404/19	4488/6 4490/18 4501/6
4406/5 4406/19	4476/17 4476/19	4407/20 4430/9	4421/1 4447/6 4470/15	4515/2
4407/10 4408/12	supported [3] 4410/1	4438/19 4464/20	4471/7 4481/1 4484/17	thank you [19]
4411/14 4411/25	4451/15 4475/24	4478/25 4479/2	telling [2] 4410/14	4415/11 4421/12
4412/1 4412/14	supporting [1]	4479/10 4480/6 4493/6	4470/23	4445/17 4459/3
4412/25 4471/2 4479/4	4466/21	4498/4 4509/8 4511/19	ten [4] 4453/10	4469/11 4469/20
4503/8	supports [3] 4408/6	4511/19	4453/10 4453/13	4477/10 4477/11
strategy [32] 4406/12	4448/23 4475/22	tap [1] 4485/8	4507/16	4477/13 4481/16
4411/15 4411/16	supposed [1] 4495/16	Tareq [1] 4470/7	tends [1] 4432/13	4482/11 4482/12
4411/19 4413/4 4414/2	sure [31] 4405/17	target [1] 4431/15	tens [2] 4427/6	4482/16 4482/19
4414/3 4414/17 4415/1	4409/2 4410/10	targeted [1] 4495/16	4428/11	4482/20 4488/6
4415/6 4415/8 4417/24	4410/11 4412/17	targeting [2] 4431/3	tense [2] 4455/3	4490/18 4501/6 4515/2
4419/16 4419/23	4413/16 4416/2 4418/9	4431/8	4455/15	Thank you very much
4423/4 4425/23 4427/3	4423/9 4425/2 4432/12	targets [1] 4411/22	term [4] 4425/17	[1] 4481/13
4449/14 4449/16	4433/12 4445/5 4453/3	task [2] 4450/13	4426/13 4426/14	Thanks [4] 4403/20
4449/24 4452/11	4455/13 4465/18	4452/1	4441/21	4404/5 4417/22
4453/10 4478/11	4472/21 4473/23	tasks [1] 4466/17	terms [5] 4426/13	4423/22
4478/22 4479/8	4479/19 4482/10	tCPA [7] 4421/24	4429/12 4437/9 4440/7	that [507]
4502/19 4502/21	4484/19 4486/8	4421/25 4422/7	4488/1	that'll [1] 4497/18
4502/22 4503/2 4503/4	4488/14 4490/24	4422/16 4422/16	terribly [1] 4423/23	that's [99] 4404/25
4503/6 4503/20	4491/3 4493/23	4423/3 4423/4	Terrific [1] 4501/6	4405/2 4405/13
Street [3] 4400/3	4495/25 4496/11	team [83] 4425/8	test [14] 4410/7	4405/15 4405/20
4400/7 4401/8	4505/8 4511/3 4512/11	4427/22 4428/13	4418/11 4418/16	4405/22 4406/1 4406/7
strength [1] 4417/10	surprised [4] 4423/23	4429/19 4429/21	4421/22 4426/21	4406/9 4406/14

T	4511/20 4513/18 4513/20 4515/21 theirs [2] 4403/23 4434/13 them [33] 4409/16 4410/2 4412/6 4414/4 4414/5 4417/15 4420/25 4425/23 4430/4 4442/9 4448/13 4456/8 4456/13 4459/22 4462/5 4463/3 4475/19 4480/8 4480/11 4480/11 4480/12 4480/13 4487/8 4491/5 4496/10 4498/5 4498/5 4498/6 4498/14 4500/9 4504/9 4509/23 4515/22 themselves [1] 4480/5 themselves [2] 4471/21 4491/17 then [47] 4405/6 4410/1 4411/19 4414/2 4420/5 4421/5 4421/10 4422/1 4422/13 4423/1 4426/4 4426/19 4431/10 4432/3 4432/7 4432/17 4432/25 4434/3 4437/5 4437/7 4442/9 4444/4 4445/23 4448/2 4448/3 4449/1 4449/5 4449/24 4451/19 4452/14 4454/19 4462/22 4465/5 4465/8 4465/10 4466/21 4467/19 4468/8 4470/21 4476/13 4476/20 4488/3 4493/17 4493/17 4494/6 4494/12 4512/15 theories [1] 4453/19 there [71] 4404/23 4405/10 4406/18 4407/13 4407/17 4410/23 4414/9 4419/1 4419/14 4421/21 4423/13 4423/16 4424/9 4427/1 4427/22 4434/13 4439/2 4440/2 4443/1 4444/3 4444/25 4449/10 4449/12 4450/17 4450/19 4450/22 4451/2 4455/2 4455/4 4455/15 4455/25 4456/4 4456/22 4458/1 4458/18 4459/5 4459/16 4459/19 4462/22 4462/23 4463/6 4463/17 4467/3 4467/11 4468/2 4468/7 4468/10 4468/21 4468/24 4470/19 4470/25 4475/4 4475/16 4475/21 4476/2 4478/23 4479/5 4479/21 4480/15	4487/3 4491/13 4494/18 4497/25 4498/1 4499/11 4500/2 4500/4 4500/7 4503/23 4507/15 4512/15 there's [39] 4407/14 4410/2 4412/3 4412/5 4412/6 4414/9 4418/4 4423/21 4441/23 4442/5 4443/9 4443/12 4444/13 4444/14 4444/15 4448/21 4449/1 4450/25 4451/11 4453/14 4458/8 4458/11 4459/16 4461/13 4466/14 4467/17 4468/8 4471/20 4475/18 4476/21 4477/23 4482/6 4493/15 4498/11 4506/4 4506/9 4508/21 4509/1 4510/20 these [29] 4417/14 4422/14 4427/6 4429/13 4433/20 4449/5 4449/11 4449/18 4451/11 4454/24 4457/5 4462/10 4463/5 4485/8 4487/5 4487/8 4488/1 4492/7 4501/4 4502/2 4502/13 4502/16 4508/5 4508/7 4509/7 4509/14 4511/9 4511/15 4513/13 they [126] they're [26] 4405/1 4405/6 4408/4 4408/7 4408/14 4408/20 4408/24 4413/17 4418/18 4420/23 4426/21 4428/2 4429/20 4437/2 4444/12 4444/15 4444/16 4446/1 4450/1 4459/22 4462/2 4462/3 4480/17 4491/5 4491/6 4498/14 they've [1] 4475/13 thing [11] 4423/18 4439/19 4439/19 4439/21 4442/2 4444/10 4445/18 4449/15 4467/8 4492/12 4512/11 things [18] 4403/18 4403/19 4431/16 4440/3 4441/21 4445/23 4451/17 4455/3 4456/21 4461/4 4466/12 4466/19 4470/22 4492/5 4505/16 4505/18 4506/2 4518/1 think [38] 4407/14 4408/21 4409/23 4409/24 4410/6 4410/9	4420/6 4421/8 4421/9 4424/9 4428/3 4428/13 4431/24 4432/13 4433/5 4433/7 4440/10 4447/10 4449/7 4449/21 4450/22 4454/20 4462/11 4465/17 4466/1 4468/17 4473/21 4495/7 4503/4 4505/24 4506/1 4509/1 4511/6 4514/11 4515/13 4516/10 4518/18 4519/2 third [7] 4426/19 4432/19 4456/24 4459/14 4465/5 4466/21 4475/19 thirds [1] 4438/21 this [204] This is [1] 4403/7 those [35] 4405/11 4405/11 4407/2 4431/2 4431/18 4436/8 4437/9 4437/12 4440/8 4448/9 4448/17 4449/6 4453/1 4455/6 4455/11 4456/8 4457/12 4458/12 4458/20 4465/12 4465/13 4468/23 4475/14 4477/3 4477/4 4487/10 4496/3 4498/3 4506/14 4507/17 4507/21 4508/14 4509/3 4509/19 4510/23 though [1] 4409/18 thought [9] 4404/17 4424/18 4443/2 4514/14 4517/10 4518/12 4518/14 4518/20 4519/6 thoughts [1] 4473/13 thousands [2] 4427/6 4428/11 thread [1] 4417/22 three [7] 4432/7 4435/11 4441/6 4449/13 4456/12 4464/24 4466/10 through [26] 4406/17 4408/20 4409/5 4409/15 4410/19 4411/5 4411/23 4412/1 4412/13 4413/10 4424/20 4425/5 4427/3 4453/6 4453/6 4467/17 4477/21 4479/3 4479/11 4479/20 4480/18 4493/21 4493/25 4497/25 4500/20 4508/16 time [142] time-sensitive [2] 4516/24 4516/25 times [4] 4407/7 4428/1 4485/3 4493/9 title [5] 4486/15	4489/19 4495/7 4504/8 4504/18 titled [1] 4520/4 titles [1] 4504/3 TL [1] 4475/8 today [11] 4407/13 4407/17 4440/11 4441/9 4472/7 4483/7 4483/21 4483/22 4484/15 4501/5 4511/3 together [2] 4459/21 4495/21 told [6] 4429/17 4481/5 4513/7 4518/9 4518/11 4519/6 too [4] 4421/6 4422/13 4426/9 4475/9 took [5] 4440/20 4441/5 4447/11 4468/5 4497/16 tool [2] 4405/16 4412/5 tools [3] 4405/17 4408/16 4411/5 top [23] 4411/13 4428/22 4432/3 4436/5 4439/12 4439/14 4446/13 4446/25 4447/15 4450/3 4450/21 4458/8 4459/7 4463/2 4468/24 4473/15 4477/2 4502/11 4503/24 4504/24 4506/19 4510/10 4513/22 topic [1] 4461/1 topics [2] 4499/16 4505/19 total [6] 4419/14 4477/25 4478/9 4478/9 4478/10 4479/2 towards [6] 4425/22 4484/9 4494/3 4502/11 4503/24 4512/10 Tower [1] 4401/7 transcript [3] 4399/9 4401/16 4520/3 transcription [1] 4401/16 travels [1] 4481/17 Travis [3] 4510/22 4511/5 4511/7 TRIAL [1] 4399/9 tried [2] 4438/11 4441/16 trouble [1] 4484/2 troubleshoot [1] 4442/1 true [1] 4514/18 try [3] 4404/18 4434/13 4443/22 trying [18] 4408/21 4408/24 4409/1 4410/10 4412/8 4425/9 4429/20 4429/22 4439/20 4485/6 4498/15 4500/21 4505/16 4505/25 4506/1 4506/2 4507/25
----------	---	---	--	---

T	underlying [1] 4415/5	4456/16 4458/3 4461/6	4485/20 4493/25	4503/19
trying... [1] 4508/7	underneath [3] 4447/2	4463/20 4466/18	utilization [1] 4431/11	VP Sally [1] 4503/19
turn [26] 4409/13	4450/25 4476/21	4468/5 4468/17	utilize [5] 4404/22	vs [1] 4399/5
4415/13 4416/19	understand [24]	4469/25 4472/22	4405/23 4406/11	W
4417/3 4417/17 4419/8	4411/12 4412/8	4473/14 4479/23	4407/25 4415/8	walk [1] 4500/20
4421/20 4425/15	4412/17 4413/18	4480/16 4482/8	utilizing [5] 4406/11	want [29] 4407/10
4428/16 4430/21	4422/11 4422/22	4487/22 4493/17	4407/9 4411/1 4480/20	4411/24 4411/25
4432/3 4432/8 4432/17	4429/20 4429/22	4493/18 4511/18	4480/21	4412/17 4419/15
4434/3 4439/11	4429/23 4439/18	4511/23 4512/22	UXUI [3] 4492/10	4420/2 4420/23 4421/1
4444/21 4448/4 4450/2	4444/11 4444/15	update [1] 4510/18	4492/13 4498/5	4421/10 4431/5
4457/24 4458/7	4448/9 4452/7 4452/9	uploading [1] 4458/15	V	4431/18 4433/8
4458/23 4459/12	4452/19 4455/4 4460/1	upon [1] 4465/1	vague [1] 4505/16	4448/17 4451/23
4460/25 4463/19	4460/4 4468/16	upper [1] 4464/9	Valley [2] 4485/7	4455/3 4455/13
4465/8 4501/2	4471/10 4471/22	upwards [1] 4428/11	4488/1	4459/14 4462/24
turned [3] 4452/10	4481/24 4514/18	UPX663 [1] 4516/12	value [5] 4410/13	4465/18 4466/20
4453/12 4454/6	understanding [22]	UPX686 [6] 4510/9	4418/25 4425/24	4470/6 4473/17
turning [2] 4453/18	4407/13 4421/16	4510/17 4512/10	4486/1 4492/11	4473/23 4475/19
4462/21	4429/9 4430/1 4433/6	4513/22 4514/23	valued [2] 4488/2	4496/8 4496/11 4506/3
turns [1] 4469/3	4441/5 4443/13	4515/3	4488/4	4506/6 4512/10
tweaked [1] 4514/4	4444/19 4454/23	urgent [1] 4517/10	values [1] 4457/2	wanted [16] 4406/16
twice [1] 4461/24	4457/3 4486/24 4489/4	URL [2] 4409/9	variety [1] 4431/7	4410/11 4411/7
two [13] 4408/2 4411/4	4494/4 4494/6 4497/24	4409/10	various [10] 4486/12	4413/15 4421/3 4421/5
4411/5 4414/22	4499/17 4509/4	us [12] 4418/23 4421/1	4494/14 4494/16	4421/22 4428/7
4416/24 4428/12	4514/15 4514/17	4442/4 4444/16	4498/12 4505/17	4429/23 4439/21
4438/21 4456/12	4514/20 4515/6 4516/5	4447/22 4456/18	4507/13 4509/16	4452/9 4452/18
4461/4 4468/10	understands [1]	4460/25 4465/20	4517/3 4517/3 4517/7	4452/18 4471/16
4473/16 4486/6	4424/12	4481/1 4482/8 4485/22	venture [14] 4485/11	4487/7 4515/6
4510/23	understood [4] 4433/2	4506/1	4485/14 4485/15	wants [2] 4467/10
two-thirds [1] 4438/21	4443/5 4456/4 4499/19	usdoj.gov [2] 4400/5	4485/16 4485/18	4481/25
TYLER [1] 4400/18	undertake [1] 4450/13	4400/9	4485/19 4485/20	Warren [2] 4510/22
type [8] 4433/18	undertaking [1]	use [50] 4406/12	4487/15 4487/19	4511/5
4473/25 4476/18	4407/21	4407/11 4408/4 4408/9	4490/20 4490/21	was [305]
4506/4 4506/6 4515/19	unfortunately [2]	4408/10 4408/11	4491/1 4491/4 4491/6	Washington [5] 4399/5
4518/13 4518/14	4453/25 4484/8	4408/15 4408/16	ventures [5] 4486/16	4400/3 4400/8 4401/4
types [3] 4449/14	unicorn [4] 4487/22	4408/19 4409/1	4493/16 4496/21	4401/14
4449/16 4449/25	4487/24 4488/2 4488/3	4409/14 4409/21	4500/15 4502/9	wasn't [8] 4403/24
typical [2] 4439/8	unique [2] 4405/1	4410/2 4410/8 4410/23	Verizon [1] 4507/14	4436/4 4439/5 4450/16
4439/9	4405/3	4411/4 4411/7 4411/24	version [12] 4406/22	4472/12 4475/25
typically [4] 4407/7	unit [2] 4400/12 4503/5	4411/25 4412/5 4413/3	4410/7 4442/20	4478/4 4485/14
4418/14 4442/2 4467/6	UNITED [11] 4399/1	4413/16 4413/20	4452/14 4461/6 4468/7	way [8] 4410/4 4424/15
U	4399/3 4399/10 4403/7	4414/24 4414/25	4468/8 4468/20 4475/1	4438/21 4443/23
U company [6]	4481/19 4483/6	4415/1 4425/9 4427/9	4475/1 4475/14 4476/3	4444/18 4456/21
4416/24 4417/11	4496/23 4497/15	4428/9 4430/10	versions [1] 4501/5	4472/15 4480/15
4421/24 4422/5 4426/4	4497/21 4498/18	4434/13 4439/8	versus [1] 4403/8	wc.com [2] 4401/5
4472/10	4499/24	4445/19 4449/14	very [26] 4409/21	4401/5
U company's [2]	United States [4]	4456/23 4457/12	4424/11 4427/22	we [284]
4421/22 4421/23	4496/23 4497/15	4457/13 4457/14	4432/14 4433/21	we believe [1] 4492/22
U.S [4] 4400/2 4400/6	4497/21 4499/24	4457/17 4458/20	4464/6 4470/3 4475/12	We can [1] 4511/23
4462/4 4478/16	United States of [1]	4471/16 4471/19	4481/13 4481/16	we'd [2] 4416/14
Uh [1] 4458/10	4403/7	4472/4 4473/5 4473/20	4483/13 4485/23	4423/7
Uh-huh [1] 4458/10	units [7] 4486/11	4476/11 4479/17	4486/10 4487/20	we'll [9] 4421/2 4421/9
UI [1] 4418/5	4486/14 4487/6	4479/18 4480/3 4488/1	4487/20 4488/16	4451/23 4469/10
ultra [1] 4516/24	4494/14 4502/24	used [7] 4405/12	4491/5 4492/24	4469/11 4482/5 4501/5
unable [1] 4426/16	4503/2 4517/8	4478/17 4480/1 4489/3	4492/24 4493/1 4493/1	4501/8 4519/17
unacceptable [1]	University [1] 4484/23	4494/5	4493/3 4498/10	we're [27] 4404/17
4474/2	unofficial [3] 4488/13	user [3] 4467/12	4498/10 4500/17	4420/4 4428/5 4434/10
Unclear [1] 4420/2	4488/18 4489/17	4492/15 4492/15	4508/2	4440/1 4444/9 4444/10
under [18] 4412/14	until [1] 4428/9	users [1] 4445/3	vetting [1] 4499/11	4444/12 4444/16
4415/23 4426/1	up [40] 4409/13 4413/9	uses [1] 4414/21	via [3] 4408/11 4492/10	4454/2 4455/16 4462/9
4451/11 4460/20	4414/16 4420/25	using [11] 4405/22	4496/21	4465/18 4467/25
4460/24 4465/9 4475/7	4422/13 4422/20	4408/14 4414/21	vice [1] 4489/21	4468/19 4473/3
4476/25 4482/15	4423/21 4428/9 4432/7	4417/12 4418/12	view [2] 4420/4	4481/24 4483/20
4502/22 4503/7 4503/8	4434/14 4439/12	4472/7 4473/10 4474/3	4420/11	4484/2 4498/4 4511/19
4505/10 4505/20	4442/17 4444/8	4478/20 4479/20	violates [1] 4511/12	4511/19 4512/7 4512/8
4507/12 4511/10	4444/11 4444/24	4501/5	volume [4] 4420/24	4512/9 4512/11
4518/17	4446/6 4448/20	usually [5] 4443/15	4422/6 4422/7 4474/1	4519/18
undergrad [1] 4484/20	4451/19 4453/6	4459/24 4462/17	VP [3] 4495/7 4495/7	we've [9] 4403/17

W	4509/14 4509/17 4510/23 4511/1 4511/1 4511/4 4511/15 4515/19 4519/5 weren't [2] 4415/15 4424/4 wfcavanaugh [1] 4400/20 what [158] what's [8] 4439/24 4446/24 4457/9 4458/12 4462/15 4472/22 4474/9 4474/11 whatever [10] 4408/6 4408/16 4409/10 4409/11 4413/14 4413/24 4414/11 4421/9 4461/15 4478/11 when [73] 4409/4 4410/1 4418/15 4422/6 4424/17 4427/4 4427/7 4427/9 4427/12 4427/19 4427/20 4434/17 4435/7 4435/25 4438/22 4438/23 4442/5 4442/6 4442/7 4445/2 4447/14 4447/20 4451/2 4452/4 4453/13 4462/18 4463/17 4468/18 4471/3 4479/9 4479/10 4480/24 4480/24 4481/1 4483/10 4483/14 4484/25 4485/3 4485/14 4486/3 4486/5 4486/15 4486/18 4489/5 4489/19 4491/11 4491/13 4492/13 4492/19 4493/4 4493/6 4493/21 4494/21 4495/6 4495/15 4497/14 4497/17 4498/8 4499/10 4499/23 4500/2 4501/15 4501/17 4504/20 4505/9 4506/2 4506/23 4506/25 4507/1 4509/7 4511/16 4517/1 4517/15 where [40] 4410/6 4413/22 4416/19 4420/8 4424/10 4429/20 4434/16 4435/16 4437/24 4438/2 4439/11 4439/15 4439/16 4444/6 4445/1 4447/11 4449/22 4451/14 4455/2 4458/7 4459/17 4466/18 4476/5 4476/22 4478/22 4484/22 4491/5 4491/6 4491/17 4496/8 4504/10 4506/10 4507/24 4507/24	4508/4 4509/13 4512/18 4514/3 4514/13 4514/20 whether [17] 4411/20 4431/15 4435/4 4436/1 4436/24 4437/22 4443/23 4447/7 4448/23 4450/10 4454/24 4456/1 4466/23 4470/15 4471/25 4491/1 4500/4 which [42] 4405/4 4405/7 4415/4 4417/4 4418/4 4426/20 4430/13 4440/12 4441/19 4444/5 4444/24 4448/9 4450/4 4450/20 4451/21 4454/2 4456/24 4456/25 4458/23 4463/14 4463/16 4465/4 4466/14 4468/4 4474/5 4474/6 4479/4 4481/6 4484/23 4487/14 4488/3 4491/10 4493/1 4493/16 4493/17 4498/12 4503/3 4504/24 4506/2 4511/22 4514/8 4518/14 whichever [1] 4478/17 while [6] 4422/5 4422/22 4423/5 4481/24 4489/15 4494/13 who [38] 4407/24 4424/12 4425/13 4425/16 4427/1 4430/16 4430/18 4446/17 4447/20 4461/25 4472/16 4474/14 4477/3 4483/24 4488/20 4488/23 4489/11 4493/12 4494/9 4494/20 4494/23 4500/13 4500/16 4502/5 4502/8 4503/15 4503/17 4504/2 4504/12 4504/16 4508/19 4508/19 4510/23 4516/14 4516/17 4517/5 4517/6 4517/18 who's [6] 4404/21 4446/14 4465/23 4480/21 4484/15 4495/3 whoever [1] 4408/18 whole [5] 4411/2 4434/12 4485/13 4491/4 4518/19 why [24] 4420/19 4433/12 4439/2 4440/24 4441/5 4453/19 4458/17 4464/5 4469/8 4469/10	4486/24 4492/17 4494/4 4497/24 4498/1 4501/19 4502/13 4506/4 4508/8 4509/4 4511/4 4511/15 4515/11 4519/16 wide [1] 4492/11 will [17] 4416/16 4425/21 4425/25 4426/22 4461/11 4463/11 4474/5 4481/7 4481/9 4482/6 4510/4 4517/24 4518/2 4518/23 4518/25 4519/11 4519/19 William [5] 4400/17 4401/11 4403/10 4520/2 4520/8 William Cavanaugh [1] 4403/10 WILLIAMS [1] 4401/3 winter [2] 4507/22 4509/9 wish [1] 4462/5 withdraw [1] 4443/22 within [27] 4404/23 4405/6 4406/5 4440/1 4441/17 4479/22 4485/7 4485/20 4486/11 4486/16 4487/4 4488/17 4491/9 4494/14 4497/9 4498/6 4498/11 4499/2 4499/13 4499/15 4504/9 4507/23 4508/8 4508/21 4514/6 4514/22 4516/4 without [4] 4426/6 4457/15 4491/20 4493/19 witness [7] 4402/2 4403/16 4404/7 4433/24 4481/22 4482/15 4483/2 WITNESSES [1] 4402/4 won't [1] 4467/2 word [2] 4407/3 4416/6 words [3] 4413/8 4420/20 4473/20 work [19] 4432/1 4439/5 4441/3 4457/11 4460/19 4472/6 4486/14 4488/10 4488/11 4488/13 4488/20 4489/3 4489/9 4489/10 4494/19 4498/15 4514/18 4517/3 4519/6 worked [11] 4488/21 4489/2 4489/5 4489/7 4489/14 4495/21 4500/7 4501/3 4503/8 4503/15 4519/4 workflow [3] 4409/22 4414/7 4414/12 working [10] 4403/18 4436/1 4460/19	4484/25 4485/1 4486/10 4491/11 4495/17 4496/13 4515/18 works [2] 4404/18 4440/5 world [2] 4478/19 4494/5 Worldwide [2] 4478/14 4478/16 would [107] 4409/9 4409/15 4409/15 4410/21 4411/8 4411/21 4411/22 4413/13 4413/19 4414/4 4414/5 4414/7 4414/8 4414/8 4414/10 4414/12 4414/19 4414/20 4414/20 4414/22 4415/3 4415/5 4415/6 4419/15 4419/17 4419/18 4420/1 4420/4 4420/6 4420/13 4420/14 4420/19 4421/4 4421/8 4423/18 4424/5 4424/6 4425/8 4425/11 4427/16 4427/24 4429/22 4429/23 4429/24 4430/4 4430/19 4431/22 4432/1 4432/4 4432/20 4433/14 4433/20 4437/5 4437/7 4437/10 4437/11 4437/12 4437/14 4438/8 4438/8 4438/9 4439/15 4439/21 4445/2 4448/15 4449/13 4449/21 4449/25 4450/15 4453/20 4455/11 4456/10 4457/14 4458/20 4460/6 4465/1 4465/6 4467/2 4467/3 4467/11 4467/13 4467/15 4467/20 4467/23 4470/20 4471/1 4471/14 4471/21 4472/2 4472/6 4476/11 4476/19 4478/13 4478/18 4480/4 4484/5 4491/10 4492/3 4492/8 4496/13 4496/19 4505/18 4513/18 4513/19 4518/15 4519/3 4519/8 wouldn't [6] 4414/23 4423/19 4424/14 4445/15 4456/6 4471/18 write [9] 4432/14 4504/25 4506/19 4507/13 4511/10 4516/23 4517/15 4517/23 4518/22 writes [2] 4426/13 4475/12
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<p>W writing [1] 4511/16 written [1] 4437/12 wrong [4] 4404/20 4441/24 4442/2 4442/16 wrote [7] 4424/2 4505/5 4505/9 4506/23 4506/25 4507/1 4514/5</p>	<p>4411/6 4411/18 4413/19 4415/7 4416/4 4418/20 4419/3 4423/10 4423/20 4424/25 4428/23 4429/5 4431/13 4432/6 4432/15 4432/23 4433/21 4435/23 4440/19 4443/7 4446/12 4447/19 4450/19 4451/5 4452/2 4455/18 4459/18 4468/22 4475/16 4476/18 4477/1 4479/12 4479/23 4480/23 4483/19 4483/23 4484/13 4485/12 4488/22 4488/22 4489/3 4489/10 4489/21 4490/1 4491/24 4495/2 4495/12 4496/15 4496/24 4498/1 4498/19 4498/22 4499/7 4500/2 4502/12 4502/15 4505/4 4505/23 4506/8 4506/15 4507/9 4507/19 4509/9 4509/12 4509/23 4510/13 4512/12 4512/20 4512/25 4513/25 4514/11 4515/2 4515/9 4516/4 4516/4 4516/9 4519/21 yesterday [21] 4403/15 4404/2 4404/15 4405/23 4415/15 4416/20 4430/9 4440/10 4446/9 4450/5 4450/17 4458/6 4458/24 4459/11 4462/7 4463/21 4463/22 4465/12 4465/17 4469/24 4482/4 yet [4] 4413/23 4420/16 4461/13 4468/19 York [1] 4400/19 you [462] you know [6] 4428/8 4428/14 4486/7 4514/13 4517/2 4518/6 you'd [2] 4423/16 4502/24 you're [15] 4406/1 4407/20 4409/18 4409/19 4410/14 4428/22 4444/25 4453/4 4456/25 4463/17 4470/15 4480/6 4483/8 4510/11 4510/21 you've [4] 4411/12 4411/13 4413/8 4417/9 your [93] 4403/6 4403/12 4403/25</p>	<p>4407/3 4408/9 4415/13 4415/17 4415/23 4416/1 4416/6 4416/10 4416/14 4421/11 4423/15 4428/13 4428/17 4428/20 4428/25 4429/11 4430/7 4430/9 4431/10 4433/23 4434/2 4434/17 4434/20 4435/7 4435/14 4437/24 4440/20 4441/1 4444/19 4445/24 4446/21 4452/16 4453/2 4457/24 4461/2 4461/8 4461/15 4463/15 4465/1 4469/2 4469/20 4470/6 4472/11 4472/20 4475/6 4477/5 4477/9 4477/13 4480/25 4481/5 4481/17 4481/18 4482/2 4482/13 4483/17 4483/20 4484/15 4484/17 4484/22 4486/3 4486/15 4487/12 4488/9 4489/25 4491/22 4492/2 4494/20 4495/17 4495/23 4496/13 4497/19 4499/22 4500/21 4500/23 4501/4 4509/4 4509/9 4509/24 4512/23 4513/13 4514/4 4514/15 4515/2 4516/5 4516/21 4516/21 4518/22 4519/14 4519/19 4519/20 Your Honor [26] 4403/6 4403/12 4403/25 4415/17 4416/14 4428/17 4430/7 4433/23 4434/2 4441/1 4445/24 4453/2 4461/8 4461/15 4469/2 4469/20 4472/20 4477/9 4477/13 4481/5 4481/18 4500/23 4501/4 4509/9 4509/24 4515/2 yourself [2] 4415/8 4437/19</p>		
<p>X X engine [1] 4425/23 X percent [2] 4423/4 4423/17 X-engine [3] 4430/23 4430/25 4431/1</p>				
<p>Y Yahoo [4] 4464/2 4475/23 4478/13 4480/14 Yao [2] 4474/13 4474/14 yeah [50] 4405/2 4408/2 4410/21 4412/10 4412/10 4412/21 4412/24 4413/24 4414/13 4415/3 4415/10 4421/8 4424/21 4427/4 4427/14 4431/24 4433/20 4436/21 4437/20 4437/20 4439/7 4439/9 4439/10 4442/15 4442/18 4452/18 4455/1 4458/22 4460/14 4464/13 4464/14 4476/8 4476/9 4477/23 4478/6 4478/19 4480/15 4484/21 4487/11 4487/17 4487/25 4488/8 4489/7 4490/2 4490/14 4492/15 4495/22 4499/9 4510/19 4514/14 year [7] 4409/25 4428/5 4439/5 4461/24 4462/13 4465/25 4467/23 years [10] 4440/17 4440/19 4440/23 4441/6 4441/6 4468/2 4487/19 4501/24 4502/18 4519/4 Yejin [1] 4504/14 yellow [1] 4464/10 yep [16] 4415/14 4418/2 4421/16 4426/11 4426/18 4426/24 4432/18 4439/13 4439/17 4448/22 4449/9 4458/2 4463/18 4470/5 4476/23 4477/19 yes [81] 4405/18 4406/2 4406/3 4407/22</p>		<p>Z Zaremba [3] 4401/11 4520/2 4520/8 zero [1] 4490/9 zoom [1] 4502/19</p>		