IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

FEDERAL TRADE COMMISSION, Plaintiff, v. **META PLATFORMS, INC.**, Defendant.	Civil Action No. 1:20-cv-03590-JEB **PUBLIC VERSION**

FEDERAL TRADE COMMISSION'S POST-TRIAL FINDINGS OF FACT

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A. Meta's Justifications for the Instagram Acquisition Are Pretextual

364. The genuine reason Meta acquired Instagram was to eliminate it as a competitive threat. *See* PF IV.B, IV.D. Meta's contemporaneous records confirm it bought Instagram to "neutralize a potential competitor." PX1136-002-03 & 4/15 (MZ) 15:14-17:11. These records are not "preliminary" statements as Meta claims, MF 197; they post-date the acquisition or precede it by mere days. Months after the acquisition closed, Mr. Zuckerberg admitted that Meta "had to buy" Instagram because it was growing faster than Facebook. PF 234 (quoting PX15138-001); *see also* PX1208-001 (others admitting same two days after acquisition agreement). On April 5, 2012, only three days before the acquisition, he justified the "really expensive" price because Instagram was "pretty threatening" and could "hurt [Meta] meaningfully." DX1101 at 1-2.

365. Meta's claimed justifications for the Instagram acquisition are post hoc; none were presented to Meta's Board of Directors when it considered the acquisition. *Compare* PX2373-001-02 (minutes of acquisition-related special Board meeting), *with* MBr. 58, MF 204 (addressing supposed improvements to infrastructure, integrity, monetization, and features).

366. Recognizing the threat posed by a fast-growing Instagram, Meta rushed to sign the deal after a "very short negotiation," 4/15 (MZ) 32:22-33:2, 33:12-15; *see also* PF 230, 232 (threat posed by Instagram), without any synergy analysis. *See* 5/13 (Hemphill) 72:9-22; 4/24 (Hearle) 72:24-73:7.

367. Meta's claim that Mr. Zuckerberg had a "plan" to "improve and expand" Instagram prior to acquiring it, MBr. 56, is unsupported by contemporaneous documents. *See* PF 364; 4/14 (MZ) 246:11-247:11 & PX2888-001 (Meta's plan for Instagram was to keep it running but focus "all future development" on "our core products" (i.e., not Instagram)). Meta only cites to a single email exchange reflecting what Mr. Systrom called "a negotiation tactic[.]" *See* 4/22 (Systrom) 194:8-

17; MF 201 (both DXs contain same email chain). Nor does Mr. Zuckerberg's self-serving testimony support the claim—he did not testify that "making [Instagram] [o]ur bet" was the *reason* for the acquisition, MF 199, but rather that it was the *effect* of doing so, because when an acquisition occurs "you are . . . inherently . . . making them your bet." 4/15 (MZ) 26:9-13.

368. After the acquisition closed, Meta did not prioritize integrating Instagram into Facebook systems, underscoring that Meta's claimed benefits to Instagram did not motivate the acquisition. *See* PF 468.

369. Instagram's continued rapid growth does not indicate that the acquisition was motivated by a procompetitive purpose: to the contrary, keeping Instagram running at a scale that would deter entry was part of Mr. Zuckerberg's *anticompetitive* reasons for the deal, as doing so protected against "creat[ing] a hole in the market for someone else to fill." PX2888-001 & 4/14 (MZ) 246:11-247:9; *see also* PX1136-003 & 4/15 (MZ) 18:21-19:8; PX3352-006-07 (Zuckerberg responding to statement that "the biggest risk…is that we either quickly or slowly kill [I]nstagram…and open up a window for a new entrant" by agreeing Meta should "keep [Instagram] running" as "insurance").

B. Meta's Justifications for the WhatsApp Acquisition Are Pretextual

370. The genuine reason Meta acquired WhatsApp was because Meta feared that WhatsApp would add PSN services and become a direct competitor in the PSN services market. PF V.A, V.C.

371. Contrary to Meta's suggestion, MBr. 57, even after Mr. Zuckerberg's July 2012 meeting with Mr. Koum, Mr. Zuckerberg and Meta executives continued to be threatened by the prospect of WhatsApp offering PSN services. *See, e.g.*, 4/16 (MZ) 98:7-15 (Zuckerberg believed Koum was unopposed to status features on WhatsApp); PX1365-001 (Nov. 2012: Zuckerberg concerned Tencent would acquire WhatsApp to compete with Facebook); PX10271-002 (Feb. 2013: Zuckerberg informs Board that Meta's biggest risk as a company is mobile messengers offering PSN services); PX1103-006 (Feb 2013: corresponding Board presentation lists WhatsApp as "a

threat to our core business[]" with "all the ingredients for building a mobile first social network"); PX1486-001 (Aug. 2013: Zuckerberg concerned about WhatsApp adding differentiated social features and winning the U.S.); PX1413-001 (Aug. 2013: Olivan and Zoufonoun tell Zuckerberg WhatsApp could offer PSN services, which "keeps me awake every night") & Vid. (Zoufonoun) 288:22-289:10, 290:19-291:12 (same); PF 257, 286, 293-94 (Feb. 2014: Meta rushed to purchase WhatsApp soon after receiving a Morgan Stanley deck stating Google could use WhatsApp to win PSN market and learning of WhatsApp-Google meeting); *accord* PF 245 (additional post-July 2012 Meta documents), 256 (long-time fear of Google using WhatsApp to bolster PSN offerings).

372. Meta's claims that it helped WhatsApp improve its infrastructure, integrity, monetization, and features are post hoc rationales for the deal that were not presented to Meta's Board before the acquisition. *See* PX10858-005; PX10857-002. Meta's acquisition of WhatsApp was rushed and failed to "take into account any [deal] synergies," contrary to general practice. PX10858-012; PF 294, 296; 4/24 (Hearle) 72:24-73:7.

373. Underscoring that Meta's claimed benefits are post hoc rationales, it was years after the WhatsApp acquisition before Meta attempted to accomplish them. *See, e.g.*, PF 469 (infrastructure move in 2019); 5/6 (McCoy) 182:7-183:5 & PDX0077-012 (integrity still limited in 2020).

374. Meta's claims, MF 247, 255, that it bought WhatsApp to grow it and purposefully did not rush to monetize do not indicate a lack of anticompetitive purpose. Not only did Meta understand that WhatsApp did not need Meta to grow, *see* MF 247 (citing to Board presentation also noting WhatsApp was "extraordinarily fast growing," PX10858-005), but Meta recognized that growing WhatsApp and absorbing billions in losses operating it serves as a moat. *See* PF 315-17.

375. Contrary to Meta's claim, MBr. 58, Google's February 2014 presentation, DX739, does not support the premium Meta paid. PF 301 (premium reflected "defensive value"). Meta's $19 billion

valuation of WhatsApp was predicated on WhatsApp monetizing like pivoted messengers, which Meta did not intend to do, PX2994-012, and has not done. In contrast, Google had always considered turning WhatsApp into a PSN. PF 290. Indeed, the document was not a valuation of WhatsApp as a standalone messenger at all. 4/24 (Hearle) 60:10-61:2.

376. In trying to rationalize the premium it paid for WhatsApp, Meta mischaracterizes unrebutted FTC expert testimony that Meta's use of value-per-user comparables was not a proper valuation. *Compare* MF 248, *with* 4/24 (Hearle) 64:19-65:8 ("[I]t made sense as a framework, but that's distinct from a valuation. . . . It's not a valuation."); 4/21 (Rim) 86:22-87:1. In 2014, Meta's own consultant, KPMG, confirmed there were not good comparable companies for the WhatsApp transaction, which would be necessary for a value-per-user analysis. 4/24 (Hearle) 48:24-49:7, 78:9-79:13 & PX12692-008; *see also* 4/21 (Rim) 87:9-13 ("Q. Is that an accepted way of projecting what a startup might earn when a VC invests in it? A. Yes. *If there is a company very similar to you* . . . .") (emphasis added).

X. Meta Failed to Establish Merger-Specific Increases in Output or Consumer Surplus

A. Meta Failed to Establish Merger-Specific Increases in Output

377. Meta has failed to establish that its claims of expanded output, and the observed growth in Facebook, Instagram, or WhatsApp, MF 9, 26, 252, required Meta's acquisitions, i.e., are merger-specific. 5/13 (Hemphill) 92:4-14, 134:14-135:8 ("the benefit needs to depend on the acquisition"); 5/14 (Hemphill) 41:7-11; 5/21 (Carlton) 239:8-241:19 (conceding failure to proffer quantitative evidence of merger-specific increases in consumer surplus, features, or R&D, and that merger-specificity of output growth and other asserted benefits is assumed, not factually supported); *see also id.* 165:9-15 ("The hard question is to compare [observed output growth] to the but-for world. It's obviously a hard question.").

378. The proliferation of smartphones and advancement of mobile technologies have driven

significant growth in the use of online services of all kinds since 2010. *See* MF 26 ("output has increased dramatically not only for Meta's apps"); 4/16 (MZ) 36:13-23 (YouTube growth over last ten years "as mobile networks have gotten really good"), 146:6-16; 5/8 (Mosseri) 155:24-156:17 ("lot of growth across…the industry" from users spending "a lot more time on…mobile phone[s]"), 179:17-180:4 (technological reasons for YouTube's speedy growth "in that mid-2010s timeframe"); 5/14 (Alison) 252:21-253:14 (technological changes in mid-2010s led to higher YouTube usage); 5/12 (Schultz) 62:14-63:2 ("the entire industry…has grown"); 5/13 (Hemphill) 61:19-62:23 & PDX0090-145 (rapid increase in smartphone use starting in 2011); PF 192.

379. ***Instagram.*** Meta has not demonstrated that Instagram needed Meta's help to grow. Instagram was a popular app with a "crazy" growth rate prior to its acquisition by Meta, propelled even further by its launch of an Android version of the app pre-acquisition. PX2965; *see also* 4/22 (Systrom) 30:12-31:2 (growth was "[e]xponential, unstoppable"); PF 204-07, 209, 217.

380. Meta has not identified or substantiated any specific know-how, resources, or capabilities for growth that only Meta could have supplied to Instagram. Instagram already had, and was well positioned to continue to develop, each of the capabilities Meta claims helped Instagram grow, MBr. 58-59. *See* PF XIII (infrastructure), XII (integrity), XI (features), XIV (monetization), 381-91 (distribution).

381. Growth of other apps also underscores that the basic know-how, resources, and capabilities for growth are not unique to Meta. *See* MF 26(c) (Snapchat), 26(d) (TikTok); PF 451, 453.

382. Meta has not demonstrated that Instagram's post-acquisition growth is attributable to Meta rather than to the inherent attractiveness of the product, exogenous factors like the shift to mobile, and resources available elsewhere. In 2018, Mr. Schultz, then Director of Growth Marketing, acknowledged that "[t]he vast majority of IG's growth is IG product market fit driven and driven

by external forces"—not anything Meta did. PX12102-004.

383. Even under Mr. Zuckerberg's more self-serving claim, Meta estimated in May 2018 that Instagram "would likely be around the size of Twitter or Snapchat with 300 to 400 million [monthly active users] today" had it remained independent. 4/15 (MZ) 133:7-18 & PX3602-002.

384. Meta has also internally overestimated the impact of particular forms of support it provided Instagram. In 2018, Meta internally estimated that its cross-promotions were responsible for only 14 percent of Instagram's annual growth, *see* Systrom (4/22) 142:1-11 & PX15237-002, but even that turned out to be overstated—in fact, removing the cross-promotions "wasn't very meaningful" and "wasn't material in the long run." 5/12 (Schultz) 28:18-29:2 & DDX24.3.

385. Instagram's growth rate as an independent firm greatly exceeded its growth rate under Meta. *Compare* 5/13 (Hemphill) 70:23-71:8 & PDX0090-158 (~400% U.S. MAU growth rate from Mar.–Sept. 2012), *with* 5/12 (Schultz) 27:18-24 & DDX24.3 (much lower rates from 2014 on).

386. By Mr. Zuckerberg's own admission that Instagram would at least have been around the size of Snapchat absent the acquisition, PF 383, Meta's acquisition deprived the PSN services market of a significant competitor. *See* 4/15 (MZ) 134:1-8 (agreeing that Snapchat "was and is a meaningful competitor" for the online use case of sharing with friends). Indeed, Mr. Zuckerberg acknowledged that Instagram "could have equally fought [Snapchat] on stories @500M [MAU]," an assertion that Mr. Olivan agreed was a "hard argument to argue [against]." PX12102-001.

387. Even if Instagram benefited from certain resources provided by Meta, Meta has not shown why the other potential Instagram acquirers, such as Google, Twitter, and Apple, could not have helped it grow. *See* PF 220; 4/15 (MZ) 229:1-230:3; PX1180-001 (Google acquisition potential).

388. Instagram's growth was not dependent on distribution or cross-posting with Facebook. Word-of-mouth was Instagram's most important growth vector pre-acquisition, and was sufficient

to keep Instagram growing. 4/22 (Systrom) 45:21-46:4. Instagram's distribution channels included the Apple and Android app stores and cross-posting on non-Meta platforms like Twitter. *See id.* 43:13-17, 44:3-18; PF 200, 208. Only 25% (and declining) of Instagram photos were cross-posted to Facebook in April 2012. 4/22 (Systrom) 46:6-14.

389. Further, to the extent that Meta contends that it would have cut off cross-posting with Instagram in the but-for world, MBr. 13-14, MF 193, this is not a procompetitive benefit and would not be rational (except for anticompetitive intent) because it would damage the user experience by removing high-quality content in Facebook users' feeds. 4/22 (Systrom) 46:15-47:2, 181:4-22.

390. While Meta suggests that Instagram may not have been able to continue its growth because it "had no revenue, concrete monetization plan, or growth team" and "had not been able to add certain features," MF 194, just before the acquisition, Instagram raised $50 million and brought on board savvy advisors who had broad expertise and experience with growing an online platform. *See* PF 211-13, 417; 4/22 Systrom 56:24-58:4; Vid. (Botha) 19:21-20:11, 41:17-43:10.

391. Meta's acquisition of Instagram *hampered* Instagram's ability to grow in numerous ways by limiting Instagram's ability to compete, starving it of resources, and degrading its quality. *See* PF 410, 466-67; 4/22 (Systrom) 82:13-83:21 & PX3457-004 (Twitter cut off Instagram's access to Twitter's connection features in retaliation for similar action by Meta); 83:24-84:21 (Zuckerberg made Instagram degrade the quality of its users' cross-posts to Twitter by removing the images, causing "an uproar" from Instagram's users), 86:5-10, 87:9-88:17 & PX15224-001-02.

392. ***WhatsApp.*** Meta has not demonstrated that WhatsApp needed its help to grow. WhatsApp had been growing exponentially for years and was on track to reach a billion users within an 18-month period without Meta. 5/20 (Acton) 169:19-25 ("hypergrowth"), 171:6-9; [redacted] [redacted] 4/21 (Rim) 19:23-21:4 & PX10858-006; PX3661-005

(WhatsApp "[p]rojected to reach 1 billion MAU by October 2015"), *see also* PF 261. WhatsApp was likewise growing exponentially in the U.S., on track to roughly double its user base in a year in 2014 and double or triple its U.S. user base again by 2016, all without Meta. 5/20 (Acton) 174:11-22, 175:7-17 & PX3661-020 (at current growth rate, U.S. could triple to nearly 60 million MAU by 2016); 4/21 (Arora) 153:8-16 & PX14806-004 (adding nearly 48,000 new users a day (nearly 18 million a year) in 2014).

393. Meta has failed to identify or substantiate any specific know-how or capabilities for growth that only Meta could have supplied to WhatsApp. WhatsApp was well positioned to continue to develop the infrastructure, integrity, and feature capabilities that Meta claims, MBr. 58, helped WhatsApp grow. PF 459 (infrastructure), 449 (integrity), 418 (features).

394. WhatsApp had multiple interested investors and alternative non-Meta acquirers that could have helped it grow. *See* PX10229-001 (Goetz noting it is "[c]lear to us that you could get tencent, facebook and google into a bidding war (with microsoft and yahoo trailing)"); PF 263, V.B.4.

395. Meta's touting of WhatsApp's growth as a messenger is outside the relevant product market, and thus does not represent a procompetitive benefit for U.S. consumers of PSN services. 5/13 (Hemphill) 138:15-139:6.

B. Meta Failed to Establish Merger-Specific Increases in Consumer Surplus

396. Output is not the same as consumer surplus, which is the ultimate measure of consumer welfare. 5/13 (Hemphill) 91:5-94:9.

397. Meta has failed to establish a merger-specific increase in consumer surplus. Prof. Carlton's consumer surplus estimates for Instagram and WhatsApp (MF 219, 257) do not indicate the absence of monopoly power or competitive harm because even monopolists generate consumer surplus. 5/13 (Hemphill) 107:15-108:16; 5/27 (Hemphill) 79:25-82:20; 5/21 (Carlton) 239:3-7. Moreover, Prof. Carlton did not compare the amount of consumer surplus Meta's apps generated

relative to a but-for world absent the acquisitions. 5/21 (Carlton) 239:8-240:16 (conceding failure "to quantify how much extra consumer surplus there is compared to the but-for world"). Particularly where there is exogenous demand growth, output growth is entirely consistent with monopoly power (which reduces consumer welfare) and anticompetitive conduct. 5/13 (Hemphill) 107:15-108:16 & PDX0090-196; 5/21 (Carlton) 230:25-231:24, 234:11-22 & PDX0134 (discussing output increases in *Microsoft*, *Standard Oil*, *AT&T*, *Google Search*).

398. Further, even assuming the relevance of Prof. Carlton's calculations of consumer surplus, both the studies on which he relied and his extrapolations therefrom are unreliable. Indeed, the very researchers that Prof. Carlton cited acknowledged the limitations of the willingness-to-accept methodology. 5/27 (Hemphill) 81:7-19.

399. Meta is incorrect to treat increased MAU and time spent as a dispositive indicator of increased consumer welfare. *See* MBr. 48; MF 26, 252. Measures of usage like time spent and MAU fail to account for the "quality aspect of output" and so provide at most a partial view of consumer surplus. 5/27 (Hemphill) 76:23-79:6 (discussing how changes in quality may affect consumer surplus, with or without an attendant output effect, and how "number of users" is a "highly imperfect metric of output" as it does not capture "quality aspects of output").

400. While Facebook and Instagram have grown by MAU and time spent, various measures indicate Meta has many dissatisfied users experiencing products with degraded quality. *See* PF 325-32. Consumer dissatisfaction is a sign of reduced consumer surplus, as degraded quality reduces both aggregate engagement and the value users derive from each unit of engagement. 5/13 (Hemphill) 51:18-52:8; *see also* PF 402-12.

401. Prof. Carlton's assertion that Instagram's large user base and current valuation indicate the acquisition was a "grand slam" for Meta, MF 206, does not mean that consumers are better off.

Instagram was growing without Meta, *see, e.g.*, PF 204-09, 379-91, and Instagram's valuation reflects the effects of Meta's monopolization of the PSN market, including higher ad load. 5/27 (Hemphill) 79:25-81:3; *see also* 5/13 (Hemphill) 92:4-11.

C. Meta's Exercise of Monopoly Power and Anticompetitive Conduct Has Suppressed Output of PSN Services and Reduced Consumer Surplus

402. Monopolies are widely understood to raise quality-adjusted price, reduce output, and reduce consumer welfare relative to competitive markets. 5/12 (Hemphill) 209:22-212:24 & PDX0090-011-13; 5/13 (Hemphill) 10:14-19, 107:15-108:16.

403. Meta's various forms of profitable reductions in quality, PF 325-61, suppress output of PSN services and reduce consumer surplus. 5/13 (Hemphill) 53:23-55:22 & PDX0090-136-37 (Meta's high ad load and poor quality, which leads to "lower user sentiment and reduced engagement," is evidence that its exercise of monopoly power has had "an output-reducing effect on users").

404. Meta's sustained increases in ad load reduce multiple measures of output, including daily users (DAU or DAP), time spent, sessions (i.e., the number of times a user opens the app), impressions (VPVs), and friend content production (OBPS). PX12501-004 (ad load reduces sessions); PX12676-005 (ad load's "cost to key app health metrics (DAP, sessions, time, sentiment)"); DX336 at 23 (ad load impacts OBPS and VPVs); *see also* PF 160-61 (collecting evidence); 5/13 (Hemphill) 50:20-51:17 & PDX0090-130, 53:23-54:15. Meta explicitly recognizes that ads tax engagement and, especially, production of valuable broadcast posts. DX336 at 23 ("if you are in the top 20% of [OBPS] producing people you lose a lot of [OBPS] from ads"); *see also* PF 120, 343 (distinct "network value" of friend content production).

405. Meta's underinvestment in friends and family sharing also reduces output and consumer surplus in the form of decreased production and consumption of friend content and decreased social interactions. PF 130, 342-43. For example, in 2018, Meta adjusted Instagram's "Accounts

You Should Follow" feature to recommend more public accounts and fewer real-life friends to users. 4/15 (MZ) 148:10-149:21 & PX12341-001-02; PF 345. Meta knew this change would have the practical effect of reducing friend content. *Id.* 149:13-21; PX1017-017-18 (noting that "Friend connections are critical for driving production, feedback, and retention" and that "Early Friending is essential to retention and production on IG").

406. Meta's increased ad load and other quality reductions also reduce user sentiment, which has feedback effects that further reduce engagement, including sharing participation. PF 162, 326-32, 341; 5/13 (Hemphill) 53:23-55:22 & PDX0090-136-37; PX3391-012 ("In the US, most sentiment metrics (GFW, Trust, CAU) have strong *positive* correlations with sharing participation").

407. With lower ad load, improved ranking of friend content, increased facilitation of friend connections, and other quality investments on Meta's apps, users would log in more often, spend more time, and produce more, consume more, and interact more around higher-quality content. *See* PF 343, 404-06; 5/27 (Hemphill) 77:5-78:22, 181:7:24.

408. By eliminating Instagram and WhatsApp as competitive constraints, Meta's acquisitions suppressed output and consumer surplus for users of PSN services in the U.S. 5/14 (Hemphill) 38:18-39:7 ("quality-adjusted output would likely be higher in the but-for world"); *see also* 5/13 (Hemphill) 91:5-93:5; 5/14 (Hemphill) 37:6-10, 39:23-25; 5/27 (Hemphill) 87:5-89:17 & PDX0149-060.

409. In controlling Instagram, Meta extinguished the competitive pressure that Instagram and Facebook were already exerting on each other and would have exerted in the but-for world, thereby harming consumers. *See* PF 309-11, 322-23, 336-38, 344-45, 351-53.

410. Unlike Instagram's incentives in the but-for world, Meta also took actions that harmed Instagram's growth and product offering, to the detriment of consumers, because—among other

reasons—Meta knew that an untethered Instagram would "cannibalize" and harm Facebook. *See* PF 357; 4/15 (MZ) 131:3-132:22 & PX3602-001-02, 134:9-17 & PX3602-002 (Zuckerberg worrying "there's a real chance we may be causing network collapse of the more engaging and more profitable product [Facebook] to replace it with one that is less engaging and less profitable [Instagram]"); PX12102-001 (Olivan pondering "an end state where IG becomes much bigger than FB"). Meta's actions include:

a. From the outset, preventing Instagram from taking steps to attract users or engagement away from Facebook. PF 310, 356 (Instagram could not "just optimize for itself" but instead had to operate "within the constraints of whatever the strategy is that [Meta has] put in place").

b. Funneling the lion's share of resources to Facebook, leaving Instagram under-resourced and "starving" at times. 4/22 (Systrom) 90:7-97:7 & PX11032-001-02 (At one billion users, Instagram was slightly less than half the size of Facebook (with its 2.3 billion users) yet "[Instagram] had a thousand employees total, and Facebook had 35,000"); *see also* PF 356-361 (underinvestment in Instagram's growth, feature development, and integrity); PF 329 (underinvestment in infrastructure); PX15147-003 (Zuckerberg orders that "teams focused on growth, . . . integrity, video infra . . . should continue to focus on FB as their primary target, even if there are low-hanging fruit in other apps"); 4/22 (Systrom) 88:21-89:3 & PX15224 (Meta took away Instagram's growth team, forcing it to hire its own).

c. Altering Instagram's product design to differentiate Instagram's social graph more from Facebook's, because too many users were choosing Instagram over Facebook. PF 345; *see also* 5/8 (Mosseri) 229:9-230:18 & PX0708-003, -008; PX12372-008, -032 (Meta's changes to Instagram's algorithm to deprioritize friends and family content triggered user backlash and calls to "make Instagram Instagram again").

d. Forcing Instagram to ramp up advertising faster than its founders wanted to, *see* PF 336-37; *cf.* 4/22 (Systrom) 59:21-60:15 (Instagram felt no pressure to monetize when independent because investors prioritized growth), and later dramatically increasing ad load on Instagram (again over its founders' objections) to slow Instagram's growth and support Facebook by financing a small decrease in Facebook's ad load. *See* PF 338-39; PX12347-003-04 ("[Mr. Zuckerberg] wants to stick it to IG"); PX15112-002, -007-08.

411. Meta is incorrect that the size of Instagram today versus the but-for world is dispositive, or even particularly relevant, in assessing consumer welfare. MBr. 59. As detailed above, PF 397, 399, Meta's focus on the size of Instagram's MAU user base and time spent, MBr. 49; MF 9-11, is an incomplete assessment of output and consumer surplus. Additionally, Instagram would exert significant competitive pressure on Facebook, delivering greater consumer surplus in the but-for world, even if Instagram were smaller in the but-for world than it is today. 5/13 (Hemphill) 94:5-9; 5/14 (Hemphill) 153:16-25. Indeed, Instagram was already doing that pre-acquisition, PF 210, 216-219, 224-29, and Mr. Zuckerberg recognized that "Instagram can hurt us meaningfully without becoming a huge business." DX362 at 2; *see also* PF 383 (Instagram would have hundreds of millions of users in the but-for world even under Meta's most self-serving estimate).

412. Meta's ownership of WhatsApp reduced market-wide output and harmed consumers in the market for PSN services by preventing WhatsApp's entry as a PSN competitor, on its own or through an alternative buyer. PF 286-93, 301, 309; 5/13 (Hemphill) 76:19-77:21; 5/27 (Hemphill) 79:14-24; *see also id.* 181:7:24 ("with additional entry, you have a prospect of fresh networks that provide new usage, new MAUs and DAUs to be added").

XI. Meta Failed to Establish Merger-Specific Benefits to Feature Development

413. Meta's concession that other apps engage in feature development, *see, e.g.*, MF 46(a), confirms that its Instagram and WhatsApp acquisitions were not necessary to add new features.

See also 5/21 (Carlton) 241:3-19 (conceding failure to analyze whether Instagram or WhatsApp would have added the same features without the acquisitions).

414. Meta concedes that it copied many of the features it deployed on Instagram and WhatsApp from other apps. *See* MF 24, 40, 46(a); *accord* 5/15 (Horowitz) 109:22-110:10 (Facebook "fast-follow[ed] many of Google+'s features . . . quite visibly"); 4/30 (Presser) 49:7-15 (Meta "fast followed" TikTok); Vid. (Andreou) 228:17-22 (Meta "cop[ied] Stories from Snapchat"); [redacted] PX1666-001 (describing Meta's initial short-form video offering, Lasso, as "our TikTok copycat"); 5/21 (Carlton) 68:17-20 (conceding with respect to "feature copying" that "everybody seems to be copying each other").

415. Notably, Snapchat pioneered an ephemeral "Stories" feature in 2013, 4/15 (MZ) 86:3-87:4, and it took Meta three years to launch a copycat on Instagram. MF 82; 4/22 (Systrom) 154:4-8; Stip. 30; *see also* Vid. (Andreou) 249:15-250:10 (Meta's copycat was so similar that it replicated "design bugs" and "parts of the Stories product . . . [Snap] wanted to fix"). Meta slowed Instagram's attempts to add a Stories feature, 4/22 (Systrom) 96:9-97:7 (describing efforts to convince Meta to commit more resources to respond to Snapchat Stories), signaling that an independent Instagram likely could have released the feature sooner.

416. Like Stories, Meta only developed Reels after seeing the success of short-form video on TikTok. MF 82; 4/16 (MZ) 24:19-24; 4/30 (Presser) 49:7-15 (Meta "looked at the product experience that [TikTok] ha[s] offered and that's been recently successful, and they have built a version of that into their existing product"). And Meta's vaunted algorithmic content feed, MF 210, is also a feature developed by other apps. *See* 4/30 (Presser) 52:9-18 (TikTok); 4/28 (Roberts) 137:6-139:25 (Pinterest); 4/30 (E. Tucker) 20:1-10 (Tumblr).

417. Meta's suggestion that Instagram would not have been able to "add certain features, e.g., video" without the acquisition, MF 194, is contradicted by Mr. Systrom's unequivocal testimony that Instagram could have added features such as video, messaging, and photo tagging, all of which were on its "roadmap" pre-acquisition, 4/22 (Systrom) 39:17-41:19, 209:3-4 ("I am almost certain that we could have built a video product alone."), and the fact that Instagram added many features between its launch and the acquisition, *id.* 38:9-39:16. Further, numerous other apps also developed video sharing and short-form video without Meta. *See, e.g.*, MF 100, 114; [redacted] 4/17 (Filner) 162:14-18 (YouTube); 4/30 (Presser) 44:1-7, 105:20-106:1 (TikTok); 4/24 (Tang) 109:17-110:1 (Discord).

418. The features WhatsApp released post-acquisition, such as VoIP calling, video calling, and end-to-end encryption ("E2EE"), MF 254, would have been released without the acquisition. 5/20 (Acton) 192:17-193:19, 194:11-16 (acquisition did not speed up launch of E2EE, which was already underway pre-acquisition), 194:20-195:3 (WhatsApp "would have added voice calling regardless" of the acquisition, and it would not have taken longer), 195:13-21 (video calling a "natural extension" of voice calling that WhatsApp could have added without acquisition), 197:9-21 (camera features; status feature). Moreover, such features are not unique; numerous messaging apps have similar features. 5/20 (Acton) 193:20-194:10, 195:4-9, 195:22-24.

419. Meta's claim that it added features "faster than [WhatsApp] could have on its own," MBr. 58, is unsupported and contradicted by Mr. Acton's and other testimony. *See, e.g.*, PF 418 (E2EE and voice calling not faster with Meta), 459 (WhatsApp had extremely capable engineering team).

420. Meta's "faster" features claim for Instagram, MBr. 58, is also unsupported and contradicted by the facts. Meta has not shown why an independent Instagram could not have added new features as quickly (if not faster) on AWS infrastructure, *see, e.g.*, MBr. 58; MF 210, given that, by Meta's

own admission, "AWS['s] demonstrated capabilities in delivering hardware appeared substantially more advanced than [Meta's]." DX620 at 2. Instagram had to delay feature launches because of a lack of server capacity on Meta's infrastructure. PF 467.

421. While alluding to "dozens of features on Facebook," MF 5, Meta explains neither how those features benefit Instagram or WhatsApp, nor how they could only have been developed due to the acquisitions. Meta's own expert analysis shows that feature development on Instagram and WhatsApp lags Facebook. *Compare* DX1182 (165 claimed feature innovations for Facebook from 2011 through July 2023), *with* DX1180 (31 claimed feature innovations for Instagram from 2012 acquisition through May 2023), *and* DX1181 (16 claimed feature innovations for WhatsApp from 2014 acquisition through May 2023). This is consistent with other evidence that Meta prioritized resources for Facebook and Facebook Messenger over Instagram and WhatsApp. *See* PF 358, 272.

422. Feature development occurs in monopolized markets and does not disprove monopoly power or anticompetitive effects. 5/21 (Carlton) 238:4-25; 5/13 (Hemphill) 239:20-24.

XII. Meta Failed to Establish Merger-Specific Benefits to Integrity

A. Meta Underinvested in Instagram's Integrity

423. Meta executives acknowledge that prior to 2017 (five years after it acquired Instagram), Meta "underinvested" in all its apps' integrity, including Instagram. 5/6 (Rosen) 30:24-31:11 (discussing PX10940-009), 96:2-5; 5/8 (Mosseri) 56:17-25; *accord* PX2839-002 (Rosen's 2018 plan for integrity called for Meta to "[d]ramatically increase [its] investment in Integrity engineering" because "[w]e . . . need to catch up everywhere"); PX11093-001 (Schultz in 2018: "We did underinvest in integrity for many years").

424. Even after Meta began investing in integrity for the Facebook application in 2017, Mr. Zuckerberg deliberately "underfunded" Instagram's integrity headcount. 5/6 (Rosen) 48:7-49:24 & PX10928-001 (Rosen in 2019: "[Instagram integrity] is underfunded. This was deliberate - I

explicitly had the convo with [Mr. Zuckerberg]"); *see also* PF 425.

425. Contrary to Meta's claims that it "pour[ed] resources" into Instagram, MBr. 58, Instagram's integrity teams continue to be "woefully understaffed" relative to Facebook's. 5/8 (Mosseri) 50:21-52:4 & PX12350-001; *see also* 5/6 (Rosen) 75:2-11 & PX3811-004 ("IG is understaffed…when compared to Facebook"), -001 ("[Instagram is] staffed at roughly 1/6 of Facebook"); PX15225-001-02 (Systrom requests staff to address "urgen[t]" integrity issues on Instagram); PX3620-006 (May 2022) ([redacted] among vulnerabilities in presentation titled "Child Sexual Exploitation"); 5/6 (McCoy) 174:2-7, 203:11-206:14 & PDX0077-030-36.

426. In addition to denying Instagram integrity engineers, Mr. Zuckerberg directed various teams including the central integrity team to prioritize Facebook over Instagram. PX15147-003 ("teams focused on growth, [], integrity, video infra . . . should continue to focus on FB as their primary target, even if there are low-hanging fruit in other apps").

427. Meta's underinvestment in integrity left Instagram "at high risk across many areas" including child safety-related areas like child exploitation images and child grooming. 5/8 (Mosseri) 54:23-24 & PX3605-006-07 (Oct. 2018); PX3070-005-06 (2018); PX10899-003 (May 2018); PX3620-006 (May 2022); 5/6 (McCoy) 208:23-209:5.

428. Instagram has experienced significant integrity problems under Meta. *See* 5/6 (McCoy) 210:15-214:1. For example, the app has repeatedly connected minors with potential child groomers. 5/6 (Rosen) 90:3-8 & PX3612-023 (July 2019: nearly 2 million minors recommended to groomers in 3 months), -055; 5/6 (McCoy) 211:20-212:11 & PDX0077-039-43; PX3094-004, -009 (Sept. 2020); PX3618-006 (2021: "~1 in 100 IG teen users in the US are exposed to IIC convos (child grooming) with adults everyday").

429. Instagram users, especially teens, report seeing nudity, solicitation, non-consensual intimate

images, and other problematic content on Instagram. *See, e.g.*, PX3070-007; PX12204-003, -008; PX10160-009-10; PX3619-021-22; PF 361; *see also* PX3610-001-02 (opioid ads on Instagram) & 5/6 (Rosen) 64:22-65:6.

430. Meta's underinvestment in cross-check—a program that allows policy violating content posted by a subset of users to remain visible pending completion of a manual review process—has resulted in users being exposed to increasing amounts of objectionable content. *See* 5/6 (Rosen) 16:4-10 & PX3812-009, -015 (Nov. 2018: cross-check covered more than 27 million entities), 045; PX10943-003 (Dec. 2020: cross-check resulted in 6.4 billion views of prohibited content).

B. Meta Failed to Provide Evidence of Improved Integrity Outcomes

431. The FTC's integrity expert could not verify that Meta delivered integrity benefits to Instagram or WhatsApp because Meta maintains little or no relevant quantitative data, and available qualitative evidence did not support Meta's claims. 5/6 (McCoy) 168:1-14, 172:10-174:14, 182:7-183:5 & PDX0077-009-10, 199:21-200:6.

432. Relevant quantitative data is limited temporally and topically, because Meta admits that it "did not systematically and consistently accumulate [any] metrics related to Objectionable Content" on any of its apps prior to Q4 2017. Ex. C, PX15554-010 (Meta Interrog. Resps.); *see also* MF 33 (reports begin in 2018). Moreover, when Meta started maintaining prevalence metrics—the data Meta claims to "primarily rel[y] on . . . to measure and evaluate Objectionable Content," Ex. C at -002; *see also* 5/6 (Rosen) 120:24-121:8, 121:20-122:4, 154:16-21, 159:5-9—Meta only tracked that data for Facebook. It did not maintain the same data for integrity problems on Instagram until 2021, years later. *Compare* Ex. C at -003 (Facebook), *with id.* -004 (Instagram).

433. When Meta finally began tracking some prevalence metrics on Instagram, it failed to track others. As late as the fourth quarter of 2024, Meta still did not have prevalence data for key integrity issues on Instagram including spam, organized hate, child nudity and physical abuse, and

child sexual exploitation material. *See* DX1254 at 1-3.

434. A longitudinal assessment of the limited prevalence data Meta tracks for Instagram shows no improvement in several key areas from the first date of reporting through Q4 2024. *See* DX1254 at 5-9. In fact, the prevalence of violent and graphic content on Instagram has been trending upwards since Q1 2021. *See id.* at 9.

435. Meta acknowledges it does not track prevalence metrics for WhatsApp, and the data Meta has—the number of WhatsApp accounts banned per year—dates from 2020. *See* Ex. C at -015.

436. Metrics that do not relate to prevalence, but instead to the number of accounts banned or percentage of harmful content removed, are unreliable indicators of the experience consumers have on the apps. *Compare* MF 33 (discussing proactive rates), *with* 5/7 (McCoy) 15:4-16:13 (high content removal rates may reflect increases in abuse rather than the system's efficacy; proactive rates do not capture important information like the volume of violating content Meta missed).

437. Meta has not substantiated that the investments in "its apps' safety and security," MF 32, 218, benefited Instagram's or WhatsApp's integrity. *See* 5/6 (McCoy) 173:20-174:14. Meta does not cite any contemporaneous documents aside from Mr. Rosen's testimony to support its $30 billion and 40,000 headcount investment claims. *See* MF 32. Indeed, Mr. Rosen's testimony itself does not reference any evidence. *See* 5/6 (Rosen) 95:24-96:5, 112:18-24.

438. Although there is some overlap, safety and security are distinct from integrity. 5/7 (McCoy) 13:9-16. Meta has not specified how much of its investments in "safety and security" are allocated to integrity generally, or Instagram's and WhatsApp's integrity, in particular. *See* MF 32, 218; 5/6 (Rosen) 95:24-96:5, 112:18-24; 5/7 (McCoy) 13:17-23.

439. Meta mischaracterizes Prof. McCoy in claiming it is "an industry leader in integrity." *See* MF 34. Meta's highlighted statement related to its implementation of PhotoDNA on Facebook,

not to Meta's overall integrity efforts. 5/6 (McCoy) 193:2-19. Prof. McCoy further explained that Meta's integrity techniques, including use of PhotoDNA, are not unique. *Id.* 193:2-194:13, 196:18-199:8; *see also* Dep. (Stefancik) 48:10-25 (PhotoDNA "industry-standard"); PX3803-001 (PhotoDNA owner NCMEC informs Instagram about free PhotoDNA technology pre-acquisition).

440. Meta's underinvestment in integrity, PF 360, 423-26, directly undermines its industry leadership claims. Instagram experienced significant integrity problems under Meta's ownership, PF 361, 427-430, and other online platforms use techniques similar to Meta's to address integrity problems. PF 443-44.

441. Meta has also allowed billions of fake accounts on Facebook, generating "fake engagement" and "scams." 5/15 (Alison) 69:18-70:7; *see also* DX1254 at 2 (about 3% of MAU in Q4 2024 were fake). Meta's own analysis found that [redacted] percent of Facebook accounts with zero friends are policy-violating accounts, including fake accounts. 5/15 (Alison) 64:20-65:13 & PDX0106-002; *see also* PX10043 (Facebook policy prohibits multiple accounts); 5/6 (Rosen) 44:23-45:2.

C. Meta's Claimed Integrity Benefits Did Not Require the Acquisitions

442. Meta has not shown that the acquisitions of Instagram and WhatsApp were necessary for the apps to address integrity problems. 5/6 (McCoy) 172:2-9, 180:21-182:8, 183:8-18.

443. Meta's know-how and use of "user reports, human review, and automated tools using AI and machine learning," MF 33, to manage integrity are not unique. *See, e.g.*, 4/16 (MZ) 161:8-14 ("Solving spam . . . it's not rocket science."); 4/22 (Systrom) 55:17-56:3 (dealing with problematic content "was fairly straightforward . . . it wasn't rocket science"); 5/6 (McCoy) 188:15-190:19.

444. Other online platforms "that face similar [content] pressures [to Meta] have [independently] built equivalent systems" to address their integrity problems. Dep. (Bejar) 181:12-182:4, 182:11-17 (Snapchat, X, Google, LinkedIn, Reddit); *see also* 4/28 (Roberts) 151:17-153:7 (Pinterest); 4/28 (Coleman) 43:1-4 (X); 4/30 (Presser) 63:18-64:16 (TikTok); 5/6 (McCoy) 196:18-199:8 (Google,

Microsoft, LinkedIn, X, Pinterest, Tumblr) & PDX0077-024-25.

445. Contrary to Meta's claim that spam was a "big problem" pre-acquisition, MF 195, Instagram was employing widely used integrity techniques to address spam and other objectionable content. *See, e.g.*, 4/22 (Systrom) 51:2-6, 54:16-25 (human reviewers), 55:17-56:3 (user policies); Stip. 38 (user reports); PX3057-004-09 (third-party reviewers); 5/6 (McCoy) 179:11-180:18 (manual and automated detection methods, blocklists, daily integrity reports, regularly updated integrity tools), 183:7-187:-6 (reports to NCMEC) & PDX0077-014-15. Indeed, Instagram had turned down offers of assistance from third-party providers because it was "tackling the spam thing pretty well." 4/22 (Systrom) 53:5-54:2 & PX15223; *see also* 5/6 (McCoy) 183:7-187:15 & PDX0077-013-18.

446. Instagram could have continued scaling and improving its integrity tools by developing them internally or contracting with third-party providers without Meta. 4/22 (Systrom) 54:3-7, 55:7-13, 53:5-54:2 & PX15223 (Instagram had access to third-party providers of integrity services); 5/6 (McCoy) 183:7-18, 185:17-187:6 & PDX0077-016-17 (same).

447. Internal Meta documents show that Meta did not adequately customize or integrate the integrity tools it deployed on Instagram. *See, e.g.*, PX3605-018; PX10899-001-03; PX15001-018; 4/22 (Systrom) 95:2-96:8 & PX11032-002; 5/6 (McCoy) 200:7-202:14 & PDX0077-026-29. For example, Meta did not fully integrate Instagram into PhotoDNA, a critical tool used to find and remove child exploitation material, for almost two years after announcing the acquisition. Dep. (Stefancik) 149:19-150:11, 151:21-25.

448. Meta's claim that it "achieved integrity improvements faster" than Instagram otherwise would have, MF 217, is unsupported and contradicted by the record, given the evidence that it has underinvested in Instagram's integrity for years, PF 360-61, failed to adequately customize its integrity tools for Instagram for years, PF 447, and used methods that were widely available,

including through numerous third-party service providers. PF 443-44; *see* 5/6 (McCoy) 174:2-14 ("an independent Instagram would have properly customized its tools" and "[i]t's unlikely that it would have underresourced its integrity . . . [or] prioritized the integrity of another app over its own"); *see also id.* 182:7-183:5 & PDX0077-012 (Meta's delayed integration of WhatsApp).

449. Like Instagram, PF 445-46, WhatsApp had also deployed integrity tools to address spam and abusive content and was poised to continue improving its systems prior to the acquisition by Meta. 5/6 (McCoy) 181:9-182:6 & PDX0077-008-10; PF 248 (encryption), 418 (same).

XIII. Meta Failed to Establish Merger-Specific Benefits to Infrastructure

A. There is Nothing Unique or Merger-Specific About Meta's Infrastructure

450. Contrary to Meta's claims, MF 215, 253, Meta has not shown that its infrastructure was necessary for Instagram and WhatsApp to grow and improve performance. Meta is not the only company capable of quickly scaling an app, nor is Meta's "physical infrastructure" a "unique thing." 4/15 (MZ) 85:8-10; *see also* PF 194 (ready access to hyperscale cloud infrastructure). There are comparable alternatives to Meta's storage solution, content delivery network ("CDN"), and "core" infrastructure systems. *See* 5/20 (Acton) 150:22-151:4, 205:8-24; 5/21 (Shortway) 17:24-18:3; Dep. (Gupta) 46:17-22 ("A CDN is a . . . well-known technology"); DX717 at 70 (describing Meta's "Core Infrastructure" as having systems "similar to AWS").

451. Many apps have scaled to a large size in the U.S. without Meta's infrastructure. [redacted] 5/15 (Jain) 203:12-204:24, 219:21-24 (Snap scaled to 900M MAU on public cloud infrastructure); 4/28 (Roberts) 154:23-158:5 (Pinterest scaled on AWS to 553M MAU worldwide); DX852 at 13, 31 (Reddit scaled to 500M global users on public cloud infrastructure).

452. Prior to the acquisition, Instagram was already using "infinitely scalable" hyperscale infrastructure with access to on-demand capacity through AWS and did not need Meta's

infrastructure to grow. *See* 4/22 (Systrom) 47:15-20, 48:23-25 (AWS had capacity to support Instagram's growth); PX10783 (AWS provided Instagram autoscaling); [redacted], 216:17-25 (no technical limit in scaling); 4/28 (Roberts) 156:10-24 (same); PX15370-002 (AWS can go global in minutes). AWS supported a tripling of Instagram's user base in mere months after it launched on Android, 4/22 (Systrom) 47:3-49:3, 64:13-65:15; PF 204-05, and Instagram ultimately scaled to 200 million MAU on AWS before transitioning to Meta's infrastructure, *see* 5/20 (Shortway) 279:9-25 & PDX0142-005.

453. The fact that numerous online companies like Netflix, Pinterest, Uber, Expedia, Lyft, Yelp, and Reddit scaled on AWS's hyperscale infrastructure shows that Instagram could have also scaled on AWS without Meta. *See* Vid. (Bennett) 190:3-11, 190:16-20, 191:2-4, 191:10-14; 4/28 (Roberts) 154:23-158:5; PX0450-001.

454. Meta mischaracterizes Snap's experience "scaling on a public cloud service." MF 216. Meta's assertion that Snap "had difficulty," *id.*, has no bearing on Instagram's ability to scale on AWS: [redacted]; PX11070.

455. Instagram was delivering a reliable user experience on AWS prior to the acquisition, undermining Meta's claim that Instagram had "infrastructure problems that kept it scrambling to stay online." MBr. 55; *e.g.*, 4/22 (Systrom) 48:17-19 ("Q. Was AWS sufficient to handle Instagram's infrastructure needs? A. It was. We rarely had any problems with AWS."), 48:23-25, 49:19-22, 50:2-17 ("[W]e weren't known as an unreliable service."); PX1208-002 ("5 star app store rating"); PX2132-001 (Instagram had "scant downtime"); PF 208.

456. Mr. Shortway did not work at Instagram prior to the date that the acquisition closed and

Meta became responsible for operating Instagram. Stip. 59 (acquisition closed Aug. 31, 2012); 5/20 (Shortway) 266:3-4 (started Sept. 6, 2012). Mr. Shortway's unsupported claim that Instagram had "problems" pre-acquisition that "drastically affect[ed] the user experience" and "everything was on fire," MF 195, is also contradicted by Mr. Systrom's testimony. 4/22 (Systrom) 48:17-19 (AWS was sufficient to handle Instagram's infrastructure needs), 48:23-25, 49:19-22 ("[W]e kept our issues fairly hidden from users."); *see also* PF 455; 4/15 (MZ) 74:7-13 ("I don't think AWS is unreliable."). Mr. Systrom testified that moving to Meta's infrastructure was not a reason he agreed to the acquisition. 4/22 (Systrom) 49:15-18.

457. Meta relies on Mr. Botha to assert that Instagram's "survival was far from certain," MF 194, but Mr. Botha's testimony does not indicate Instagram would have failed. Rather, Mr. Botha testified that he "expect[ed] Sequoia could help Instagram scale" and that they would "go build a stand-alone company for the long run." Vid. (Botha) 90:7-91:12, 122:18-21; *see also id.* 42:4-8 (Sequoia would connect Instagram with an "ecosystem" of "the right experts"); PF 211. Mr. Systrom also testified that "the probability of [Instagram] failing was low." 4/22 (Systrom) 209:13.

458. Instagram was well-positioned to continue scaling independently: it had access to expertise from investors, a plan and the resources to hire "dozens of new employees," and AWS's engineering teams to rely on for infrastructure services. *See* 4/22 (Systrom) 59:5-20; PF 213; [redacted]; Vid. (Bennett) 20:10 ("over 200-plus services" at AWS); *see also* PF 211-12. 4/15 (MZ) 84:2-3 ("[T]here are lots of companies that have good engineering teams[.]").

459. WhatsApp was offering a high-performance experience prior to the acquisition. *See, e.g.*, 4/29 (Olivan) 118:9-21 (WhatsApp was an "extremely reliable," "extremely robust, simple app that worked all the time"); PX2477-003 ("near instant" messaging); *see also* PF 260. WhatsApp could have taken advantage of commercial CDNs to maintain a low-latency experience as it added

additional features such as video calling and VOIP. 5/20 (Acton) 194:20-195:3, 195:13-21, 205:8-206:2; 4/28 (Roberts) 157:2-20 (using a CDN can reduce latency). WhatsApp did not require Meta's infrastructure to scale; it reached a billion users on its pre-acquisition infrastructure. *See* 5/20 (Acton) 171:6-9; Dep. (Gupta) 69:6-10, 162:16-19. Indeed, WhatsApp moved to Meta's infrastructure not to "improve[]" performance, MBr. 58, MF 253, but to ensure that Meta could continue to run WhatsApp after WhatsApp's engineers left. 5/20 (Acton) 206:3-23.

B. Meta Failed to Provide Evidence of Performance Improvements From Migrating Instagram and WhatsApp to Meta's Infrastructure

460. Meta has failed to show that Instagram and WhatsApp achieved user performance benefits from moving to Meta's infrastructure, and failed to support its claim that Meta's infrastructure was "superior" to "what Instagram was using or could obtain" from AWS or elsewhere. MF 215; *see also* MF 253. Meta's proffered data does not show that its infrastructure "ma[de] Instagram faster and more reliable." MF 215; *see* 5/21 (Shortway) 16:11-14 (Meta lacks "user-focused reliability" metrics for Instagram on AWS). And Meta simply asserts without supporting data that its infrastructure "improved WhatsApp's performance[.]" *See* MF 253; *cf.* PF 459.

461. To support its claims that it made Instagram faster, MF 215, Meta presents one exhibit purporting to show that Instagram's latency (speed) improved on Meta's infrastructure. That exhibit—DX1144—fails to present most of the data contained in the source data used to create it, instead showing *only a subset* of the time period available. The data that Meta excludes from DX1144 shows Instagram's latency got much worse on Meta's infrastructure, with Instagram's latency in 2023 (when the data ends) higher than on AWS's infrastructure in 2013. *Compare* DX1144 (showing Mar. 2013 to Nov. 2014), *with* PX8011-001-04 (showing 2012 to 2023). Meta also misleadingly labels and characterizes the data in DX1144: it marks Instagram's "migration to VPC" and describes DX1144 as "showing a drop in latency following Instagram's migration to

Meta's infrastructure," MF 215, when Instagram's adoption of VPC—Amazon's Virtual Private Cloud service—reflects Instagram's improvements to its latency *while still on AWS infrastructure*. 5/20 (Shortway) 274:11-275:1; 5/21 (Shortway) 4:2-5:11 (admitting VPC was an AWS service Instagram would have adopted regardless of acquisition). Meta offers no WhatsApp latency data at all. *See* MF 253; *cf.* PF 459 (WhatsApp offered an extremely fast service).

462. Meta points to a data set showing about three months on a single Meta infrastructure system (TAO) in 2015 to support its Instagram reliability claims. *See* DX1145. Meta claims it shows "a much lower failure rate on TAO," MF 215, but both Instagram and WhatsApp had concerns about TAO's reliability. *See* PX3849 ("TAO reliability should be higher"); PX11036-002; PX3819-009 (TAO "reliability/consistency doesn't apply to WhatsApp"). Nor can Meta claim TAO provided benefits for Instagram users based on DX1145's 2015 data, when as late as H2 2019 "Instagram lack[ed]…metrics that measure reliability from a user and product perspective." PX3590-001.

463. Meta offers no contemporaneous documents or data to show Meta "made WhatsApp more reliable." MF 253.

464. Meta ignores app-wide reliability data showing that its family of apps experienced an increasing number of severe outages (SEV1 and SEV0) from 2011 to 2021, decreasing the apps' availability to users. PX8012A; *see also* 5/21 (Shortway) 40:13-41:8; PX13041-002 (SEV0s caused by "cascading failures"); PX10798-001-02 ("2-3x growth" in Instagram outages from 2017 to 2019); 5/20 (Acton) 206:9-11; PX8164-65 (declining user sentiment concerning app reliability). Meta provides no support for Mr. Shortway's claim, MF 195, that Instagram suffered "multiple outages" on AWS. *See* 5/21 (Shortway) 15:13-16:17 (no data on Instagram availability on AWS).

465. Contemporaneous documents also show that Instagram and WhatsApp suffered poorer performance after moving to Meta's "customized" infrastructure. *See* PX3495 (upload latencies

"worse than what [Instagram was] used to with [AWS's] s3"); PX3416-002 ("unacceptably high latency" on Meta "affecting user interactions"); 5/20 (Acton) 203:20-204:16 & PX11036-002 ("Our concern is that as we adopt more FB infra (tao, zippy, etc), we're going to have more and more of these incidents," leading to "more user impact"); PX3778-005-06, -010 (Instagram users reporting performance issues; disruption from "major" SEV); *see also* PF 329.

466. Instagram does not have access to on-demand capacity on Meta; instead, it must navigate a cumbersome internal process that leaves it with less readily available capacity than on AWS. *See* 5/21 (Shortway) 28:19-30:13; PF 194, 452. Instagram often "outpac[ed] its allocated capacity on Meta's infrastructure," PX10808-007 & 5/21 (Shortway) 32:13-33:25, which was especially problematic given that Meta does not carry readily available excess capacity that would allow Instagram to meet fast-growing demand. 5/21 (Shortway) 32:18-33:25 & PX10808-007-08, 56:1-9; PX3841-004 [redacted]

467. Instagram has had to delay the launch of new features and degrade its service due to capacity constraints on Meta's infrastructure. *See, e.g.*, 5/8 (Mosseri) 161:16-19 (Instagram "waiting for a while on a delivery of infrastructure" to "unlock[] a series of launches that we had ready to go but we couldn't afford yet to l[a]unch"); PX3558-001 (Instagram lacked "enough capacity for IGTV" and had to "degrade[] services during a Hurricane Florence SEV"); PX10784-003 (Instagram has "9 [megawatts] of unfunded projects," including In Feed Recommendations, Reels, and Shops); PX3560-001 [redacted]; PX3829-015 ("Our needs are growing faster than planned capacity and we need to make tradeoffs across products.").

468. Meta has no basis to claim it helped Instagram to "scale" "more quickly," MF 215, when Instagram did not even adopt Meta's compute infrastructure until 20 months after the acquisition, 5/20 (Shortway) 276:3-23 & PX3414, only moved to Meta's other infrastructure systems "in a

piecemeal fashion over multiple years," 4/22 (Systrom) 49:1-18; 5/21 (Shortway) 25:10-26:2 & PDX0142-008 (Instagram using non-Meta media storage until 2016); PX3560-003 (using non-Meta database, Cassandra, until 2021), and was already on hyperscale infrastructure, PF 452.

469. WhatsApp did not finish migrating to Meta infrastructure until 2019, long after reaching a billion users on third-party infrastructure. Dep. (Gupta) 69:6-10, 162:16-19 (billion users in 2016).

XIV. Meta Failed to Establish Merger-Specific Benefits to Monetization

470. Meta's monetization justifications, including its faster pace of monetizing on Instagram, MF 213, and claimed higher revenues, MF 212, at best claim benefits to advertisers or Meta's profitability, and are not benefits to users of PSN services. 5/13 (Hemphill) 136:10-137:3 & PDX0090-203; *see also* PF 154, 156. Meta's rapid and significant increases to Instagram's ad load harmed, not benefitted, users. PF 159-63, 333, 337-38.

471. Meta has not demonstrated that its acquisition was necessary for Instagram to build and scale an advertising business. Advertising "technologies, infrastructure, inventory, and know-how," MF 212, are widely available without Meta's help. *See, e.g.*, PX3009-142-46 (successes and capabilities of eleven other ads businesses), -149 ("large number of digital advertising players" are "continuously innovating to provide a more attractive advertising offering"); 5/20 (C. Tucker) 86:14-20 (15+ non-Meta apps have adopted and improved on many ad technology innovations); PX0300-010 & Dep. (Bozeman) 70:7-10 (self-serve ads are common and industry standard).

472. Many apps, including [redacted], Pinterest, [redacted] built and scaled successful ad businesses without Meta's help—before, during, and after Instagram's ad business scaling under Meta. *See, e.g.*, MF 211-12 (timing under Meta); [redacted] Dep. (Boland) 155:17-19; 4/28 (Roberts) 146:8-147:21, 149:21-150:1 (Pinterest: ads launch in 2013; by 2024, earning $3.5 billion); [redacted]

[redacted] Vid. (Raymond) 51:1-5, 271:6-272:3; 352:15-17 (Reddit); 4/17 (Filner) 174:15-18 (YouTube); Vid. (Chandlee) 36:9-37:6 (TikTok).

473. Meta appears to claim that it improved Instagram's ad quality by implementing targeting and innovative ad formats. MF 212. Many apps have done the same, showing that an independent Instagram could have done so. PX0300-011 ("Targeting ads is not unique to Meta; nearly all ads are targeted."), -012 (apps "innovat[ing] . . . new [ad] formats"; "virtually every ad format available through Meta can be found elsewhere"); 5/20 (C. Tucker) 89:21-23, 90:6-8; 4/28 (Roberts) 146:20-147:4, 148:6-17 (Pinterest); PX14967-030 (Snap); PX3009-144 (Snap); [redacted]

474. With its high adoption and engagement metrics, and resources and support from venture capital, Instagram was well positioned to launch and scale a highly successful ads business without Meta. PX10080-002; Vid. (Botha) 36:21-38:11 (recognizing "a real clarity around how you could envision an advertising system working for [Instagram]"), 39:20-40:7; *see* PF 204-05, 209, 211-12. Instagram pitched investors on monetizing via ads. 4/22 (Systrom) 60:16-61:5, 166:20-167:18. Investors did not pressure Mr. Systrom to monetize Instagram, as they saw ads as a "very obvious path[] for monetization" and believed that Instagram should focus on growth. *Id.* 59:21-60:15.

475. Meta critiques Instagram's initial ads model, MF 211, but this initial model "[v]ery much" had Mr. Zuckerberg's support and represented "a collaboration" between Mr. Systrom and Mr. Zuckerberg. 4/22 (Systrom) 102:7-9, 252:17-253:14. And Meta only forced Instagram to change its ads model (and ramp up ad load significantly) in 2015 because Meta was "under the gun" with "revenue pressure." PF 337; 4/22 (Systrom) 107:16-108:18, 255:23-256:1.

476. Meta failed to establish monetization benefits for WhatsApp because, as Meta

acknowledges, it is not effectively monetizing WhatsApp at all. 4/15 (MZ) 68:2-10 ("if you look at the revenue, [it's] certainly true" WhatsApp did not effectively monetize), 239:9-12 (Meta does "[n]ot [make] very much" money from WhatsApp users). WhatsApp has suffered [redacted] in annual operating losses [redacted] between 2015 and H1 2022. *See* PF 316; PX8056.

477. Meta's claimed revenue figures for WhatsApp post-2022 are greatly overstated, as Meta fails to account for its costs or how much Click-to-WhatsApp revenue was actually cannibalized from other Meta ad revenue. *See* MF 256, PF 316; *cf.* 4/24 (Hearle) 32:24-38:1 & PDX0029-022-24 (describing method for calculating profits and losses). Meta also attempts to claim credit for future revenue, MF 256, but WhatsApp's revenue has consistently underperformed Meta's projections over time. 4/24 (Hearle) 42:16-43:16 & PX8059 ("wide gap").

478. Meta's means of monetizing WhatsApp are not unique—other apps offer "Click-to" ads and business messaging. *See* 5/7 (Cathcart) 106:9-18; [redacted]

XV. Meta's Claimed Procompetitive Benefits Are Outweighed by the Harm

479. Meta's claimed procompetitive benefits for the acquisitions of Instagram and WhatsApp are outweighed by the harm to competition and consumers. 5/13 (Hemphill) 107:6-14, 137:4-11; *see also* PF 309-63. That competition and consumers are worse off from the acquisitions—notwithstanding Meta's claimed justifications—is underscored by the fact that (i) Meta has continued to earn sustained high profits (indicating excess producer surplus, rather than benefits passed through to consumers) and (ii) Meta has reduced quality, and user dissatisfaction has increased, on Facebook and Instagram since the acquisitions. PF 151-54, 157-64, 325-32; 5/13 (Hemphill) 108:17-109:9 & PDX0090-198-99, 134:14-135:1 & PDX0090-200 (pass-through to consumers important in analyzing claimed benefits).

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Appendix

Trial & Video Testimony

Witness	Trial Dates	Transcript Pages	Cited As	Relevant Documents Cited in Findings
Acton, Brian	5/20 AM & PM	103-215	5/20 (Acton)	PX3661, PX11036
Alison, Tom	5/14 PM	160-264	5/14 (Alison)	
	5/15 AM	4-86	5/15 (Alison)	PDX0090, PDX0106
Andreou, Jacob (video)	5/5 AM	82-85	Vid. (Andreou)	PX14967
Arora, Neeraj	4/21 PM	134-189	4/21 (Arora)	PX14806
Bennett, Jason (video)	4/28 PM	195	Vid. (Bennett)	PX15370
Botha, Roelof (video)	4/21 PM	189-191; 193	Vid. (Botha)	PX10080
Carlton, Dennis	5/21 AM & PM	62-243	5/21 (Carlton)	DX1180, DX1181 DX1182, PDX0134
Cathcart, Will	5/7 AM	21-122	5/7 (Cathcart)	
Chandlee, Blake (video)	4/24 AM & PM	83-84; 104-106	Vid. (Chandlee)	
Chen, Jonathan (video)	5/21 AM	60-61	Vid. (Chen)	
Cobb, Curtiss	4/30 PM	192-231	4/30 (Cobb)	
	5/1 AM	14-76	5/1 (Cobb)	
Coleman, Keith	4/28 AM	5-88	4/28 (Coleman)	
Davenport, Ben (video)	4/28 PM	194-195	Vid. (Davenport)	
Deng, Peter	5/5 AM	6-82	5/5 (Deng)	PX1103, PX15224
Esfahani, Ali (video)	5/5 AM	82-85	Vid. (Esfahani)	
Filner, Aaron	4/17 PM	149-247	4/17 (Filner)	
Goetz, Jim	4/17 AM & PM	60-147	4/17 (Goetz)	PX1365, PX10229
Hearle, Kevin	4/24 AM	6-83	4/24 (Hearle)	PX8056, PX8059, PX10858, PX12692, DX739, PDX0029
Hegeman, John	5/1 AM & PM	77-196	5/1 (Hegeman)	PX12501, DX336

Witness	Trial Dates	Transcript Pages	Cited As	Relevant Documents Cited in Findings
Hemphill, Scott	5/12 PM	201-270	5/12 (Hemphill)	PDX0090
	5/13 AM & PM	5-271	5/13 (Hemphill)	PDX0090
	5/14 AM & PM	4-160	5/14 (Hemphill)	PX8164 PDX0090
	5/27 AM & PM	10-182	5/27 (Hemphill)	PDX0149
Horowitz, Bradley	5/15 AM & PM	86-149	5/15 (Horowitz)	
Jain, Saral	5/15 PM	149-240	5/15 (Jain)	DX907
Lampe, Cliff	4/23 AM & PM	59-279	4/23 (Lampe)	
Levenson, David	5/15 PM	240-266	5/15 (Levenson)	
	5/19 AM	12-70	5/19 (Levenson)	
List, John	5/19 AM & PM	70-240	5/19 (List)	
Malkiewicz, Michal	5/7 AM & PM	123-171	5/7 (Malkiewicz)	
McCoy, Damon	5/6 PM	161-231	5/6 (McCoy)	PDX0077
	5/7 AM	12-21	5/7 (McCoy)	PDX0077
Morrison, Eric (video)	5/1 PM	197	Vid. (Morrison)	
	5/5 AM	82-85		
Mosseri, Adam	5/8 AM & PM	4-127; 151-236	5/8 (Mosseri)	PX0708, PX1017, PX3605 PX3778, PX12341, PX12350
Olivan, Javier	4/29 AM & PM	7-129; 153-213	4/29 (Olivan)	PX1486, PX12102
Ortega, Mateo	4/28 AM	89-110	4/28 (Ortega)	
Pappas, V (video)	4/17 PM	248-250	Vid. (Pappas)	
Pattabiraman, Kumaresh (video)	5/5 AM	82-85	Vid. (Pattabiraman)	
Presser, Adam	4/30 AM & PM	30-192	4/30 (Presser)	
Raymond, Winter (video)	4/24 PM	157-160	Vid. (Raymond)	
	4/28 AM	111		
Rim, Jihoon	4/21 AM	9-110	4/21 (Rim)	
Roberts, Julia	4/28 PM	132-193	4/28 (Roberts)	DX852

Witness	Trial Dates	Transcript Pages	Cited As	Relevant Documents Cited in Findings
Rosen, Guy	5/6 AM & PM	9-160	5/6 (Rosen)	PX3070, PX3610, PX3612, PX3811, PX3812, PX10899 PX10928, PX10940, PX15147, DX1254
Sandberg, Sheryl	4/16 PM	183-280	4/16 (Sandberg)	
	4/17 AM	4-59	4/17 (Sandberg)	
Schultz, Alex	5/7 PM	246-273	5/7 (Schultz)	
	5/8 PM	236-271	5/8 (Schultz)	
	5/12 AM & PM	6-121; 149-201	5/12 (Schultz)	DDX24
Shah, Ronak	4/29 PM	213-272	4/29 (Shah)	
Shortway, Nick	5/20 PM	240-281	5/20 (Shortway)	PX3414, PX10783, DX1144, DX1145, PDX0142
	5/21 AM	3-62	5/21 (Shortway)	PX3495, PX3558 PX8011, PX8012A, PX10784, PX10798, PX10808, PDX0142
Stoop, Dirk	4/23 AM	4-58	4/23 (Stoop)	
Systrom, Kevin	4/22 AM & PM	10-279	4/22 (Systrom)	PX2132, PX3457, PX11032, PX15223, PX15224, PX15237
Tang, Julia	4/24 PM	108-156	4/24 (Tang)	
Tucker, Catherine	5/19 PM	240-256	5/19 (C. Tucker)	
	5/20 AM	15-103	5/20 (C. Tucker)	
Tucker, Eli	4/30 AM	3-30	4/30 (E. Tucker)	
Vallery, Jason (video)	4/28 PM	196-197	Vid. (Vallery)	
Weinstein, Debbie (video)	5/20 AM	102	Vid. (Weinstein)	
Yam, Sylvia	5/20 PM	215-240	5/20 (Yam)	
Zoufonoun, Amin (video)	4/21 PM	192	Vid. (Zoufonoun)	PX1413
Zuckerberg, Mark	4/14 PM	148-254	4/4 (MZ)	PX1180, PX2888
	4/15 AM & PM	6-242	4/15 (MZ)	PX1136, PX1486, PX2965, PX3602,

Witness	Trial Dates	Transcript Pages	Cited As	Relevant Documents Cited in Findings
				PX10271, PX12341, PX15112, PX15138
	4/16 AM & PM	19-183	4/16 (MZ)	PX2965

Post-Trial Deposition Designations

Witness (Affiliation)	Transcript	Cited As
Bejar, Arturo (Meta)	2/2/2023 Deposition	Dep. (Bejar)
Boland, Brian (Meta)	2/6/2023 Deposition	Dep. (Boland)
Bozeman, Patrick (Meta)	12/19/2022 Deposition	Dep. (Bozeman)
Grimes, Michael (Morgan Stanley)	3/21/2023 Deposition	Dep. (Grimes)
Gupta, Nitin (Meta)	1/9/2023 Deposition	Dep. (Gupta)
Kim, Thomas (Alphabet)	5/19/2023 Deposition	Dep. (Kim)
Perzyk, Timothy (Twitter/X)	5/12/2023 Deposition	Dep. (Perzyk)
Shrivastava, Abhishek (LinkedIn)	4/21/2023 Deposition	Dep. (Shrivastava)
Stefancik, Gregg (Meta)	1/18/2023 Deposition	Dep. (Stefancik)
Wahi, Ashish (Snap)	5/22/2023 Deposition	Dep. (Wahi)