IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
Alexandria Division

UNITED STATES, et al.,	)	
	)	
Plaintiffs,	)	
v.	)	No. 1:23-cv-00108-LMB-JFA
	)	
GOOGLE LLC,	)	
	)	
Defendant.	)	

PLAINTIFFS' POST-TRIAL BRIEF

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INTRODUCTION

In its liability opinion, the Court found that Google acquired—not merely maintained—two separate monopolies in two interconnected markets through a decade-long campaign of ever-mutating unlawful conduct. Op. 1, 114. Google's illegal conduct has created the urgent and extraordinary need to restore competition to markets where competition is, at best, a distant memory. Meeting that challenge requires potent and decisive action capable of correcting the profound damage Google has caused. In an era when the Supreme Court regularly encountered unlawful acquisitions of monopoly under Section 2, it routinely approved divestiture as a remedy. *See, e.g.*, *Int'l Boxing Club of N.Y., Inc. v. United States*, 358 U.S. 242, 255–61 (1959). The law and the facts require that the Court do no less here.

The weight of the trial evidence shows that structural changes to Google's ad tech monopolies are the only remedial measures up to the challenge of restoring competition. Only structural changes will terminate Google's monopolies and deny it the fruits of its unlawful conduct. Only structural relief will give market participants confidence that fair competition is the new order of the day. And only structural relief will permit natural market forces to shape competition moving forward. By contrast, behavioral relief alone will mire the Court and the parties in a cumbersome process of overseeing competition-by-decree, requiring Google to act contrary to its economic incentives and past behavior, and the Court and Plaintiffs to assume the ongoing role of ad tech bureaucrats. Nothing short of Plaintiffs' proposed structural remedies—the divestiture of AdX, the open-sourcing of DFP's Final Auction Logic, and, if necessary, the divestiture of DFP Remainder—satisfy the four objectives of an antitrust remedy: to (1) "unfetter a market from anticompetitive conduct," (2) "terminate the illegal monopoly," (3) "deny to the defendant the fruits of its statutory violation," and (4) "ensure that there remain no practices likely to result in monopolization in the future." *United States v. Microsoft Corp.*, 253 F.3d 34,

103 (D.C. Cir. 2001) (en banc) (quoting *Ford Motor Co. v. United States*, 405 U.S. 562, 577 (1972), and *United States v. United Shoe Mach. Corp.*, 391 U.S. 244, 250 (1968)).

No matter how well crafted, behavioral remedies alone are inadequate to address the extraordinary harm Google inflicted on the relevant markets. No matter how comprehensively an injunction is written, it "can hardly be detailed enough to cover in advance all the many fashions in which" anticompetitive conduct might manifest. *United States v. E.I. du Pont de Nemours & Co.*, 366 U.S. 316, 334 (1961). And even a comprehensive injunction risks failing to achieve its ends "if there are imperfections or delay in monitoring or detection or enforcement of the behavioral remedies." Rem. Tr. at 52:21–53:6 (9/24 AM) (Lee). Here, such monitoring imperfections are to be expected given the black-box nature of the products themselves. In addition, lengthy enforcement delays are an inevitable risk of imposing only behavioral remedies. *See du Pont*, 366 U.S. at 334. Attempting to regulate such technical products at sufficient granularity to be effective risks approaching "the practical limits of judicial administration," as "[a]n antitrust court is unlikely to be an effective day-to-day enforcer of a detailed decree, able to keep pace with changing market dynamics alongside a busy docket." *Nat. Collegiate Athletics Ass'n v. Alston*, 594 U.S. 69, 103–04 (2021); *see also United States v. Google LLC*, 2025 WL 2523010, at *31 (D.D.C. Sept. 2, 2025) ("*Google Search*"). Finally, were the Court and Government able to administer the behavioral-only remedy flawlessly, in spite of the various risks, the process itself still would be fraught, as "the policing of an injunction would probably involve the courts and the Government in regulation of private affairs more deeply" than is desirable, especially compared to "the administration of a simple order of divestiture." *du Pont*, 366 U.S. at 334.

In contrast, Plaintiffs' proposed remedies will jumpstart competition naturally, by

allowing market forces—not a cumbersome behavioral-only decree—to do the hard work. Plaintiffs' proposed remedies address the myriad ills caused by Google's conduct in a comprehensive and lasting manner that minimizes and simplifies behavioral intervention going forward. Plaintiffs' remedies satisfy each of the objectives the Supreme Court has instructed an antitrust decree must achieve, including the important requirement that Google's illegal monopolies be "extirpat[ed]" once and for all. *United Shoe*, 391 U.S. at 251. In contrast, if no divestitures are ordered, Google, a recidivist monopolist, will remain, just as it was before the Court's liability opinion, "'owning the platform, the exchange, and a huge network' of advertising demand, which Google itself analogized to 'Goldman or Citibank owning the NYSE, i.e., the New York Stock Exchange.'" Op. 94.

Alternatively, requiring Google to divest AdX will alter Google's incentives on both the buy side and the sell side, freeing both ad exchanges and publisher ad servers to compete on the merits rather than via their corporate affiliations. And requiring DFP to make the Final Auction Logic available on an open-source basis will, for the first time, shine a light on the pivotal algorithms that dictate which ads are shown on more than 90% of websites worldwide, empowering publishers to make free and informed decisions about which publisher ad server to use, and lowering artificially-high barriers to entry that have kept competition in the publisher ad server market from taking hold. And if these measures are not sufficient to restore competition, the contingent divestiture of DFP Remainder is available to complete the work. Plaintiffs' behavioral remedies complement the structural components, serving as a bridge while structural relief is being implemented and as added reinforcement after structural relief is in place.

Only by structurally altering the natural economic incentives by which Google operates its ad tech businesses will market participants gain the assurance they need to take concrete

economic action. To rekindle competition in these decimated markets, rivals and potential rivals need to be willing to invest in competing against Google in open-web display, and publishers need to be willing to make the costly decision to switch away from Google as their publisher ad server, which in turn requires that alternative publisher ad servers be available and capable of functioning at scale. However, the trial record shows that firms in these markets, like rational actors in any economic market, are hesitant to take economic risks without appropriate assurance that competition "on the merits" is possible. Op. 98–99.

The trial evidence showed that only structural relief can provide needed assurance that Google will not retain unfair competitive advantages in the future. Multiple witnesses explained how Google can manipulate computer algorithms that are the engine of its monopolies in ways too difficult to detect. They described Google's proven history of adapting its technology and business practices to new circumstances to insulate its products from competition. Given these realities, the "caution" that is "key" to crafting antitrust remedies counsels against relying only on day-to-day judicial administration of a "cumbersome and time-consuming injunctive remedy," and in favor of relying on the "surer, cleaner remedy of divestiture." *See Alston*, 594 U.S. at 102–03, 106; *du Pont*, 366 U.S. at 333–34.

Furthermore, even if a behavioral remedy could somehow be crafted to restore competition and prevent the recurrence of monopolization, it would still leave two important remedial goals unsatisfied. Plaintiffs' proposed divestiture remedies are the only remedies that would terminate Google's illegally established monopolies and deny Google the monopoly power, continuing monopoly profits, and data and scale advantages that are among the fruits of its anticompetitive conduct.

Finally, despite Google's arguments to the contrary, the trial evidence demonstrated that

Plaintiffs' proposed structural remedies are feasible to implement. As shown by Google's candid contemporaneous analysis—which it resisted disclosing for obvious reasons—AdX *can* be divested and DFP's Final Auction Logic *can* be open-sourced in a reasonable amount of time without sacrificing product quality. For all these reasons, the Court should order the carefully tailored mix of structural and behavioral remedies Plaintiffs propose so these vital markets can return to their proper purpose: serving the interests of open-web publishers, and the advertisers that fund their content.

SUMMARY OF THE EVIDENCE PRESENTED

Over the course of eleven trial days, the Court heard testimony from nineteen fact witnesses and seven experts concerning the state of the two monopolized markets, the likely effects of each side's proposed remedies on competition, and the feasibility of implementing Plaintiffs' proposals. Below is a high-level overview of that evidence, with a more detailed explication to follow, in relevant part, further below.

A. Open-Web Display Advertising Remains Vital to a Free and Open Internet, and Advances in Artificial Intelligence Will Likely Bolster, Not Hinder, Google's Relative Competitive Advantages

Open-web display advertising and the tools that facilitate it remain important for both publishers and advertisers and will continue to be so for the foreseeable future. Publishers continue to rely on open-web display advertising to stay in business. For example, Matthew Wheatland testified that open-web display ads make up 50–60% of Daily Mail's digital revenue and are thus "still the most important source of revenue that we have across our digital business," and "will remain an important source of revenue" in the future. Rem. Tr. at 43:11–23 (10/6) (Wheatland); *see also id*. at 11:25–12:3, 58:22–59:2 (10/1 PM) (Douglas); *id*. at 18:22–19:7 (10/3 AM) (Layser). Open-web display advertising also continues to be important for advertisers

to reach their campaign goals. Rem. Tr. at 74:17–75:8 (9/23 AM) (Lambert); *id*. at 138:22–25 (9/23 PM) (Dederick).

Spending on open-web display advertising has remained stable over time, even as other ad formats have grown in popularity. Rem. Tr. at 135:10–25, 136:8–25 (10/1 PM) (Lerner); *id*. at 40:7–19 (9/24 PM) (Crisci). Google's illegal conduct, however, acts as a drag, discouraging investment and innovation by ad tech providers in open-web display and making it a less attractive option for advertisers. Rem. Tr. at 14:1–18:6 (9/30 PM) (Goel); *id*. at 55:1–13 (9/24 PM) (Crisci); *id*. at 152:4–17 (9/22 PM) (Casale). Moreover, Google's illegal conduct allowed it to charge supracompetitive take rates that made open-web display advertising a less attractive option for advertisers, who, along with publishers, share in the cost of the AdX overcharge. Liab. Tr. at 94:16–20, 100:2–18 (9/25 AM) (Chevalier). Greater competition in the monopolized markets would help reverse these trends by increasing incentives to invest and innovate, thereby offering advertisers a better return on investment. *See* Rem. Tr. at 58:24–59:11 (9/30 PM) (Goel); *id*. at 78:7–21, 144:13–145:1 (9/23 PM) (Dederick); *id*. at 14:6–15:1 (9/24 PM) (Lee).

Advances in machine learning or generative AI have not reduced Google's chokehold on the relevant ad tech markets and are not likely to do so in the future. *See* Rem. Tr. at 31:13–20 (9/23 AM) (Avery); *id*. at 92:25–93:2, 154:13–16 (9/22 PM) (Casale); *id*. at 134:18–135:3 (9/30 PM) (Goel); *id*. at 138:7–13 (9/23 PM) (Dederick); *id*. at 42:19–43:10 (10/6) (Wheatland); *id*. at 97:17–25 (9/22 AM) (Whitmore); *id*. at 127:23–128:4, 129:11–14 (9/23 AM) (Lambert); *id*. at 7:1–3 (9/23 PM) (Friedman). AI has not created new products that are substitutes for ad exchanges or publisher ad servers for open-web display advertising. *See* Rem. Tr. at 31:13–20 (9/23 AM) (Avery). Advances in AI, including Google's AI products, are making conditions worse for open-web publishers by siphoning traffic away from publisher websites, thereby

reducing advertising opportunities. Rem. Tr. at 28:25–30:4, 75:2–78:4 (10/1 PM) (Douglas); *id*. at 40:15–41:1 (10/3 PM) (Layser); *id*. at 67:1–25 (10/6 AM) (Wheatland). If anything, because Google is "an AI-first company" that has been expanding its already-enormous investments in AI (*see* PRX184 at 4, 11), AI is more likely to *entrench*, rather than challenge, Google's ad tech dominance. *See* Rem. Tr. at 82:3–83:13, 137:19–138:6 (9/23 PM) (Dederick).

B. An Overwhelming Industry Consensus Confirms Structural Relief Is Needed to Reignite Confidence, and Thereby Competition, in the Relevant Markets

For all the reasons set forth in greater detail below, all but one of the third-party industry participants who testified at trial explained that competition will not be restored in the relevant markets if Google is allowed to retain control over the monopolized products—DFP and AdX. *See, e.g.*, Rem. Tr. at 51:6–19, 54:24–55:12, 68:23–69:23 (9/22 AM) (Whitmore); *id*. at 49:3–50:9, 62:24–63:12, 69:18–70:19 (9/22 PM) (Casale); *id*. at 13:16–14:3, 26:5–12 (9/23 AM) (Avery); *id*. at 89:20–91:3 (9/23 AM) (Lambert); *id*. at 8:16–9:11, 10:11–19, 12:11–25 (9/23 PM) (Friedman); *id*. at 86:22–87:17, 90:23–91:19 (9/23 PM) (Dederick); *id*. at 51:11–52:19, 85:3–20 (9/26) (Racic); *id*. at 17:4–13, 18:21–19:1, 24:5–21 (9/29 AM) (Créput); *id*. at 10:2–12:3, 20:5–13, 20:22–21:6 (9/30 PM) (Goel); *id*. at 42:23–43:23 (10/3 AM) (Layser); *id*. at 11:3–19, 18:22–19:24, 36:23–37:11 (10/6) (Wheatland). These witnesses were asked whether behavioral remedies would suffice to accomplish the same objectives and, to a one, they each testified that behavioral remedies would *not.* Hence, for all the reasons discussed in greater detail below, this consistent plea for structural intervention from a wide range of market participants warrants serious and due consideration by the Court.

In the face of this overwhelming evidence from a multitude of highly knowledgeable industry participants, Google (belatedly) called only one third-party witness, Elizabeth Douglas, the CEO of website publisher wikiHow, whose views in support of Google's proposals were

biased and uninformed.[1] First, Ms. Douglas conceded that she signed a content licensing agreement with Google under which payments from Google amounted to 10–15% of wikiHow's yearly revenues. Rem. Tr. at 52:5–53:10 (10/1 PM) (Douglas). That dependence on Google will likely increase because of the negative impacts of generative AI on wikiHow's advertising revenue. *See* Rem. Tr. at 74:24–75:24 (10/1 PM) (Douglas). Second, Ms. Douglas's testimony evinced her lack of in-depth knowledge of the competitive concerns at issue here. For example, Ms. Douglas testified that she "ha[s]n't spent a lot of time thinking about" AdX's unique demand from AdWords and she "do[es]n't spend a lot of time thinking about rev shares [including AdX's 20% take rate] because the auction is done on a net basis." Rem. Tr. at 43:1–11, 51:9–11 (10/1 PM) (Douglas); *cf.* Op. 76–77 (finding AdX's 20% take rate supracompetitive); Rem. Tr. at 16:19–25 (10/3 AM) (Layser) (explaining that a lower take rate would lead to more publisher revenue even on a net basis: "That's just math."). For all these reasons, Ms. Douglas's lone industry voice in support of Google's remedies should not be afforded significant weight.

C. Google Once Again Walked Away From Contemporaneous Documents that Demonstrated the Feasibility of Plaintiffs' Structural Remedies

During the remedies phase, Google repeated its liability phase practice of primarily relying on its own paid employees and retained experts for testimony. While these witnesses attempted to walk the line between defending their prior illegal conduct and acknowledging the need for reform going forward, the proof was in the pudding when Tim Craycroft refused to acknowledge any need to commit to changing AdX's 20% take rate, which this Court concluded

[1] Google failed to disclose Ms. Douglas as a witness until the evening of Friday, September 19, less than one business day before trial. ECF No. 1763 at 1. Google justified its late disclosure as a response to the Court's decision not to accept *amicus* briefs. ECF No. 1764 at 2. But Ms. Douglas testified that she did not know what an *amicus* brief was and never intended to file one. Rem. Tr. at 44:22–45:5 (10/1 PM) (Douglas).

was supracompetitive. Rem. Tr. at 142:17–25 (9/25 PM) (Craycroft); Op. 76–77. Likewise, Google's economics expert, Andres Lerner, refused to acknowledge the import of this Court's liability findings when he testified, among other things, that Google would have monopoly power even in a "but for" world without its anticompetitive conduct, *see* Rem. Tr. at 114:10–25 (10/2 AM) (Lerner), and that Google should be free to tie AdWords demand directly to DFP despite this Court's findings that AdWords was the means by which the illegal AdX-DFP tie was created in the first place, *see* Rem. Tr. at 127:22–128:12 (10/1 PM) (Lerner).

Another pattern from the liability trial that repeated itself was Google once again disavowing its own statements in contemporaneous, internal documents. When trying to explain why Plaintiffs' proposed structural relief would not be feasible, Messrs. Craycroft, Levitte, Berntson, and Wolf all attempted to distance themselves from the conclusions they reached (and communicated to their superiors) about the feasibility of those proposals. *Compare* PRX050 at -282, -298, -302–303, -307–308, -324–325, *and* PRX060 at -488–491, -494, -501, -503–505, -511, -513, *with* Rem. Tr. at 107:2–108:1 (9/25 PM) (Craycroft), *id*. at 62:23–63:3, 64:21–65:13 (9/29 PM) (Levitte) ("So this was a brainstorming document . . . ."), *id*. at 47:13–49:10 (9/30 AM) (Berntson), *and id*. at 96:6–98:1, 98:17–99:13 (9/30 AM) (Wolf) ("This may be part of the graveyard of the document. I don't remember exactly . . . ."). There is no reason not to credit the feasibility conclusions in Google's internal documents, which were the result of Google's own analysis, communicated contemporaneously to senior business leaders, at a time before the liability trial even occurred.

LEGAL STANDARD

Sitting in equity, the Court has broad discretion to order a remedy capable of addressing the wrongs identified in the Court's liability opinion. *Ford Motor Co.*, 405 U.S. at 573. The "key" to the Court's inquiry at the remedies stage is to determine the "measures effective to

restore competition" in the two markets that Google illegally monopolized. *du Pont*, 366 U.S. at 325–27; *accord Steves & Sons, Inc. v. JELD-WEN, Inc.*, 988 F.3d 690, 720 (4th Cir. 2021) (affirming divestiture "needed to restore competition"). To be "effective," relief must (1) "unfetter a market from anticompetitive conduct," (2) "terminate the illegal monopoly," (3) "deny to the defendant the fruits of its statutory violation," and (4) "ensure that there remain no practices likely to result in monopolization in the future." *Microsoft*, 253 F.3d at 103 (quoting *Ford Motor Co.*, 405 U.S. at 577, and *United Shoe*, 391 U.S. at 250); *accord In re Google Play Store Antitrust Litig.*, 147 F.4th 917, 946 (9th Cir. 2025) (reaffirming these objectives). Courts "start from the premise that an injunction against future violations is not adequate to protect the public interest," and that "divestiture or dissolution is an essential feature of [monopolization] decrees." *Schine Chain Theatres v. United States*, 334 U.S. 110, 128 (1948); *see also du Pont*, 366 U.S. at 334 ("[I]t is well settled that once the Government has successfully borne the considerable burden of establishing a violation of [antitrust] law, all doubts as to the remedy are to be resolved in its favor.").

Google's self-serving protestations to the contrary, divestiture "is a common form of relief in successful antitrust prosecutions: it is indeed 'the most important of antitrust remedies,'" *Microsoft*, 253 F.3d at 105 (quoting *du Pont*, 366 U.S. at 331), and the "most effective," *du Pont*, 366 U.S. at 326. A "remedy regulating conduct alone is likely to fail" where, as here, a defendant's "monopoly power is substantial and likely to be durable," and "the possible forms of anticompetitive conduct are varied and difficult to predict." Phillip E. Areeda & Herbert Hovenkamp, *Antitrust Law* ("Areeda & Hovenkamp") ¶ 653c2 (2025); *see also id.* (structural relief may be the "best or perhaps even the only" effective remedy for "significant acts of monopolization by a clearly dominant firm" when "the acts are diverse or have been repeated

over time"). And where, as here, the to-be-divested assets were acquired by the monopolist, "the case for a breakup remedy is the strongest." *Google Search*, 2025 WL 2523010, at *30 (cleaned up). In that regard, it is difficult to imagine a fact pattern more deserving of structural relief than that found by this Court.

ARGUMENT

I. Restoring Competition in the Relevant Markets Is a Daunting Challenge, and Plaintiffs' Structural Remedies Are Needed to Meet That Challenge

This Court's liability opinion makes abundantly clear that Google's illegal conduct has left the relevant markets in dire competitive straits by (1) depriving rivals of scale and data, (2) making it difficult or impossible for customers to do business with rivals, (3) raising rivals' barriers to entry and expansion and/or forcing rivals' exit, and (4) extracting supracompetitive take rates. *E.g.*, Op. 31, 76–80, 98–103, 108–09. Therefore, the remedy the Court crafts must be up to the extraordinary task of restoring competition to two interrelated markets that have been bereft of meaningful competition for more than a decade. Plaintiffs' proposed remedies meet that challenge by comprehensively addressing the consequences of Google's illegal conduct and fostering the economic conditions needed to rebuild competition in these broken markets.

A. Plaintiffs' Proposed Remedies Would Rekindle Competition in the Publisher Ad Server Market

In fashioning a remedy capable of making a meaningful change in the Publisher Ad Server market, the Court must acknowledge the reality that restoring competition will be especially difficult in the publisher ad server market, where Google's illegal conduct has "destroyed all competition." Op. 98. Plaintiffs' proposed remedies meet this daunting task by carefully (1) reducing barriers to entry and expansion and (2) encouraging and facilitating customer switching. Those steps, in turn, will (3) increase incentives to enter and invest in the market and, finally, (4) allow non-Google publisher ad servers to gain necessary data and scale to

compete. Behavioral-only remedies will not accomplish these basic prerequisites to restoring a competitive publisher ad server market over the short term or the long term.

1. *Reducing Barriers to Entry and Expansion*

As this Court found, the publisher ad server market has "significant barriers to entry and expansion," including the initial investment required to build a publisher ad server. Op. 74. Google's illegal conduct has exacerbated those barriers by forcing publishers to use DFP and depriving rival ad servers of fair access to AdWords demand. *See* Op. 29, 31, 75–76, 80–81, 98. Plaintiffs' proposed remedies would reduce these barriers in two ways. First, open-sourcing DFP's Final Auction Logic will reduce the initial investment needed to build a publisher ad server. Rem. Tr. at 45:22–46:5 (9/24 AM) (Lee); *id.* at 19:10–17 (10/6) (Wheatland). Second, the divestiture of AdX, supplemented by behavioral remedies[2] (Pls.' PFJ §§ IX(A)–(C), X(A)–(E), X(G)–(H)), will give rival publisher ad servers non-discriminatory access to AdWords demand. This will provide publishers multiple alternatives for monetizing their open-web display inventory. Rem. Tr. at 35:14–37:4 (9/24 AM) (Lee); *id.* at 13:16–14:3, 26:15–27:14, 26:5–12 (9/23 AM) (Avery). And if Google finds a way around these remedies to continue to use AdWords to disadvantage DFP's rivals, the contingent divestiture of DFP Remainder would definitively put a stop to that behavior by eliminating Google's economic incentive to give DFP artificial advantages. Rem. Tr. at 50:3–25 (9/24 AM) (Lee).

2. *Encouraging and Facilitating Customer Switching*

The Court also found that publishers face "high switching costs" in the publisher ad

[2] Google proposes its own versions of several of these behavioral remedies (Google PFJ ¶ III.1), but with caveats that limit their effectiveness. *See infra* IV. Plaintiffs' industry witnesses explained why the disputed behavioral remedies are needed. *See, e.g.*, Rem. Tr. at 79:8–81:15 (9/22 AM) (Whitmore); *id*. at 73:4–75:2 (9/22 PM) (Casale); *id*. at 27:2–14, 28:11–22 (9/23 AM) (Avery); *id*. at 107:4–108:18 (9/23 PM) (Dederick); *id*. at 28:13–19 (9/29 AM) (Créput).

server market. Op. 74 (quoting PTX1814 at -745). Google's illegal conduct exacerbated this hurdle by (1) forcing publishers to forgo revenue from AdWords if they switch and (2) effectively removing all competition from the publisher ad server market, even if publishers were motivated to switch. Op. 75, 91–94; Rem. Tr. at 90:20–91:1 (9/22 AM) (Whitmore); *id.* at 97:23–98:13 (9/23 PM) (Dederick). Plaintiffs' proposed remedies would reduce switching costs in two primary ways. *First*, the transparency provided by open-sourcing DFP's Final Auction Logic, combined with data-sharing remedies (Pls.' PFJ §§ IX(D)–(G)) would alleviate informational barriers to publisher switching. Rem. Tr. at 11:24–12:12 (9/23 AM) (Avery); *id.* at 84:11–18, 85:3–14 (9/22 AM) (Whitmore). Those remedies would allow open-web publishers to make informed decisions about which publisher ad server (and version of the Open-Source Auction) best suits their business needs and would allow them to retain and easily transfer their valuable historical data and ad server configurations. Rem. Tr. at 24:5–25:13, 33:7–14 (10/3 AM) (Layser); *id.* at 11:3–19, 16:7–25, 18:1–17, 24:1–20 (10/6) (Wheatland); *id.* at 21:10–22:1 (9/23 AM) (Avery); *id.* at 45:1–12 (9/24 AM) (Lee). *Second*, Plaintiffs' proposed escrow fund (Pls.' PFJ § XII) would directly mitigate financial barriers to publisher switching. Rem. Tr. at 85:25–87:3 (9/26) (Racic); *id.* at 22:22–23:1 (9/29 AM) (Créput); *id.* at 62:2–63:1 (9/24 AM) (Lee).

3. *Restoring Incentives to Invest and Enter*

The Court also found that Google's illegal conduct has forced all viable competitors from the publisher ad server market, leaving no "meaningful alternatives to DFP." Op. 75. Thus, a remedy must encourage the creation of those alternatives. By reducing barriers to entry, expansion, and customer switching, as discussed above, Plaintiffs' proposed remedies would increase market-wide incentives to invest in publisher ad servers, which would spur entry of much-needed DFP alternatives. *See*, *e.g.*, Rem. Tr. at 46:6–17, 47:13–23 (9/24 AM) (Lee); *id.* at 86:1–16, 112:6–22 (9/22 AM) (Whitmore); *id.* at 18:22–19:24 (10/6) (Wheatland); *id.* at 51:11–

52:19 (9/26) (Racic). And, as discussed below, structurally eliminating Google's incentives to disadvantage third-party publisher ad servers will foster the business confidence needed to stimulate investment, entry, and customer switching. *See infra* II(A).

4. *Correcting Scale and Data Disadvantages*

Although "[s]cale is a crucial factor for ad tech companies' ability to compete," Op. 40, the Court found that there have been "significant barriers to gaining scale in a market dominated by Google," *id*. at 75, and that Google's illegal conduct deprived other publisher ad servers of scale and the data that comes with it, *id*. at 103. Plaintiffs' proposed remedies would allow rival publisher ad servers to regain that scale-based competitiveness in two primary ways. *First*, because the algorithms behind DFP's Final Auction Logic have directly benefited from Google's illegally obtained scale, *see* Rem. Tr. at 45:22–46:17 (9/24 AM) (Lee); *id*. at 18:17–19:22, 21:20–24:7, 25:11–27:5 (9/30 AM) (Berntson), making the Final Auction Logic open source (and requiring Google to provide logic-improving data, *see* Pls.' PFJ § IX(G)) would allow rivals to share in those scale-based advantages of which they have been deprived over the last decade. *Second*, reducing barriers to entry, expansion, and customer switching, as discussed above, would give rival publisher ad servers a fair chance to compete on the merits in the future to win additional scale advantages of their own.

B. Plaintiffs' Proposed Remedies Would Facilitate Competition on the Merits in the Ad Exchange Market

The Court likewise found that Google's illegal conduct has harmed competition in the ad exchange market by depriving AdX rivals of AdWords demand and using DFP's Final Auction Logic to disadvantage AdX's rivals through First Look, Last Look, and UPR. *See* Op. 29, 80–81, 95–96, 99–101. These disadvantages in turn have deprived rivals of the scale and transaction volume that is "crucial" to compete in the ad exchange market. *See* Op. 83; *see also id.* at 86,

100–01, 108–09. Plaintiffs' proposed remedies would restore competition in the ad exchange market by eliminating the disadvantages Google's illegal conduct imposed on rival ad exchanges, thereby lowering ad exchange fees for open-web publishers and increasing incentives to enter and invest in the ad exchange market.

First, divesting AdX would reinvigorate "fair competition," in which customers can choose ad exchanges purely on their merits, Rem. Tr. at 10:2–17, 20:5–21 (9/30 PM) (Goel), by eliminating Google's unilateral incentive to artificially handicap AdX's rivals. Because Google would no longer benefit from shielding AdX from competition, AdWords would bid more widely across ad exchanges (as buy-side Google employees have long advocated), *see* Op. 105–06, and DFP would no longer have a reason to skew its Final Auction Logic to favor AdX over other exchanges. *See, e.g.*, Rem. Tr. at 25:18–29:21 (9/24 AM) (Lee); *id.* at 49:22–50:9, 53:10–18 (9/22 PM) (Casale); *id.* at 55:4–21, 134:5–14 (9/30 PM) (Goel); *id.* at 36:23–37:11 (10/6) (Wheatland). These changes would make it easier for publishers to do business with AdX's rivals and allow those rival exchanges to compete on the merits for transaction volume, data, and scale to improve their products. *See* Rem. Tr. at 30:5–24 (9/24 AM) (Lee). Several of Plaintiffs' proposed behavioral remedies (Pls.' PFJ §§ X(B)–(F), X(H)–(J), XI(B)) would also complement the divestiture of AdX in ensuring that Google has no ability or incentive to recreate these competitive handicaps in the ad exchange market. Rem. Tr. at 72:25–76:24 (9/22 PM) (Casale).

Second, because AdX's exclusive access to AdWords "has helped Google maintain the power to keep charging AdX publishers a 20% take rate," Op. 81, requiring Google to divest AdX will eliminate Google's incentive to impose that exclusivity and would thereby reduce or eliminate Google's ability to charge supracompetitive ad exchange take rates. *See, e.g.*, Rem. Tr. at 32:6–35:10 (9/24 AM) (Lee); *id.* at 9:12–19 (9/23 PM) (Friedman); *id.* at 53:2–15 (9/22 AM)

(Whitmore); *id.* at 21:15–22:2 (9/30 PM) (Goel). This supracompetitive take rate harms both AdX's publisher and advertiser customers. Liab. Tr. at 36:14–19 (9/18 PM) (Simcoe).

Third, by eliminating Google's incentive and ability to favor AdX and making scale and transaction volume more contestable, Plaintiffs' proposed remedies would lower barriers to entry and expansion and thereby increase incentives to enter and invest in the ad exchange market. *See* Rem. Tr. at 30:25–31:17 (9/24 AM) (Lee); *id.* at 20:5–21, 28:10–29:8, 58:24–59:11 (9/30 PM) (Goel); *id.* at 53:2–55:10 (9/22 PM) (Casale).

II. Without Structural Relief, Competition Will Not Be Restored, Google's Monopolies Will Not Be Terminated, and Google Will Continue to Enjoy the Fruits of Its Monopolization

The evidence at trial confirmed that the structural remedies Plaintiffs propose—divestiture of AdX, open-sourcing of DFP's Final Auction Logic, and (potentially) divestiture of DFP Remainder—are "necessary element[s] of effective relief." *du Pont*, 366 U.S. at 327. Behavioral remedies alone would not be robust or enduring enough to foster the market conditions needed to restore competition or satisfy the mandatory objectives of an antitrust decree. And where, as here, the means of re-monopolization are innumerable and opaque, and a well-resourced and creative defendant has a history of adapting its conduct to attempts to constrain its power, relying only on behavioral remedies would require this Court to reach or exceed "the practical limits of judicial administration." *Alston*, 594 U.S. at 102. Moreover, even if a behavioral remedy *could* restore competition and prevent the recurrence of monopolization, it cannot terminate Google's illegally acquired monopolies or deprive it of the fruits of its violation, as the remedy must do.

A. Only Structural Relief Can Provide the Assurance Needed to Encourage Entry, Investment, and Customer Switching

For a remedy to restore competition and cure the ill effects of Google's violations, it must

foster entry, investment, and customer switching in the two monopolized markets. *See supra* I(A). Otherwise, the stagnant status quo will prevail, especially in the publisher ad server market, where there is no competition, and customers would have little, if any, ability to switch to alternatives if they existed. *See* Op. 74–75. In this situation, where a monopolist's conduct essentially requires the Court to rekindle competition from scratch, it is critical for a remedy to provide "assurance" to market participants that the monopolist will not recreate the effects of its illegal campaign. *See United States v. Crescent Amusement Co.*, 323 U.S. 173, 190 (1944) ("The proclivity in the past to use that affiliation for an unlawful end warrants effective assurance that no such opportunity will be available in the future.").

If firms perceive a risk of re-monopolization, they will be deterred from entering and investing, and customers will be deterred from adopting alternatives. *See* Rem Tr. 19:2–16, 39:15–40:6, 72:13–74:13, 75:17–25 (9/24 AM) (Lee); *id.* at 10:15–15:1 (9/24 PM) (Lee). That chill on investment and switching stymies the restoration of competition even if Google, contrary to its past conduct and economic incentives, complies in good faith with a behavioral remedies order and does not to try to hold onto its illegal monopolies "by methods more subtle and informed, and more difficult to prove," than the methods this Court found illegal. *Int'l Salt Co. v. United States*, 332 U.S. 392, 400 (1947).

The record demonstrates, from all corners of the ad tech marketplace, that customers and market participants will not be sufficiently assured to enter, invest, and switch to alternatives in open-web display ad tech markets without structural relief.

Current and Former Customers. Google's current and former publisher customers testified that they would remain concerned about re-monopolization without structural changes to Google's ad tech business. For example, one of those customers testified that his business

"need[s] to be sure" that remedies will have "lasting effects," but that he would not have that assurance without structural relief. Rem. Tr. at 43:24–46:22 (10/6) (Wheatland). That lack of assurance, in turn, would create "friction," "mak[ing] it harder for us to switch publisher ad servers," which in turn would create "a drag on competitive ad servers," which would have "less new customers," "less revenue," and less ability "to invest . . . in their businesses." *Id*.

These publisher concerns are not just a matter of subjective distrust. They are rational, objective perceptions based on experience dealing with Google, using its products, and observing its behavior and the impact of that behavior on other rational actors in the market. As one publisher testified, "the technology offers a lot of opportunities for . . . Google to continue to put their thumb on the scale," and without structural relief, "there's just always going to be an incentive [by Google] to try to find your way around the behavioral remedies," because of Google's "inherent . . . conflict of interest." Rem. Tr. at 88:16–89:18 (9/22 AM) (Whitmore); *see id*. at 106:23–107:19 (similar). Nor are these concerns based merely on an assumption that Google would violate this Court's orders. Rather, the "concern would be that [Google's] impulse would always be to adapt to the letter of what might be described in a behavioral remedy, but not the actual spirit of it," which "would keep competition from emerging." Rem. Tr. at 111:9–17 (9/22 AM) (Whitmore); *see id*. at 80:1–14.

Actual and Potential Competitors. Actual and potential competitors of Google in the relevant markets also testified that only structural changes to Google's ad tech business would give them confidence, as a business matter, to compete in these markets. *See, e.g.*, Rem. Tr. at 70:6–71:2 (9/22 PM) (Casale); *id*. at 76:18–77:13 (behavioral remedies "will help, but they do not provide guaranteed certainty" because "a very creative mind can develop another preferencing feature to implement into DFP tomorrow"); *id*. at 13:1–14:3 (9/23 AM) (Avery); *id*.

at 65:13–20 ("if there's no guarantee that . . . [customers are] going to get the same demand on Kevel that they were getting on DFP," "we would be in the same place we are today," with potential customers "worried" about switching to Kevel); *id*. at 44:12–23 (9/29 AM) (Créput). They testified that they and others would be hesitant to invest without structural remedies. Rem. Tr. at 93:12–18 (9/22 PM) (Casale); *id*. at 31:21–32:4 (9/23 AM) (Avery); *id*. at 55:4–56:6 (9/30 PM) (Goel) (without AdX divestiture, "we are not able to fairly compete," which "has implications for our ability to generate scale, our ability to invest in new solutions and services for our publisher customers"); *see id*. at 85:15–86:21 (9/23 PM) (Dederick) (ad exchanges "don't feel that they can compete by innovating, and so there's a lack of innovation").

Advertisers and Buy-Side Tools. Buy-side witnesses testified similarly. For example, the chief revenue officer of a major buy-side tool testified he "can't see without severing" Google's ownership of its sell-side tools, "that trust" from ad buyers "being restored and ad buyers wanting to invest again" in open-web display advertising. Rem. Tr. at 86:22–87:17 (9/23 PM) (Dederick); *see also id*. at 76:21–78:6, 87:18–88:14. To make investments in open-web display, ad buyers and ad tech companies need "assurance that we wouldn't just be back here talking about the same things in a couple years," and he testified that only structural remedies could provide that assurance. Rem. Tr. at 107:17–109:10 (Dederick). An ad agency executive similarly testified that "it really needs to be that the ad server is truly an independent ad server," and he was "not confident" that a purely behavioral remedy could be effectively policed, making such a remedy "more ripe for problem than for solution." Rem. Tr. at 11:6–13, 12:1–10, 15:10–16:21, 17:24–18:19 (9/23 PM) (Friedman).

B. Structural Relief Is Needed Here to Satisfy the Objectives of an Antitrust Decree

1. *Only Structural Relief Will Stop Google from Exploiting New Roads to Monopoly*

Structural remedies are also needed to "ensure that there remain no practices likely to result in monopolization in the future." *United Shoe*, 391 U.S. at 250. The record reflects that there are innumerable ways Google could modify its technology to recreate the anticompetitive effects of its illegal campaign through other means. Those alternative means include:

- ***Latency*:** Modifying the latency of bids, such that bids to or from Google tools travel artificially faster than those from non-Google tools (including header bidding). Rem. Tr. at 89:6–18 (9/22 AM) (Whitmore).

- ***Data Signals*:** Changing how data signals are communicated, such that data signals to or from non-Google tools (including header bidding) are artificially less valuable than those from Google tools. Rem. Tr. at 28:23–29:15 (9/23 AM) (Avery); *id.* at 56:25–58:5 (9/30 PM) (Goel); *id.* at 66:24–69:9 (9/22 PM) (Casale).

- ***Decision Algorithms:*** Modifying decision algorithms within some of Google's tools to give artificial advantages to other Google tools. *See, e.g.*, Rem. Tr. at 41:16–42:13 (9/30 PM) (Goel).

- ***Differential Pricing:*** Making non-Google pathways (including header bidding) artificially more expensive to use than Google pathways. *See, e.g.*, Rem. Tr. at 36:23–37:23 (10/3 AM) (Layser); *id.* at 67:1–19, 68:17–69:1 (9/24 AM) (Lee); *id.* at 142:23–143:11 (10/1 PM) (Lerner); PTX453 at -190.

- ***Exclusivity:*** Creating an exclusive or semi-exclusive buying relationship between AdWords and DFP, thereby recreating the coercive effects of the AdX-DFP tie. Rem. Tr. at 73:4–74:1 (9/22 PM) (Casale); *id.* at 28:11–22 (9/23 AM) (Avery); *id.* at 107:17–108:1 (9/23 PM) (Dederick).

- ***Restricted Transaction Types*:** Passing along fewer transaction types (*e.g.*, open auction, private marketplace) to non-Google publisher ad servers than to DFP, making non-Google publisher ad servers less competitive than DFP. Google PFJ §§ III(1)–(2), VI.S, VI.GG; Rem. Tr. at 39:11–46:25 (9/26) (Racic); *id.* at 29:1–22 (10/3 AM) (Layser); *see also id.* at 73:19–75:5 (9/26) (Racic); *see generally id.* at 106:1–17 (9/22 AM) (Whitmore).

- ***Limiting and Throttling Bid Volume:*** Google could limit the volume of bids (or bids of a certain quality) or find other ways to "throttle" the bids that AdX sends to header bidding auctions or rival publisher ad servers. Rem. Tr. at 90:6–19, 91:2–17 (9/22 AM)

(Whitmore); *id*. at 35:1–16 (9/22 PM) (Whitmore); *id*. at 86:2–11, 86:23–87:14 89:9–19 (9/22 PM) (Casale); *see also id*. at 130:12–19 (10/2 AM) (Lerner) (acknowledging Google could use bid throttling to replicate effects of AdX-DFP tie).

This list is not exhaustive because Google knows its products best and is best positioned to fashion as-yet-unused methods of re-monopolization, and new methods are likely to arise in the future as the underlying technology continues to evolve. Rem. Tr. at 127:15–141:25 (10/2 AM), 4:7–7:20 (10/2 PM) (Lerner) (discussing fifteen mechanisms for potentially replicating anticompetitive conduct and conceding that "[t]here may be other mechanisms for replicating the conduct found anticompetitive"). Google has a track record of pivoting to new forms of anticompetitive conduct when one anticompetitive practice ceases. Rem. Tr. at 59:13–60:3 (9/22 AM) (Whitmore); *id.* at 49:11–17, 50:15–25 (9/22 PM) (Casale); *id.* at 47:2–24 (9/30 PM) (Goel); *id.* at 39:7–40:7 (10/3 AM) (Layser); *id*. at 87:18–88:14 (9/23 PM) (Dederick). And even if the Court could detail all paths to re-monopolization in advance, subtle changes to Google's technology would be costly and difficult to detect. Rem. Tr. at 11:10–14:3 (9/23 AM) (Avery); *id.* at 106:23–107:19 (9/22 AM) (Whitmore); *id.* at 59:6–16, 86:2–22 (9/22 PM) (Casale).

Because of these challenges, even the most comprehensive injunction "can hardly be detailed enough to cover in advance all the many fashions in which" Google could modify its technology to re-monopolize the relevant markets. *du Pont*, 366 U.S. at 334. This is particularly true in technology markets where Plaintiffs and the Court are at an informational disadvantage relative to Google and where technology can create new gray areas in the future. Thus, courts faced with a monopolist that has a "pattern . . . [of] shift[ing] from one anticompetitive activity to another," have concluded "it is unlikely that, realistically, an injunction could be drafted that would be . . . sufficiently detailed." *United States v. AT&T*, 552 F. Supp. 131, 167–68 & n.155 (D.D.C. 1982), *aff'd sub nom. Maryland v. United States*, 460 U.S. 1001 (1983). They have instead "rejected [a] detailed injunction in favor of the surer, cleaner remedy of divestiture." *Id.*

2. *Only Structural Relief Will Terminate Google's Illegal Monopolies*

A remedy in this case should "terminate the illegal monopol[ies]," *Microsoft*, 253 F.3d at 103 (cleaned up), which were established through Google's anticompetitive conduct, Op. 1, 114–15. The necessary termination requires more than just ending the anticompetitive conduct but requires a remedy to "break up or render impotent," *Schine Chain*, 334 U.S. at 129, and "complete[ly] extirpat[e]," *United Shoe*, 391 U.S. at 251, the monopoly power. The cases that Google primarily relies on to suggest that this is not an appropriate goal—*Microsoft* and *Google Search*—disclaimed the objective of terminating the monopolies because the courts found that the monopolists only illegally *maintained* monopolies—not, as here, illegally *acquired* monopolies. This is a critical distinction: "[I]t bears repeating that the monopoly in this case was not found to have been illegally acquired, but only to have been illegally maintained," and so "as the parties concede, it does not seem to be a valid objective for the remedy in this case to actually 'terminate' Microsoft's monopoly." *New York v. Microsoft Corp.*, 224 F. Supp. 2d 76, 100–01 (D.D.C. 2002), *aff'd sub nom. Massachusetts v. Microsoft Corp.*, 373 F.3d 1199 (D.C. Cir. 2004) (cleaned up); *see also Google Search*, 2025 WL 2523010, at *5 ("The court held that Google had violated Section 2 of the Sherman Act by maintaining a monopoly . . . ."); *id.* at *29 n.3 ("Plaintiffs are not advocating for monopoly termination as a rationale to support their remedies."). Consistent with this, even Google's economic expert conceded "that remedies should terminate [a] monopoly [caused] by anticompetitive conduct." Rem. Tr. at 14:10–18 (10/2 PM) (Lerner).[3]

Structural relief accomplishes this goal by directly and decisively ending Google's

[3] Google has argued that its monopolies in this case were the result of competition on the merits, but that contention cannot be reconciled with the Court's liability findings, as Plaintiffs have previously explained. *See*, *e.g.*, ECF No. 1760 at 4–5, 28–30.

unlawfully acquired monopoly power in each of the relevant markets. In contrast, behavioral remedies offer only self-interested speculation that over some undefined period of time in the future, Google's monopoly power will gradually erode. However, such speculative, anemic relief would not fulfill the Court's obligation "to *assure* the complete extirpation of the illegal monopoly." *United Shoe*, 391 U.S. at 251 (emphasis added); *see also United States v. U.S. Gypsum Co.*, 340 U.S. 76, 88 (1950) (court's "duty" is to "assure the public freedom from" continuance of "illegal conduct"); *Crescent Amusement*, 323 U.S. at 190.

Furthermore, for at least four reasons, behavioral remedies are unlikely to effectively erode Google's illegal monopolies over time, let alone "assure" their complete eradication.

First, entry, investment, and customer switching will not occur in the relevant markets absent structural remedies. *See supra* I(A), II(A). Google's dominant positions in the relevant markets cannot be disrupted without entry and investment by rivals and customers' willingness to consider switching to alternative providers. Because that will not occur without structural remedies, a behavioral-only remedy would fail to terminate Google's monopolies, even assuming perfect compliance by Google with a perfectly crafted behavioral decree.

Second, because Google's potential paths to re-monopolizing these sophisticated technology markets are myriad and difficult to monitor, *see supra* II(B)(1), and because Google's existing monopolies are deeply entrenched, any behavioral decree attempting to dislodge them would, at a minimum, need to be exceptionally detailed. *See, e.g.*, Rem. Tr. at 130:16–131:17 (9/30 PM) (Goel). However, if a decree leaves open even one "untraveled road[]" to re-monopolization, it will fail to terminate Google's illegal monopolies. *Int'l Salt*, 332 U.S. at 400.

Third, Google's past conduct casts serious doubt on whether it would embrace any decree that tries to terminate its monopolies. For example, Google kept AdX Direct operative as a

"concept for antitrust" purposes despite knowing it did not offer equivalent functionality and therefore was not adopted in a meaningful way by publishers or competitors. PTX933 at -183; *see also* ECF No. 1381 at 82–83 (AdX Direct provided "disadvantaged" integration, citing PTX555 at -115). Google does not think it should have to give up these monopolies, *see, e.g.*, ECF No. 1761 ¶ 121.4, and it has shown that it will aggressively push back on any attempts to challenge them, up to and including violating clear legal rules. *See* Op. 112–14. Google also has a history of violating orders that attempt to rein in its conduct.[4] And even if Google purported to comply with the letter of a detailed behavioral decree, it has shown it will adopt aggressively implausible interpretations of the Court's orders to avoid complying with the decree's spirit.[5] *Compare, e.g.*, ECF No. 1674-1 at 22 (claiming "Google's acquisition of power in the relevant markets is attributed to reasons unrelated to the conduct this Court found to be anticompetitive"), *with* Op. 114 ("Google has willfully engaged in a series of anticompetitive acts to acquire and maintain monopoly power in the [relevant markets].").

Fourth, when compliance issues inevitably arise, Google's incentive will be to maximize delay in resolving them. Google has virtually unlimited resources to tie up decree compliance proceedings in court for months or years and to write off any eventual penalties for non-

[4] *See, e.g.*, *Google Will Pay $22.5 Million to Settle FTC Charges it Misrepresented Privacy Assurances to Users of Apple's Safari Internet Browser*, Fed. Trade Comm'n (Aug. 9, 2012), https://www.ftc.gov/news-events/news/press-releases/2012/08/google-will-pay-225-million-settle-ftc-charges-it-misrepresented-privacy-assurances-users-apples ("Google Inc. has agreed to pay a record $22.5 million civil penalty to settle Federal Trade Commission charges that it misrepresented to users of Apple Inc.'s Safari Internet browser that it would not place tracking 'cookies' or serve targeted ads to those users, *violating an earlier privacy settlement between the company and the FTC*." (emphasis added)); *Related rights: the Autorité fines Google €250 million*, Autorité de la concurrence (French Competition Authority) (Mar. 20, 2024), https://www.autoritedelaconcurrence.fr/en/article/related-rights-autorite-fines-google-eu250-million (fining Google "for failing to comply with some of the commitments made binding").

[5] Google already adopted similarly aggressively implausible interpretations of the attorney-client privilege. *See* Op. 113–14; *see also, e.g.*, ECF No. 219-4 at -363; PTX1777; PTX719 at -463.

compliance as the cost of doing business. For example, although Google "has been fined more than 8 billion euros ($8.7 billion) by the EU in the last decades for various antitrust violations,"[6] those decades of fines amount to only about one month of profits for Google's parent company, Alphabet, Inc. *See* PRX184 at 35 (reporting annual net income of more than $100 billion). Lengthy enforcement delays are an inevitable risk of behavioral-only remedies, *see du Pont*, 366 U.S. at 334, but it is contrary to the purpose of the antitrust laws to force customers to suffer the continuing lack of competition in the meantime.

3. *Only Structural Relief Will Deny Google the Fruits of Its Violations*

Finally, and critically, only divestiture will "deny to [Google] the fruits of its statutory violation[s]." *United Shoe*, 391 U.S. at 250. This Court found that Google illegally acquired monopolies in two markets, Op. 1, 114, and that it enjoys supracompetitive profits as a result, *see id.* at 76–77 (finding AdX's 20% take rate supracompetitive). It has an obligation to deprive Google of those fruits of its violation. As to Google's illegally acquired monopolies, only divestiture will take them from Google. Any other approach will rely on the hope that increased competitive entry will eventually eat away at Google's unlawfully acquired dominance. So too with Google's unlawfully acquired supracompetitive profits. AdX's 20% take rate is bad for publishers and advertisers, but wonderful for the owner of AdX. It translates into a significant ongoing fruit of the monopolistic conduct that enabled AdX to earn that take rate. Even if a behavioral remedy could succeed in restoring competition, the only way to deprive Google the supracompetitive profits of AdX in the interim is to divest it to another owner.

[6] *Google, Apple Hit by EU Regulatory Crackdown*, Reuters (Mar. 19, 2025), https://www.reuters.com/technology/google-hit-with-2-charges-under-landmark-eu-rules-risks-fines-2025-03-19.

C. Only Structural Relief Will Keep This Court from Becoming a Central Planner of the Ad Tech Industry

Because structural remedies would change Google's behavior by altering its economic incentives, such remedies, once implemented, would avoid many of the pitfalls of policing "highly detailed decree[s]" that the Supreme Court has warned trial courts against. *See Alston*, 594 U.S. at 102–03. The Supreme Court's comments in *Alston* arose in the context of a *behavioral-only injunction* relating to "complex business arrangements," *id.* at 106–07: NCAA rules for compensation and benefits for college athletes. *Id.* at 77–79. While structural remedies provide more certainty, as discussed above, any behavioral-only decree would entail the same risks of the injunction in *Alston* and would need to be exceptionally detailed to have any chance of restoring competition, *see supra* II(B)(1), (2). On top of that, trying to police such a decree would inevitably thrust the Court into becoming a "central planner" of how competition functions in these markets, which is a role courts "should never aspire to." *Alston*, 594 U.S. at 103; *accord du Pont*, 366 U.S. at 334 ("[T]he policing of an injunction would probably involve the courts and the Government in regulation of private affairs more deeply than the administration of a simple order of divestiture."); *United States v. Paramount Pictures*, 334 U.S. 131, 163 (1948) ("The judiciary is unsuited to affairs of business management . . . ."); *Steves & Sons*, 988 F.3d at 720 ("conduct remedies . . . risk excessive government entanglement in the market").

A behavioral-only decree would change Google's behavior, if at all, by working *against* its economic incentives, leaving the Court (and Plaintiffs) to constantly battle against those incentives to restore competition. Such a paradigm would leave the Court to dictate market outcomes via a never-ending series of adversarial interpretive decisions, rather than through "the

unrestrained interaction of competitive forces," *N. Pac. Ry. v. United States*, 356 U.S. 1, 4 (1958), that would prevail if Google had different incentives, shaped by structural relief.

Those involved in monitoring Microsoft's and Bazaarvoice's compliance with their antitrust decrees (including Google's own technical expert, Prof. Nieh) observed that a defendant's "natural incentive will generally be to do the least amount possible, consistent with arguable good faith, to achieve compliance" because a "company's incentives militate toward maximizing short-cuts and corner-cutting, resulting at the outset in an under-specified engineering project and an under-commitment of implementation resources." Jay L. Himes, Jason Nieh & Ron Schnell, *Antitrust Enforcement and Big Tech: After the Remedy Is Ordered*, 1 Stanford Comp. Antitrust 64, 77–78 (2021). And while the Court can fall back on "the power of contempt," that is a "crude and clumsy" means of restoring competition, which "lack[s] . . . the flexibility necessary to make continuous and detailed supervision effective." *Paramount*, 334 U.S. at 163 (approving divestitures); *see also Crescent Amusement*, 323 U.S. at 190 ("protection of the public interest" should not "depend solely" on the "somewhat cumbersome procedure" of "an injunction against future violations" when "effective" structural remedy "is available").

D. Plaintiffs' Proposed Structural Remedies Are Legally Justified

1. *Open-Sourcing DFP's Final Auction Logic Is Legally Justified*

Requiring DFP's Final Auction Logic to be made available under an open-source license would be an appropriate exercise of the Court's broad discretion here. *Cf. United States v. Glaxo Grp. Ltd.*, 410 U.S. 52, 64 (1973) (compulsory licensing is a "recognized antitrust remed[y]"); *Besser Mfg. Co. v. United States*, 343 U.S. 444, 447 (1952) (similar).

In past cases, antitrust remedies that broadened access to important intellectual property have allowed innovation to flourish. For example, the 1956 AT&T antitrust decree included a compulsory, royalty-free patent licensing remedy (not unlike open-sourcing) that led ultimately

to the creation of the technology industry and startups in Silicon Valley. *See* Martin Watzinger et al., *How Antitrust Enforcement Can Spur Innovation: Bell Labs and the 1956 Consent Decree*, 12 Am. Econ. J.: Econ. Pol'y 328, 330–32, 357 (2020). That remedy encouraged and enabled third-party use of a nascent innovation known as the transistor, which led to the rapid growth of companies like Shockley Semiconductor, Fairchild, Texas Instruments, and Intel, and many new technologies and products they (and others) introduced. *Id*. at 332.

Similarly, "[t]he breakup of the AT&T monopoly" in the 1980s "has been credited with contributing to reduced long distance phone rates, increased industry productivity, spurred deployment of fiber optic lines and reduced prices of terminal equipment and switches." Jonathan B. Baker, *The Case for Antitrust Enforcement*, 17 J. Econ. Persp. 27, 34 (2003) (collecting sources). For example, an analysis of patent grants "show[ed] that Bell's breakup significantly increased the rate of US innovation in telecommunications," despite initial concerns about the potential effect of the divestitures on innovation. Martin Watzinger & Monika Schnitzer, *The Breakup of the Bell System and its Impact on US Innovation*, 1 Ctr. for Econ. Pol'y Rsch., Discussion Paper No. 17635, at 2 (2022). "In summary, the breakup increased overall innovation and does not seem to have kept the Bell Labs from engaging in pathbreaking basic science." *Id*. at 21. Creating the Open-Source Auction is likely to unleash similar innovation and procompetitive outcomes here.

2. *Divestiture Is Legally Justified*

Plaintiffs have previously discussed at length the Court's ample authority to order divestiture as a remedy here, including when the divested assets were lawfully acquired, when the divested assets are also used by the monopolist to compete in markets that were not monopolized, and when the monopolization conduct is something other than an "unlawful

combination." *See* ECF No. 1435 at 2–10; ECF No. 1482 at 5–7; ECF No. 1760 at 9–21. Two similar new contentions raised by Google during the remedies trial also merit correction.

First, divestiture of AdX (or DFP) would not "remove a competitor from a market," as Google has claimed. Rem. Tr. at 23:17–19 (9/22 AM). Divestiture would only change the identity of the firm owning AdX or DFP, not its status as a relevant and valuable competitor. Moreover, the Court has discretion to bar a firm from competing in a market when doing so is necessary to restore competition. *See Ford Motor Co.*, 405 U.S. at 575–78 & n.10 (prohibiting defendant from competing in a market for ten years); *United States v. Paramount Pictures, Inc.*, 85 F. Supp. 881, 895–96 (S.D.N.Y. 1949), *aff'd sub nom. Loew's, Inc. v. United States*, 339 U.S. 974 (1950) (requiring Sherman Act defendants to divest either their film exhibition business or film production/distribution business); *United States v. Pullman Co.*, 53 F. Supp. 908, 908–09 (E.D. Pa. 1944) (similar for manufacturing and operation of "sleeping cars"); *AT&T*, 552 F. Supp. at 182 (prohibiting AT&T from entering an adjacent market to prevent its "mere presence" from "deter[ring] other potential competitors from even entering").

Second, divestiture is an appropriate remedy for a firm that has been found to have engaged in illegal tying or equivalent conduct. *See, e.g.*, *Paramount*, 334 U.S. at 150–53, 156–58 (ordering divestiture to remedy, *inter alia*, "block booking" whereby defendants would only license desirable films as part of a block that included less-desirable films); *Crescent Amusement*, 323 U.S. at 181, 189–90 (ordering divestiture to remedy, *inter alia*, practice of compelling film distributors to deal exclusively with defendants in certain towns if they wanted to license defendants' films in other towns); *Schine Chain*, 334 U.S. at 114–15, 117, 126–27 (similar); *AT&T*, 552 F. Supp. at 222–23 (ordering divestiture to remedy practice of leveraging monopoly control of local telephone exchanges to preclude competition for long-distance telephone

service); *see also* ECF No. 1760 at 12–19 (discussing *Crescent Amusement*, *Schine Chain*, and other cases in greater detail). Thus, Google is wrong to claim that "never before in all of U.S. history has divestiture been ordered to remedy a tie." Rem. Tr. at 23:17–18 (9/22 AM).

Furthermore, there can be no dispute that there is sufficient causal connection between Google's illegal conduct and its monopoly power in the relevant markets to justify the proposed divestitures. ECF No. 1760 at 28–30; ECF No. 1435 at 7–10. Here the Court held that Google *established* monopoly positions for each of AdX and DFP via anticompetitive conduct, Op. 1, 114–15, unlike *Microsoft* and *Google Search*, *Microsoft*, 253 F.3d at 50–51; *Google Search*, 2025 WL 2523010, at *1. And, in general, the *Google Search* decision does not weigh against divestiture here due to the differences in the liability rulings and the evidentiary record on sufficiency of non-divestiture remedies and feasibility of divestiture, as Plaintiffs have previously explained. *See* ECF No. 1760 at 3–4, 10–11, 25, 39–40, 41–42.

III. Plaintiffs' Proposed Remedies Are Feasible and Administrable

Plaintiffs' structural remedy proposals will require, to varying degrees, the migration of certain software that currently exists on Google's platform to be moved to new environments. But the clear weight of the trial evidence showed that these migrations can be effectuated using industry-standard, tried-and-true practices. Indeed, Google's own internal engineering analyses (including Projects Sunday, Monday, and the 2023–2024 technical evaluation) confirm these migrations are technically feasible and can be achieved in a reasonable timeframe. Plaintiffs' technical experts, Prof. Weissman and Dr. Bjedov, explained in detail how software migrations comparable to these are carried out regularly in the tech industry and specifically how the proposed migrations could proceed here, with limited changes to the underlying software and likely no impact at all to customers. It is noteworthy that none of Google's witnesses who testified to this issue—each on Google's payroll—claimed that these proposed migrations are

impossible. At most, they contended there is no certainty that the migrations will happen as quickly or as go as well as Plaintiffs' experts and Google's own internal analyses suggest.

A. Open-Sourcing the DFP Final Auction Logic is Feasible

Plaintiffs' proposal that Google be required to open-source DFP's final auction logic is technologically feasible and can be implemented, just as Google has implemented countless other open-source projects. *See, e.g.*, PRX124 at p. 1 (discussing Google's "Open Source Programs Office" and highlighting that "[a]t Google, open source is at the core of our infrastructure, processes, and culture."). Further, at least one neutral, third-party organization, Prebid, stands ready to administer the source code, which would allow any publisher ad server—including DFP itself—to run the final auction logic on behalf of its publisher customers. Rem. Tr. at 52:22–25 (9/26) (Racic); *id*. at 9:19–10:12 (10/6) (Wheatland); Pls.' PFJ §§ VII(B), (F).

Google's internal engineering documents prepared in the last year recognize that [redacted]. PRX060 at -488–490 ([redacted]); *see* Rem. Tr. at 74:3–7, 83:1–4 (9/25 PM) (Craycroft); *id*. at 97:8–15 (9/30 AM) (Wolf); *id.* at 176:23–177:9 (9/26 PM) (Bjedov) (adding new features to the open-source auction would not require additional time). At trial, Google Vice President Tim Craycroft confirmed this analysis largely mirrors what Plaintiffs have proposed: the creation of "an open source project with code that models DFP's current final auction that decides between indirect demand and direct demand, [and] to do that in the context of working with the industry to define an API or a protocol for DFP to talk to the open source auction so that someone else could build an alternative implementation." Rem. Tr. at 70:10–20, 73:3–74:7 (9/25 PM) (Craycroft); *id*. at 61:9–62:7 (9/29 PM) (Levitte). At the time, Google conservatively estimated that this project would take no more than four years, with beta or early

versions being released for publishers to use well before that "outer bound." Rem. Tr. at 82:14–83:4 (9/25 PM) (Craycroft); *id*. at 97:8–15 (9/30 AM) (Wolf). No Google witness claimed at trial that open-sourcing the auction logic was infeasible.[7]

Plaintiffs' technical experts explained in detail how Google could leverage its extensive experience open-sourcing software to open-source the DFP final auction logic here.[8] Prof. Weissman described how the relevant functionality can be identified within Google's source code database, and how Google software engineers would undertake the "lighter-weight activity" of rewriting the necessary APIs as part of an industry-standard process. Rem. Tr. at 117:23–118:14 (9/24 PM), *id*. at 14:4–20, 32:24–33:12, 53:11–54:12 (9/25 AM) (Weissman). Dr. Bjedov testified that Google's internal timelines for the project could be further streamlined and parallelized to complete the overall open-sourcing project on an even faster timeline (24 months). Rem. Tr. at 163:12–20, 176:17–22, 177:10–14 (9/26) (Bjedov). This parallelization would also have the advantage of obtaining industry input earlier in the process, yielding a higher quality result. Rem. Tr. at 163:12–20, 176:17–22, 177:10–14 (9/26) (Bjedov).[9]

Prebid President Michael Racic testified the industry group is ready and willing to administer the open-source auction[10] and has experience seamlessly rolling out new versions of

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[7] Rem. Tr. at 98:2–16, 98:23–99:13 (9/30 AM) (Wolf); *id*. at 114:18–20, 117:20–118:6 (9/29 PM) (Berntson) (explaining how Google migrates code "[p]retty much all the time" and that open sourcing the final auction logic is "doable" and "would be technically feasible to build"); *id*. at 10:17–11:3 (9/30 AM) (Berntson).

[8] *See* Rem. Tr. at 45:4–8 (9/25 AM) (Weissman); PRX122 at p. 1; PRX124 at p. 1; *see also* Rem. Tr. at 71:24–73:10 (10/2 AM) (Adkins).

[9] Mr. Racic opined the process could be completed within six months. Rem. Tr. at 73:19–74:7, 81:6–83:20 (9/26) (Racic). By contrast, Google's technical expert did not put forward a timeline at all. Rem. Tr. at 55:25-56:4 (10/3) (Nieh).

[10] Rem. Tr. at 16:5–17:22, 52:22–25, 84:1–14, 94:4–25 (9/26) (Racic); *see also* PRX060 at -504 ([redacted]).

open-source software, Prebid, to industry participants. Rem. Tr. at 33:25–34:4, 92:23–94:25, 106:25–110:7 (9/26) (Racic). Here the open-source final auction code ultimately could be run by publishers within their existing ad server, by managed service providers (like those that offer a Prebid Server today), or by publishers themselves. *See* Rem. Tr. at 52:4–53:6, 75:15–76:5 (9/29 PM) (Levitte) (explaining how Google internally considered an open-source version of the final auction logic that could be hosted by DFP or a third party). The simplest implementation would be for publishers to instruct their publisher ad server (such as DFP) to implement the open-source auction code. *See* Rem. Tr. at 8:20–10:12 (10/6) (Wheatland). Under Plaintiffs' proposal, Google would be required to make this the default. *See* Pls.' PFJ §§ VII(H)–(I); *see also* Rem. Tr. at 11:20–12:8 (10/6) (Wheatland) (explaining how a publisher that did not want to modify the open-source auction logic "would carry on like usual" with the default logic). And because the open-source auction would be run within the ad server, new versions of the open-source auction would automatically be incorporated into DFP. *See* Rem. Tr. at 8:20–9:16 (10/6) (Wheatland); *cf. id.* at 97:8–25 (9/29 AM) (Sheffer). Industry participants testified they were not concerned that the logic would perform as well, if not better, than it does today.[11] In fact, one key benefit of open-sourcing technology is the ability of the entire community to collectively identify and address issues as they arise. *See* Rem. Tr. at 41:22–42:13 (10/3 AM) (Layser).

B. The Evidence Shows that AdX Can Be Divested on a Reasonable Timeline Without Meaningfully Degrading Product Quality

Plaintiffs' proposal that Google divest AdX is likewise feasible and administrable based upon Google's prior internal engineering analysis, and as confirmed by Plaintiffs' technical

[11] Rem. Tr. at 71:20–72:24 (9/22 AM) (Whitmore); *id*. at 139:5–22 (9/22 PM) (Casale). They likewise had no concerns with privacy, security, latency, or malware. Rem. Tr. at 72:5–8 (9/22 AM) (Whitmore); *id*. at 96:3–5 (9/23 PM) (Dederick); *id*. at 8:7–18 (10/6) (Wheatland).

experts. As with the open-source auction, Google previously concluded it was feasible to divest a copy of AdX "running independent of Google's infrastructure[.]" Rem. Tr. at 51:24–52:3 (9/30 AM) (Berntson).[12] That technical analysis anticipated a buyer would "rebuil[d] [AdX] on their own stack" with the existing version of AdX continuing to run in Google's environment while the acquirer replaced AdX's dependencies. PRX050 at 298; Rem. Tr. at 70:11–17 (9/29 PM) (Levitte). Even after this transitional period, [redacted] *See* PRX054 at -655. By the end of the transitional period the divestiture buyer would "operate AdX themselves" "independent of Google's infrastructure," and the current version of AdX would be shut down. Rem. Tr. at 70:3-9 (9/25 PM) (Craycroft); *id*. at 51:24–52:3 (9/30 AM) (Berntson). While Google engineers believed the length of this transitional period could depend on the buyer, they allotted two years as an "outer bound" for this phase. Rem. Tr. at 81:5-17 (9/25 PM) (Craycroft); *see also id*. at 53:13–17 (9/30 AM) (Berntson) (contemplating two years as a reasonable transitional period).

At trial, Google witnesses Prof. Nieh and Glenn Berntson attempted to walk away from these analyses, arguing that AdX is dependent on internal Google infrastructure systems that are effectively irreplaceable because no exact copies of those systems exist outside of Google. *See* Rem. Tr. at 76:1–17 (10/2 PM) (Nieh); *id*. at 95:17–19 (9/29 PM) (Berntson). Both were careful, however, to avoid claiming divestiture was impossible. *See* Rem. Tr. at 116:18–20 (9/29 PM) (Berntson); *id*. at 85:18–22 (10/3 PM) (Nieh). But as Prof. Weissman explained, "[a]ny source

[12] The internal analysis contemplated identifying and providing to a buyer "referenced [sic] source code" for "all AdX functionality" "[t]o the exclusion of cross-Google infrastructure." PRX050 at -298; Rem. Tr. at 63:14–25, 64:5–9, 76:13–25, 78:2–7 (9/25 PM) (Craycroft). [redacted] Rem. Tr. at 91:15–17 (9/30 AM) (Wolf); PRX044 at -666, -674; PRX059 at -088 ([redacted]).

code is dependent upon implementation choices . . . that's a different question from is this the *only* place this code can run." Rem. Tr. at 57:9–25 (9/25 AM) (Weissman) (emphasis added). There is no reason to believe that AdX's functionality can only be supported by Google's internal environment given "plenty of [ad] exchanges . . . are operating at significant scale" in other environments but with "a commonality of functions . . . that AdX performs."[13] Rem. Tr. at 60:4–22 (9/22 AM) (Whitmore); *see id*. at 61:18–62:9 (9/30 AM) (Berntson).

Prof. Weissman's independent review of AdX's source code, and the key dependencies upon which it relies, confirmed the conclusions reached by Google's engineers ahead of trial: it is technically feasible to divest AdX by "copy[ing] and migrat[ing] the technical assets of AdX . . . to a new environment" and replacing the general-purpose systems upon which it relies. Rem. Tr. at 112:6–15 (9/24 PM) (Weissman). Google has extensive experience migrating software, which would be "greatly facilitate[d]" here by the "very well structured, very organized" AdX codebase written in a widely used language.[14] Rem. Tr. at 114:9–14, 123:12–20, 127:21–128:5 (9/24 PM), 14:9–20, 23:23–24:1 (9/25 AM) (Weissman). And here, AdX's dependencies on Google's internal infrastructure are "general purpose distribut[ed] systems services" for which "there is a rich set of candidate options that exist elsewhere." Rem. Tr. at 56:6–57:8, 57:9–25 (9/25 AM) (Weissman).[15] As Plaintiffs' experts, third-party witnesses, and Google engineers described at trial, the work required to replace software dependencies

[13] Ad tech software has been migrated to new environments by companies with fewer engineers in relatively short amounts of time. *See* Rem. Tr. at 6:15–17, 14:7–18, 18:18–19:17, 88:9–89:1 (9/23 AM) (Avery); *id*. at 32:4–25, 33:14–34:1 (9/30 PM) (Goel); PRX115 at p. 2.

[14] Google engineers conceded identifying the relevant source code and dependencies would not be "overly complicated." *See* Rem. Tr. at 119:21–120:18, 146:23–147:4 (9/29 PM) (Berntson).

[15] A buyer would not need identical replacements because Google's infrastructure supports "not just ad tech but a large set of internal Google applications" such as Gmail, YouTube, and Search. Rem. Tr. at 133:24–134:13 (9/24 PM); *id*. at 58:1–13 (9/25 AM) (Weissman).

primarily involves rewriting APIs,[16] "fairly straightforward" tasks that software engineers "do all the time" and which involve writing "a much smaller amount of code."[17] Additionally, Google already has a readily available "new environment" on which to run migrated AdX code using its same underlying infrastructure, with comparable services: Google's public cloud. *See* Rem. Tr. at 37:22–38:2 (10/2 AM) (Adkins). As a result, Dr. Bjedov estimated the migration could be completed in 18 months. *See* Rem. Tr. at 163:12–20, 244:4–16 (9/26) (Bjedov).[18]

There is no reason to expect the quality of AdX to be degraded by a migration.[19] And even if latency marginally increases, publishers might not be harmed. As Noam Wolf testified, increased latency can be beneficial for publishers, and publishers already choose to work with non-AdX ad exchanges and Prebid even if it leads to tolerable increases in latency. Rem. Tr. at 70:3–5 (9/30 AM) (Wolf); *id*. at 118:20–119:22 (9/29 AM) (Sheffer).

Moreover, the trial testimony established that migration of AdX would not be disruptive to publishers or advertisers. Instead, it likely would proceed in the background—just as prior acquisitions of ad tech software have—without publishers and advertisers even seeing

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[16] *See* Rem. Tr. at 192:17–193:3 (9/26) (Bjedov); *id*. at 61:22–62:1 (9/25 AM) (Weissman); *id*. at 121:15–122:7 (9/29 PM) (Berntson); *see also id*. at 14:7–18, 14:25–15:8 (9/23 AM) (Avery).

[17] Rem. Tr. at 53:24–54:3, 54:8–12, 62:10–15 (9/25 AM) (Weissman). This process would not require "rewriting the underlying source code" as required when Google acquired DoubleClick. *See* Rem. Tr. at 193:20–194:5 (9/26) (Bjedov); *id*. at 87:2–11, 99:8-18 (10/3 PM) (Nieh).

[18] Based upon years of experience overseeing migrations at large technology companies, Dr. Bjedov applied a standard migration process to arrive at this estimate. *See* Rem. Tr. at 163:12–20, 293:4-294:13 (9/26) (Bjedov).

[19] *See* Rem. Tr. at 234:21–235:10 (9/26) (Bjedov); Rem. Tr. at 131:7–12 (9/24) (Weissman). In fact, one witness testified that an AdX divestiture could reduce latency. *See* Rem. Tr. at 35:9–36:22 (10/6) (Wheatland). And there is no evidence to suggest that security would be negatively impacted as other players, including rival exchanges, invest significantly in security. *E.g.*, Rem. Tr. at 89:20–90:12 (9/22 PM) (Casale); *id.* at 22:3–23:4 (9/30 PM) (Goel).

substantive changes in the product.[20]

Finally, there will be credible and motivated buyers for AdX. Rem. Tr. at 36:6–9 (9/24 PM) (Crisci). AdX services multiple ad formats, and the ad tech sector generally is experiencing attractive growth across formats with increasing volume and annual spend expected to continue into the future. *Id.* at 39:18–40:11; 41:8–11; 51:1–11 (9/24 PM) (Crisci). These positive forecasts coupled with Google's sophistication as a transaction partner make the divesture of AdX likely to succeed commercially. *See id.* at 47:7–13, 48:18–24, 56:3–5 (9/24 PM) (Crisci).

C. Contingent Divestiture of DFP Remainder Is Technologically and Commercially Feasible

Plaintiffs' proposed contingent divestiture of DFP Remainder would utilize the same standard software migration process as the AdX divestiture and require roughly the same type of work and effort, if needed. *See* Rem. Tr. at 228:16–22 (9/26) (Bjedov). [redacted]. PRX044 at -666; Rem. Tr. at 91:15–17 (9/30 AM) (Wolf). As Dr. Bjedov explained, the only significant difference with a DFP Remainder migration is that it would take some additional time (24 months total) given the larger size and number of databases that would need to be migrated as part of the process. Rem. Tr. at 163:12–20, 229:8–231:8 (9/26) (Bjedov). And there will be credible and motivated parties interested in buying DFP Remainder. Rem. Tr. at 36:10–14 (9/24 PM) (Crisci).

[20] The AdX divestiture would require migration of a *copy* of the AdX source code and would not "require the deletion of any of Google's existing source code." Rem. Tr. at 234:15–17 (9/26) (Bjedov); *see also id*. at 120:9–121:4 (9/24 PM) (Weissman). As a result, the divestiture would not "change the quality of any of Google's other existing products." Rem. Tr. at 234:18–20 (9/26) (Bjedov). The migration process would largely remain unseen by end-users. Rem. Tr. at 218:21–219:5 (9/26) (Bjedov); *see also id*. at 31:4–20 (9/22 PM) (Whitmore). Publisher customers may not even be aware that a migration occurred. *Cf.* Rem. Tr. at 64:11–17 (9/22 PM) (Whitmore); *id*. at 71:16–18 (10/1 PM) (Douglas); *id*. 88:9–89:19 (9/23 AM) (Lambert).

IV. Google's Proposals Will Not Satisfy the Remedy Objectives

Google's proposals do not suffice because they do not even enjoin all of the conduct the Court found anticompetitive, as they would allow Google to maintain the virtual exclusivity between AdX and AdWords. Google's central failing is that it avoids any structural relief, which is necessary to restore competition, terminate its monopolies, and deny Google the fruits of its violations. *See supra* I, II. Of course, for Google, that its proposals would leave its monopolies in place is a feature, not a bug. Rem. Tr. at 114:10–115:4 (10/2 AM) (Lerner) (testifying Google would likely have monopoly power in both markets absent Google's illegal conduct).

A. Google Would Leave Its Ad Exchange Monopoly Intact

Despite the Court's finding that Google unlawfully acquired and maintained AdX's monopoly power, Op. 1, 114, Google's proposals would permit it to retain its ill-gotten gains and persist with two of the driving causes of that monopoly power by continuing to leverage (1) effectively exclusive access to AdWords' unique demand, and (2) DFP's position as the final arbiter of which ad will be served.

First, Google proposes no changes to AdWords or its bidding behavior. Google PFJ ¶ II.2 ("Nothing in this Final Judgment applies to . . . Google Ads[.]"). That omission would leave Google free to continue to leverage AdWords to maintain its illegal monopolies. Rem. Tr. at 85:3–22 (9/22 PM) (Casale); *id*. at 54:21–56:6 (9/30 PM) (Goel). Google would have every incentive to do so. Rem. Tr. at 12:5–14 (9/24 PM) (Lee); *id.* at 13:1–12 (9/23 AM) (Avery); *id.* at 43:24–45:1 (10/6) (Wheatland).

Second, Google would leave DFP as the final arbiter of which ad wins and is shown to the end user. *See, e.g.*, Rem. Tr. at 58:8–17 (9/22 PM) (Casale). Google has abused that power several times, including through First Look, Last Look, and UPR, *see* Op. 99–101, and many other means of abuse remain available to Google, *see supra* II(B)(1). Google's proposal would

permit Google to continue to engage in First Look, Last Look, and UPR for all transactions not sold by open auction, and would not prevent DFP from using new methods of re-monopolization.

Google's proposed remedies would leave its illegal AdX monopoly in place. Google's own executive conceded Google is not "ready" to "do anything differently" with its excessive 20% AdX take rate. Rem. Tr. at 142:10–25 (9/25 PM) (Craycroft); *see also* Op. 76–77.

B. Google Would Leave Its Publisher Ad Server Monopoly Intact

In the publisher ad server market, DFP enjoys a durable 90% market share, *see* Op. 73–74, there are high barriers to entry, *id*. at 74, and rivals exited due to Google's pervasive anticompetitive conduct that "destroyed all competition," *id*. at 97–98. Google illegally built its DFP monopoly with a series of anticompetitive acts, including unlawfully tying AdX to DFP. Nothing in Google's proposed remedies terminates that illegal monopoly, and Google would remain able to perpetuate its coercive use of AdX to disincentivize publishers from switching and rivals from expanding in or entering the publisher ad server market.

First, Google's proposed submission of real-time AdX bids is fundamentally flawed. Google proposes only to charge the same AdX revenue share. As explained above, that fig leaf leaves myriad paths to Google providing preferential access to AdX and AdWords demand through DFP. *See supra* II(B)(1).[21] Google's incentive to exploit those avenues would remain. Rem. Tr. at 12:5–14 (9/24 PM) (Lee); *id.* at 13:1–12 (9/23 AM) (Avery); *id.* at 43:24–45:1 (10/6) (Wheatland). There is every reason to expect that Google will act consistently with those incentives. Rem. Tr. at 129:20–130:1 (9/30 PM) (Goel).

[21] Even if the Court orders AdX divested, Google could recreate its leveraging by having AdWords bid directly into DFP. Rem. Tr. at 67:1–11 (9/24 AM) (Lee); *id*. at 113:14–19 (10/2 AM) (Lerner); *id*. at 81:6–15 (9/22 AM) (Whitmore); *id*. at 73:4–74:1 (9/22 PM) (Casale); *id*. at 107:17–108:1 (9/23 PM) (Dederick). Google has already done this for in-app inventory. Rem. Tr. at 82:22–83:9 (9/29 PM) (Levitte).

Second, Google's proposals do not address the incentives of publishers to switch and rivals to enter or expand. The categories of impressions that Google specifically excludes from receiving AdX bids, such as private auctions, represent rapidly growing portions of publishers' open-web display business. *E.g.*, Rem. Tr. at 96:3–97:16, 99:7–100:24 (9/22 AM) (Whitmore); *id*. at 97:23–98:22 (9/23 PM) (Dederick); *id*. at 136:23–137:17 (9/25 PM) (Craycroft). That limitation will deter publishers from switching to non-Google publisher ad servers and disincentivize existing rivals from expanding or new rivals from entering the market. *See, e.g.*, Rem. Tr. at 73:9–19, 74:2–13 (9/24 AM) (Lee); *id*. at 103:4–16 (9/22 AM) (Whitmore); *id.* at 65:13–20 (9/23 AM) (Avery).

And, in any event, publishers need adequate information to meaningfully evaluate a potential switch from DFP to another ad server. *See supra* I(A)(2). Google's proposal, however, would not provide that necessary information—including data about video or in-app ads—which would hamper publishers' ability to switch publisher ad servers. Rem. Tr. at 26:21–27:10, 29:1–22 (10/3 AM) (Layser). Nor do Google's data-sharing proposals enable actual or potential competitors to reach data scale. Rem. Tr. at 101:3–102:11 (9/22 AM) (Whitmore); *id*. at 92:20–93:16, 93:22–94:22 (9/23 PM) (Dederick).

CONCLUSION

For the reasons stated herein, Plaintiffs respectfully request that the Court enter Plaintiffs' Proposed Final Judgment to restore competition to the monopolized markets.

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Respectfully submitted,

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